The Discovery Education Literacy Connections Cards are designed to save teachers valuable planning time by bringing literacy into science and science into literacy. By aligning the Discovery Education Science units and concepts to the Wonders K-6 Literacy Curriculum, teachers can integrate reading and writing skills into science and also, use robust, digital content to make their literacy instruction differentiated and multimodal.

Where are the Literacy Connections Cards?
Find the cards in the digital Science Techbook under the Intro tab, among the Teacher Planning Resources.

How do you use the Literacy Connections Cards?
The Literacy Connections Cards were developed by aligning the pacing of Wonders to the pacing of the Discovery Education Science program. Each of the Literacy Connections Cards has a corresponding Studio Board that can be accessed by scanning the QR code or typing the Quick Code in the digital Techbook. The code will take teachers to all the resources that are referenced on the Literacy Connections card.

The Literature Connections
The Literature Connections identify resources from Discovery Education Experience, and, if aligned, the science content, to the Wonders literature. Many of the resources will provide minilesson, small group or centers opportunities, complete with the content as well as an instructional strategy called SOS. These resources can be utilized during the literacy block to provide multimodal experiences for students as they grow their reading, writing, speaking and listening skills.

HOA’s and Literacy Connections
The Hands-On Activity and Literacy Connections sections bring the Wonders skills and strategies into science. There are specific suggestions for not only how to integrate the teaching of reading and writing into science, but also where in the science concept these skills and strategies will have the most impact. Teachers will also find ideas on how to bring literacy into each of the science lessons using engaging SOS and other literacy activities like sentence frames or the creation of flipbooks.
LITERATURE

Read Aloud: “The Lion and the Mouse"

R/W Workshop:
- I Can [Nonfiction]
- Can I? [Fiction]

Literature Big Books:
- What About Bear? [Fantasy]
- “How to Be a Friend?” [Informational]

Read Aloud: “The Tortoise and the Hare”

R/W Workshop:
- We Can [Nonfiction]
- I Can, I Can [Fiction]

Literature Big Books:
- Pouch! [Fantasy]
- “Baby Animals on the Move” [Informational Text]

Read Aloud: “A Feast of the Senses”

R/W Workshop:
- Sam Can [Fiction]
- I Can See [Nonfiction]

Literature Big Books:
- Senses at the Seashore [Informational Text]
- “I Smell Springtime,” “Taste of Purple,” “Rain” [Poetry]

WEEKLY TOPIC

WEEK 1: MAKE NEW FRIENDS
Essential Question: How can we get along with new friends?
- Strategy: Ask and Answer Questions
- Skill: Key Details
- Text Feature: Photographs
- Writing: Informative Text - “I Can”

WEEK 2: GET UP AND GO!
Essential Question: How do baby animals move?
- Strategy: Ask and Answer Questions
- Skill: Key Details [Use Illustrations]
- Text Features: Labels
- Writing: Informative Text - “We Can”

WEEK 3: USE YOUR SENSES
Essential Question: How can your senses help you learn?
- Strategy: Ask and Answer Questions
- Skill: Key Details [Use Photos]
- Literary Element: Sensory Words
- Writing: Informative Text - “Sam Can”

LITERATURE CONNECTIONS

Several of the literature pieces are fiction. Show students images of the animals before reading the stories. Give students a question word like “what” or “how” and ask them what they wonder about these animals: Lion, Mouse, Bear, Tortoise, Hare. You can also connect the focus on photographs as text features to these images. Model for students how you would use the photographs to learn more about the animals.

Use the SOS Visual Walkabout to engage students in asking questions about baby animals. Use a variety of images from Discovery Education Experience; have these images printed out and placed around the classroom. You can also display the images on different devices, if available. Use these images: Baby Animals; kitten; puppy; Baby Armadillo; Trumpeter Swan and Babies; Baby Crocodile; Baby Elephant; Baby Panda; Piglet; Baby Giraffe; Baby Cottontail Rabbit.

Make connections to the sense content with the following video and song:
- Sid the Science Kid: All My Senses [Video]
- Science with a Song: Five Senses [Song]

These are good resources to use in building background knowledge prior to reading the Wonders texts.

HANDS-ON ACTIVITY CONNECTIONS

- HOA: Needs of Living Things
- HOA: Animals and their Needs: Connect this HOA to the second week of Wonders content that focuses on how animals move.

LITERACY CONNECTIONS

Ask and Answer Questions:
In the print resource, the Getting Started section begins with several questions. On page 5 students also ask and answer questions. This is a good opportunity to make connections between what students are doing in science and what they are doing in reading. Use the various images, both within the print and the digital Techbook to engage students in asking questions about what they see. Use question starters like: What caused...? I wonder what would happen if? How is this similar to...? Why does...?

Text Features: The print and digital Techbook have numerous text features. Create a text features scavenger hunt for your students. Have them find examples of text features in both the print and digital versions.

Key Details: Create a key details anchor chart for the plant and animal needs content. There are a lot of details in the print and digital Techbook. There are also numerous photos and labels within the print and digital content to use as think-alouds.

Teach students the phrase: _______ is a key detail because _______. Model this for students with content from the unit and then add information to the anchor chart.

Informative Text: Have students find an image of an animal they love in the Discovery Education Experience. Print the image and have students write or dictate information about the animal. If appropriate, you can use the “I can” and “we can” as sentence starters with the images. This would also work well as an interactive writing activity, i.e. share the pen.
**LITERATURE**

**Read Aloud:** "Timimoto"
**R/W Workshop:**
- "Pam Can See" [Fiction]
- "We Can See!" [Nonfiction]
**Literature Big Books:**
- The Handiest Things in the World [Informational Text]
- "Discover with Tools" [Informational Text]

**Read Aloud:** "Kites in Flight"
**R/W Workshop:**
- "We Like Tam" [Fiction]
- "I Like Sam" [Nonfiction]
**Literature Big Books:**
- Shapes All Around [Informational Text]
- "Find the Shapes" [Informational Text]

**Read Aloud:** "From Caterpillar to Butterfly" [Informational Text]
**R/W Workshop:**
- "Pat" [Fiction]
- "Tap! Tap! Tap!" [Nonfiction]
**Literature Big Books:**
- I Love Bugs! [Fiction]
- "Bugs All Around" [Informational Text]

**WEEKLY TOPIC**

**WEEK 4: TOOLS**

**Essential Question:** How do tools help us to explore?
- **Strategy:** Ask and Answer Questions
- **Skill:** Key Details [Use Photos]
- **Text Feature:** Headings
- **Writing:** Informative Text

**WEEK 5: SHAPES ALL AROUND US**

**Essential Question:** What shapes do you see around you?
- **Strategy:** Ask and Answer Questions
- **Skill:** Key Details [Use Photos]
- **Text Features:** Bold Print
- **Writing:** Shape Poster

**WEEK 6: WORLD OF BUGS**

**Essential Question:** What kind of bugs do you know about?
- **Strategy:** Ask and Answer Questions
- **Skill:** Key Details [Use Illustrations]
- **Text Features:** Captions
- **Writing:** Informative Text

**NGSS PERFORMANCE EXPECTATIONS**

**K-LS1-1**
Use observations to describe patterns of what plants and animals (including humans) need to survive.

**K-ESS3-1**
Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live.

**Lesson Questions:**
- What do plants need to grow?
- What are the needs of the plants that live around us?
- How do plants that live in different places meet their needs?

**LITERATURE CONNECTIONS**

The Fixies: The Tools is a short cartoon video that explains tools and how they are used. This version is also available in Spanish. There is also a Sid the Science Kid: Super Science Tools series that can be played during science instruction. These videos would also serve as good centers for students. To align with the ask and answer questions strategy, consider using the SOS strategy: The Question Is.

There are several songs about shapes. Often times, the songs come with printed lyrics. Use these lyrics to have students circle high frequency words.
- Going on a Shape Hunt
- We Know Our Shapes
- A Round of Shapes

There is a lot of digital content for insects. There is an Insect content collection that gives you a variety of resources and an SOS strategy. There are also several Boards that you can use as centers while you are conducting small reading groups with Wonders literature.

**HANDS-ON ACTIVITY CONNECTIONS**

- **HOA: What Do Plants Need?** Connect this HOA to the Wonders literature on tools. Discuss the use of the tools in this HOA
- **HOA: Plant Search:** Connect the Plant Search to the shapes content and have students not only look for different kinds of plants, but also have them look for different shapes in their environment.

**LITERACY CONNECTIONS**

**Ask and Answer Questions:** Throughout the print SE, there are numerous questions. For each page or activity, have students draw a box around each of the question words. Create an anchor chart that lists question words.

**Key Details:**
Use the Kindergarten Key Details Board on one of the passages in the digital Techbook or the print SE to determine the key details and the main idea.

**Text Features:** Headings, captions and bold print are used in both the digital Techbook and the print SE. Use a think aloud process when finding them in the science content.

**Writing:**
The explanatory sentence is a good informational text fit with the plant content and can be used throughout the plant unit, particularly in the print SE. Consider using the explanatory sentence concept with the following examples in the print SE: page 68, page 81 and/or page 83.
**Wonders California**

**UNIT 2: GOING PLACES**

**CCSS ELA STANDARDS**

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**LITERATURE**

Read Aloud: “The Boy Who Cried Wolf” [Fable]
R/W Workshop: “Can I Pat It?” [Nonfiction]
“Tim Can Tip It” [Nonfiction]

Literature Big Books:
- How Do Dinosaurs Go to School? [Fantasy]
- “Be Safe” [Informational Text]

Read Aloud: “The Turtle and the Flute” [Fable]
RW Workshop: “Nat and Tip” [Fiction]
“Tim and Nan” [Nonfiction]

Literature Big Books:
- Clang! Clang! Beep! Beep! Listen to the City [Fiction]
- “Sounds Are Everywhere” [Informational Text]

Read Aloud: “Field Trips” [Informational Text]
R/W Workshop: Please Take Me for a Walk [Fantasy]
“A Neighborhood” [Informational Text]

**WEEKLY TOPIC**

**WEEK 1: RULES TO GO BY**

Essential Question: What rules do we follow in different places?
- Strategy: Visualize
- Skill: Key Details [Use Illustrations]
- Text Feature: List
- Writing: Narrative Text

**WEEK 2: SOUNDS AROUND US**

Essential Question: What are the different sounds we hear?
- Strategy: Visualize
- Skill: Key Details [Use Illustrations]
- Text Features: Captions
- Writing: Informative Text

**WEEK 3: THE PLACES WE GO**

Essential Question: What places do you go to during the week?
- Strategy: Visualize
- Skill: Character, Setting, Events [Use Illustrations]
- Text Features: Map
- Writing: Narrative Text

**Science Techbook Concept**

**UNIT 2: LIVING THINGS AFFECT THE ENVIRONMENT**

Concept: Living Things Affect the Environment

**NGSS PERFORMANCE EXPECTATIONS**

K-ESS2-2
Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs.

**Lesson Questions:**
- How do animals change their habitat?
- How do plants change their habitat?
- How do humans change the environment to meet their needs?

**LITERATURE CONNECTIONS**

- Aesop’s Fables is a video series in Discovery Education Experience.
  Pair the videos with the texts to create a multimodal experience for students.
- There are numerous sound effects in the Discovery Education Experience that could be used as an instructional hook to the Sounds Around Us topic along with the SOS Surround Sound.
- Virtual Field Trips: There is a Virtual Field Trip Channel. Take your students on a VFT when you get to week 3: The Places We Go. A good suggestion: Racing Extinction: Start with 1 Thing VFT.

**HANDS-ON ACTIVITY CONNECTIONS**

- HOA: Create a Cricket Habitat
- HOA: Making a Nest
- HOA: Changes Around Us

The three HOAs could serve as weeklong centers that students complete during reading instruction. Tie the topic to the Wonders theme. For example, what rules must you follow for a cricket habitat? What kind of sounds would come from a bird nest? Have students record a sound for their nest.

**LITERACY CONNECTIONS**

Visualize/Key Details - Use Illustrations: Teaching students to visualize should be paired with teaching them to verbalize. This pairing of visualizing and verbalizing helps them to build concept imagery, the ability to create images from language and text. Not only does this help students to develop a visualization strategy, but it also teaches them to identify key details by using illustrations. Use these types of questions to help students hone in on the details of the images, photos and illustrations that are part of the digital Science Techbook, Learn – Activities 6, 11, 12, and the print SE, pages 15, 19, 31: What colors are in the picture? What shapes are in the picture? What is happening in the background of the picture? What is the largest thing in the picture?

Text Features:
- **List:** The hands-on activities lend themselves to a focus on lists, how they are important and how you read them. The print SE pages 21 and 32 have lists. Keep in mind that several writing responses in the science program can also be completed in list form. Teaching students to write a list will also help them read a list. See print SE page 23 for an opportunity to write a list.
- **Captions:** The best way to teach students to read captions is to have them write captions. There are many opportunities to select images that align to the science content and have students practice writing captions. See sample images; print them out and have students work in small groups.
- **Maps:** There is an Instructional Inspiration Board entitled “Maps” that uses the SOS Twenty Questions. This Board can be used as a whole or small group activity, showing students different kinds of maps and asking them to generate questions on the maps. Not all of the maps would be kindergarten appropriate, but it’s a good way to show students that maps have different functions.

Narrative and Informative Texts: The Instructional Inspiration “Animal Builders” and “Animals” align to the science concept and can be used to generate words that lead to a narrative or an informative text by using different SOS. Students can write a narrative or an informative sentence for the reflective summary box.
UNIT 2: LIVING THINGS AND THE ENVIRONMENT
Concept: Natural Resources

NGSS PERFORMANCE EXPECTATIONS

K-ESS2-2
Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs.

K-ESS3-3
Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment.

Lesson Questions:
• How do we use natural resources?
• Which natural resources can be renewed?
• How does the environment change when we use natural resources?

LITERATURE CONNECTIONS

• The STEM Careers Channel contains many videos of different kinds of workers. There is also a good series to start students thinking about what they want to be when they grow up. Finally, there is also a series of “When I Grow Up I Want to Be…” songs. These songs also come with printable lyrics.
• The videos on Cultural Festivals will help students visualize what these celebrations look like, building their background knowledge to support them with the Week 2 Wonders texts. Use the SOS ABC Summary to help students practice the letters of the alphabet and also, select key details from the videos.
• The reading passage, “Things from Nature,” in the Beyond tab matches the Week 3: Pitch In content. Read the passage together. Print the piece with no illustrations and have students complete the drawings to match the text.

HANDS-ON ACTIVITY CONNECTIONS

• HOA: Compare Different Materials
• HOA: Where Does Our Water Come From?
• HOA: Where Does It Come From?

Because these HOAs prompt students to think about natural resources and how they can be used, tie them to the Week 3, Wonders topics on making the community a better place.

LITERACY CONNECTIONS

Ask and Answer Questions: This is a return to a previous strategy. On Literacy Connections Card #2, it was suggested to create an anchor chart that lists question words. Direct students back to the anchor chart and review the question words. There are several activities that focus on the Science and Engineering Practice of Asking Questions and Defining Problems. Introduce this practice to students and add these words to the anchor chart. Begin to make a list of the types of questions that are asked in science.

Character, Setting, Events - Use Illustrations: The concept of natural resources is, most likely, new to kindergarten students. Therefore, the use of illustrations to understand the concept is important. Use the images on each digital activity to describe what students see. The “I See, I Think, I Wonder” framework can help students read an image and also lead to the generation of questions.

Key Details - Sequence: Use images from the Natural Resources videos, print them and have students work in small groups to sequence the ideas. As a class, use a shared writing experience to write a key detail sentence for each image.

Text Features - Labels and Captions: On Literacy Connection Card #3, students wrote captions for concept images. Continue that practice with select images from the Natural Resource concept. Have students also write a label for the image. This will help students differentiate between labels and captions.
UNIT 5: WONDERS OF NATURE

CCSS ELA STANDARDS

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LITERATURE

Read Aloud: “Growing Plants” [Informational Text]
R/W Workshop: Hop Can Hop! [Fiction]

Read Aloud: “The Pine Tree” [Fairy Tale]
R/W Workshop: “Ed and Ned” [Nonfiction]
Literature Big Books: A Grand Old Tree [Informational Text] “From a Seed to a Tree” [Informational Text]

Read Aloud: “Farms Around the World” [Informational Text]
R/W Workshop: “Ron with Red” [Fiction]
Literature Big Books: An Orange in January [Informational Text] “Farmers’ Market” [Informational Text]

WEEKLY TOPIC

WEEK 1: HOW DOES YOUR GARDEN GROW?
Essential Question: What do living things need to grow?
- Strategy: Reread
- Skill: Character, Setting, Events [Use Illustrations]
- Literary Element: Rhyme and Repetition
- Writing: Narrative

WEEK 2: TREES
Essential Question: How do living things change as they grow?
- Strategy: Reread
- Skill: Main Topic and Key Details
- Text Features: Diagram
- Writing: Opinion

WEEK 3: FRESH FROM THE FARM
Essential Question: What kinds of things grow on a farm?
- Strategy: Reread
- Skill: Main Topic and Key Details
- Text Features: Lists
- Writing: Narrative

UNIT 2: LIVING THINGS AND THE ENVIRONMENT
Concept: Helping the Environment

NGSS PERFORMANCE EXPECTATIONS

K-ESS2-2
Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs.

K-ESS3-3
Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment.

Lesson Questions:
- What are some ways to reduce our use of natural resources?
- What are other human actions that affect the environment?

LITERATURE CONNECTIONS

The topics in this Wonders unit and the idea of helping the environment are complementary. As students read about gardens, trees, and farms, they can also connect these topics to how to protect and save the environment. There are numerous resources available to help students make these connections. On the Resource Board, there are videos about protecting farms. There are also several Virtual Field Trips to different types of farms and a Reading Rainbow series called “Forest Through the Trees.” Since key details is a skill focus within this unit, use the SOS XO Let’s Go strategy to have students identify key details from the videos.

Consider returning to some of the resources in the Beyond section of the Plant Needs unit. This is a good opportunity to practice the reread strategy.

HANDS-ON ACTIVITY CONNECTIONS

- HOA: How Much Do We Use?
- HOA: Investigating Trash
- HOA: Old Paper, New Paper
- HOA: Conserving Natural Resources by Recycling

The first HOA is the only one that is actually embedded into the concept. The other three are part of the Beyond section. Consider using the other three HOAs as different types of centers during literacy, especially during the Trees topic.

LITERACY CONNECTIONS

Reread: In Activities 5, 11, 14, 16, 17, and 19, there are passages that can be reread to learn more key details. Since this is the first time that students are learning about rereading, consider modeling a rereading strategy for several of the passages. Read the passage and think aloud what details you learned. Model for students why you reread the passage and what you learned the second time.

Main Topic and Key Details: On Literacy Card #1 the key details skill was introduced. It was suggested to teach students the phrase: _______ is a key detail because ________. Reintroduce this phrase to students and have them complete the sentence frame with the videos and/or the passages in this concept. Teach them a new sentence frame: I know that _______ is the main topic because ________. Show students how this main topic frame can be at the beginning of the key details or at the end of the key details.

Character, Setting, Events - Use Illustrations: The reading passage in the Beyond section entitled “The Journey of a Plastic Bottle” can be used to identify characters, the setting and events. Then, break the story apart and have students illustrate parts of the text, ensuring their illustration represents what is happening in the story. The story is on the Resource Board in both a PDF and a word format.

Rhyme and Rhythm: As students learn about rhyme and rhythm, there are many resources in Discovery Education Experience that can be used as part of the Wonders lesson or as small group activities or centers. These resources are on the Resource Board.

Text Features - Diagrams and Lists: There is a Venn Diagram that students will create on page 142 of the print SE. There are also opportunities for students to make their own diagrams and lists. Here are some examples:
Activity 3: Cut out the images and have students create a diagram on recyclable versus nonrecyclable items.
Activity 4: Make a list of the ways to reuse a plastic bag.
Activity 12: Cut out the images and create a diagram using the terms reduce, reuse, recycle.
How can I stay safe during severe weather?

NGSS PERFORMANCE EXPECTATIONS

K-ESS2-1
Use and share observations of local weather conditions to describe patterns over time.

K-ESS3-2
Ask questions to obtain information about the purpose of weather forecasting to prepare for, and respond to, severe weather.

Lesson Questions:
- How can we describe the weather?
- What patterns can we find in weather data?
- How does weather change during the seasons?
- How can I stay safe during severe weather?

LITERATURE CONNECTIONS

Yay! The Wonders unit and the Science unit topics are totally aligned. Remember that there are also several reading passages in the Beyond section. These different passages can be read aloud to students. Each of these passages is paired with an activity that aligns to the skills and strategies that are part of this Wonders unit. Some of the videos in Beyond are also included. These are displayed on Studio Boards and can be assigned to your students. These can serve as centers or small group activities.

HANDS-ON ACTIVITY CONNECTIONS

- HOA: Make a Weather Calendar
- HOA: Using a Thermometer
- HOA: Seasons in the Forest
- HOA: Bad Weather

The HOAs can be utilized to bring a hands-on component to the Wonders literature. There are also opinion and narrative writing prompts to align with these HOAs on the Resource Board.

LITERACY CONNECTIONS

Strategy - Visualize: On Literacy Card #3 the visualize and verbalize activity was shared. Continue with this activity and also, introduce the Filling the Silence SOS. However, flip the process. Have students listen to segments of the audio from the videos in the concept. Then, work with a partner to describe the picture in their head. Replace the video segment and have students reflect on how close they were.

Key Details [Use Illustrations]: There are several blackline masters that align to the videos on Weather on the Resource Board. These sheets can be colored and then used to create a story. Students need to determine which ones they will use and how to sequence them to tell a narrative. This could then be recorded. Look at the PaperSlide SOS as an example.

Key Details [Sequence]: There are several blackline masters that align to the videos on Weather on the Resource Board. These sheets can be colored and then used to create a story. Students need to determine which ones they will use and how to sequence them to tell a narrative. This could then be recorded. Look at the PaperSlide SOS as an example.

Literary Element - Rhyme: There were several resources on Literacy Card #5 to help students understand rhyme. If all of these resources were not utilized, consider bringing them into this unit. Additional rhyming resources are also available to use as center activities. There are also several weather poems in Discovery Education Experience.
LITERATURE

Read Aloud: “Baby Farm Animals” [Informational Text]

R/W Workshop: “A Pup and a Cub” [Nonfiction]

Literature Big Books:
Zoo Borns! [Informational Text]
“Mischievous Goat,” “Over in the Meadow,”
“Kitty Caught a Caterpillar” [Poetry]

Read Aloud: “The Family Pet” [Informational Text]

RW Workshop:
“I Hug Guts!” [Fiction]

Literature Big Books:
The Birthday Pet [Fiction]
“The Perfect Pet” [Fiction]

Read Aloud: “Anansi: An African Tale” [Tale]

R/W Workshop:
“A Vet in a Van” [Fiction]

Literature Big Books:
Bear Snores On [Fantasy]
“Animal Homes” [Informational Text]

WEEKLY TOPIC

WEEK 1: BABY ANIMALS

Essential Question: How are some animals alike and how are they different?

• Strategy: Reread
• Skill: Connections Within Text [Compare and Contrast]
• Literary Element: Alliteration
• Writing: Informative

WEEK 2: PET PALS?

Essential Question: How do you take care of different kinds of pets?

• Strategy: Visualize
• Strategy: Make, Confirm, and Revise Predictions
• Skill: Character, Setting, Plot [Problem and Solution]
• Text Features: Chart
• Writing: Narrative

WEEK 3: ANIMAL HABITATS

Essential Question: Where do animals live?

• Strategy: Make, Confirm, and Revise Predictions
• Skill: Character, Setting, Plot [Cause and Effect]
• Text Features: Glossary
• Writing: Opinion

LITERATURE CONNECTIONS

HANDS-ON ACTIVITY CONNECTIONS

Lesson Questions:
• How does sunlight affect the temperature of an object?
• What is the sun’s effect on daily temperature?
• How can structures protect us from the sun?

LITERACY CONNECTIONS

In this science concept there are examples of animals that connect with the literature. There are also a variety of resources in Discovery Education Experience that align to the unit weekly topics. In the first week, consider pairing a Discovery video with a Wonders text to practice the compare and contrast skill. Video resources are listed on the Resource Board. Use the 2-Chart SOS to make connections from the videos to what students are reading in the Wonders texts.

Students will make, confirm and revise their predictions with several of the HOAs. Have students underline or highlight the word predict in the print SE. Make connections from literacy to science.

The final HOA, Providing Shade, is a perfect complement to the Animal Habitats topic in Wonders. Students will investigate and create ways to build a shelter for an animal.

CONNECTIONS WITHIN TEXT [COMPARE AND CONTRAST]: Continue to use the 2 Chart SOS to compare and contrast sun and shade. This chart can be used with different texts in the concept or with the concept overall.

Literary Element - Alliteration: There is an interactive video series on alliteration. There are also some good examples of alliteration in this concept, Activity 3 [lazy lizards], Activity 12 [Sun Safety]. Have students generate other examples for the photos in the concept.

Character, Setting, Plot [Problem and Solution]: Character, Setting, Plot [Cause and Effect]: While the story elements are not part of the science concept, there are many examples of problem and solution as well as cause and effect in this concept. The best example is Activity 5 where students will complete a cause and effect graphic organizer. Consider putting this graphic organizer on chart paper and completing it throughout the concept. In Activity 16 students will focus on a problem and design a solution.

Text Feature - Chart: Students will create charts to show their evidence and their data. Activities 5, 8, 11, 12, and 13 use different types of charts. Consider making short videos of students completing the charts and talking about how they do it. Ask them to explain how they would read the kind of chart they are making.

Text Features - Glossary: The glossary in Science Techbook is a unique experience. However, it’s an effective way to show students how to find what works for them in learning new words. Select one of the new vocabulary words in the digital. Show students how each new word has a definition, a video, an animation and an image. Model how to use each of these assets to understand what a word means. Engage students in reflection on which way works best for them.

Writing - Informative, Narrative, Opinion: On the Resource Board, there are three prompts that use the lizard photo from Activity 6.
Wonders California

UNIT 8: FROM HERE TO THERE

CCSS ELA STANDARDS

READING: LITERATURE
RL.K.1
RL.K.3
RL.K.6
RL.K.10

READING: INFORMATIONAL
RI.K.2
RI.K.9
RI.K.10

WRITING
W.K.2
W.K.3
W.K.6
W.K.7
W.K.8

SPEAKING & LISTENING
SL.K.1a
SL.K.2
SL.K.3
SL.K.6

LITERATURE

Read Aloud: “The King of the Winds” [Tale]
R/W Workshop:
“Dad Got a Job” [Fiction]

Literature Big Books:
When Daddy’s Truck Picks Me Up [Fiction]
“From Here to There” [Nonfiction]

Read Aloud: “The Best of the West” [Informational Text]
R/W Workshop:
“Pack a Bag!” [Fiction]

Literature Big Books:
Ana Goes to Washington, D.C. [Informational Text]
“See Our Country” [Nonfiction]

Read Aloud: “A View from the Moon” [Informational Text]
R/W Workshop:
“Up! Up! Up!” [Nonfiction]

Literature Big Books:
Bringing Down the Moon [Fiction]
“Day and Night Sky” [Informational Text]

WEEKLY TOPIC

WEEK 1: ON THE MOVE

Essential Question: What can help you go from here to there?
• Strategy: Make, Confirm and Revise Predictions
• Skill: Character, Setting, Plot [Use Illustrations]
• Text Feature: Headings
• Writing: Narrative

WEEK 2: MY U.S.A.

Essential Question: What do you know about our country?
• Strategy: Reread
• Skill: Main Topic and Key Details
• Text Features: Captions
• Writing: Informative

WEEK 3: LOOK TO THE SKY

Essential Question: What do you see in the sky?
• Strategy: Make, Confirm, and Revise Predictions
• Skill: Character, Setting, Plot [Problem and Solution]
• Text Features: Headings
• Writing: Informative

Science Techbook - Concept

UNIT 4: MOTION AND CHANGE
Concept: Push and Pull

NGSS PERFORMANCE EXPECTATIONS

K-2.ESS1-1
Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.

K-PS2-1
Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object.

Lesson Questions:
• What words describe how objects move?
• What causes objects to start or stop moving?
• What causes some objects to move on their own?
• Why do objects fall down?

LITERATURE CONNECTIONS

The science concept aligns to the week 1 Wonders concept. Kick off the Wonders readings with the Can You Explain question: What causes a skateboard to move? The readings, i.e. Activity 3, can be used with the Wonders content and literacy strategies. There are also a variety of good video resources to pair with the Wonders week 2 content. Students can experience Washington DC and all of its monuments and historical buildings through Discovery videos. Many resources for the Wonders week 3 topics will provide students with multimodal opportunities to understand what is in the sky. There is a Stars Channel that has videos, songs, and readings that can be used as small group or centers activities

HANDS-ON ACTIVITY CONNECTIONS

• HOA: Did It Move?
• HOA: Cars in Motion
• HOA: High and Low, Fast and Slow
• HOA: Motion Maze

The HOA in Activity 8 can be a good activity to launch the Wonders week 1 content. The Cars in Motion and High and Low, Fast and Slow HOAs embed the making, confirming and revising of predictions into the activity. Use this an an opportunity to connect literacy and science.

LITERACY CONNECTIONS

Reread: Reuse the activity from Literacy Card #7. There is a short video clip on rereading that can be used before reading some of the passages in this concept. The SOS Flip Flop can be used with videos. Have students watch the video one time and generate the first part of the sentence: First I think…. Then, watch the video a second time and complete the second part of the sentence…but, now I think…. Have students reflect on what they learned the second time.

Character, Setting, Plot [Use Illustrations]: There are three illustrations of the push and pull concept on the Resource Board. Print out the images and have students select one. Write an informative sentence about whether it is push or pull.

Character, Setting, Plot [Problem and Solution]: There is not a plot that follows the problem and solution structure in this concept. However, there are several opportunities for students to identify a problem and then design a solution. Use this as a shared writing opportunity to write a problem-solution type of paragraph with students. Activity 20 will provide a framework for this type of lesson.

Main Topic and Key Details: Divide the students into small groups and use large chart or mural paper with the Make It Concrete SOS to identify main topics and key details in the passages or videos in the concept. While this is more of an activity for identifying main topic and key details, be sure to think aloud with students how to determine what is a key detail and what is a main topic. Consider using the frames from Literacy Card #5: Introduce the phrase “_____ is a key detail because ______.” to students and have them complete the sentence frame with the videos and/or the passages in this concept. Teach them a new sentence frame: I know that ______ is the main topic because _______. Show students how this main topic frame can be at the beginning of the key details or at the end of the key details.

Text Feature - Headings and Captions: Captions have been a feature of the Wonders week 1 content. Use the headings description on the Resource Board and make the main topic frame can be at the beginning of the key details or at the end of the key details.

HOA: Motion Maze

The HOA in Activity 8 can be a good activity to launch the Wonders week 1 content. The Cars in Motion and High and Low, Fast and Slow HOAs embed the making, confirming and revising of predictions into the activity. Use this as an opportunity to connect literacy and science.

There are three illustrations of the push and pull concept on the Resource Board. Print out the images and have students select one. Write an informative sentence about whether it is push or pull.

Character, Setting, Plot [Problem and Solution]: There is not a plot that follows the problem and solution structure in this concept. However, there are several opportunities for students to identify a problem and then design a solution. Use this as a shared writing opportunity to write a problem-solution type of paragraph with students. Activity 20 will provide a framework for this type of lesson.

Main Topic and Key Details: Divide the students into small groups and use large chart or mural paper with the Make It Concrete SOS to identify main topics and key details in the passages or videos in the concept. While this is more of an activity for identifying main topic and key details, be sure to think aloud with students how to determine what is a key detail and what is a main topic. Consider using the frames from Literacy Card #5: Introduce the phrase “_____ is a key detail because ______.” to students and have them complete the sentence frame with the videos and/or the passages in this concept. Teach them a new sentence frame: I know that ______ is the main topic because _______. Show students how this main topic frame can be at the beginning of the key details or at the end of the key details.

Text Feature - Headings and Captions: Captions have been a feature of the Wonders week 1 content. Use the headings description on the Resource Board and make the main topic frame can be at the beginning of the key details or at the end of the key details.
UNIT 8: THINGS CHANGE

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LITERATURE

Read Aloud: “Helping Out at Home” [Informational Text]
R/W Workshop: “Jake and Dale Help!” [Fiction]
Literature Big Books:
Peter’s Chair [Fiction]
“The Clean Up!” [Informational Text]

Read Aloud: “The Little Red Hen” [Fable]
RW Workshop: “We Can Play” [Fiction]
Literature Big Books:
Hen Hears Gossip [Fantasy]
“Team Up to Clean Up” [Informational Text]

Read Aloud: “Spider Woman Teaches the Navajo” [Tale]
R/W Workshop: “Look a Home” [Informational Text]
Literature Big Books:
“Look a Home” [Informational Text]

WEEKLY TOPIC

WEEK 1: GROWING UP
Essential Question: How can you help out at home?
  - Strategy: Ask and Answer Questions
  - Skill: Plot: Sequence
  - Text Feature: Chart
  - Writing: Narrative

WEEK 2: GOOD CITIZENS
Essential Question: What do good citizens do?
  - Strategy: Reread
  - Skill: Character, Setting, Plot [Cause and Effect]
  - Text Features: Captions

WEEK 3: OUR NATURAL RESOURCES
Essential Question: How can things in nature be used to make new things?
  - Strategy: Reread
  - Skill: Connections Within Text [Sequence]
  - Text Features: Directions
  - Writing: Informative

UNIT 4: MOTION AND CHANGE
Concept: Controlling Motion

NGSS PERFORMANCE EXPECTATIONS

K-2.EI.1-1 Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.
K-P5.2-1 Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object.
K-P5.2-2 Analyze data to determine if a design solution works as intended to change the speed or direction of an object with a push or a pull.

Lesson Questions:
  - What causes moving objects to slow down or speed up?
  - How can we change the direction of a moving object?
  - What problems can be solved using force and motion?

LITERATURE CONNECTIONS

Resources for the Wonders week 2 concept on good citizenship include a video series appropriate for kindergarten on what is a good citizen and what does a good citizen do. Additionally, “The Little Red Hen” is available as an audiobook; students can listen to it at a listening center.

Science Unit 2, Concept 2 focuses on natural resources. There are reading passages and videos that can be paired with the literature.

HANDS-ON ACTIVITY CONNECTIONS

• HOA: Rough and Smooth
• HOA: Colliding Objects
• HOE: Controlling the Direction Game
• HOE: Stay Standing

The HOAs and HOEs in this concept can also be tied to the ask and answer questions strategy. There is also an opportunity to connect the skill of sequence to these activities. Use the HOAs and HOEs to have students write a sequence of events. Be sure to introduce words like first, next, last, etc.

LITERACY CONNECTIONS

Ask and Answer Questions: This strategy hasn’t been a Wonders focus for several units. On previous Literacy Cards, it was suggested to make an anchor chart of different types of science questions. Continue to add to the chart with this unit. Note that students will ask many questions during this concept: Activity 2, Activity 18, and Activity 21. Students will also read several passages that have either have questions embedded in them or they will have to answer questions after reading. Use the Ask and Answer Questions cards on the Resource Board. Print them and cut them apart. Give them to students to answer as you read different passages in the science concept. There is also a question words video series on the Resource Board.

Reread: Reread is a strategy that has spiraled through Wonders several times. Use the Conga Line SOS to have students listen to a passage one time and identify some key details. Then, move in the line, listen a second time and share key details. Then, move a third time and reflect on what was different from reading 1 to reading 2. Implement this SOS several times throughout the concept and with different passages.

Text Features - Charts, Captions and Directions: Each of these text features are used throughout this concept. Students will create a chart in Activity 8, 14, and in the Unit Project. While students are creating the charts, be sure to ask them how they would read them.

Skill - Character, Setting, Plot [Cause and Effect]: Cause and effect is a crosscutting concept in Controlling Motion. When students read “Speed Bumps” in Activity 6, they will identify cause and effect. In Activity 7, they will use a cause and effect graphic organizer.

Writing - Informative, Narrative: The STEM in Action section focuses on astronauts. Have students write an informative sentence and a narrative sentence for astronauts. There are also some great, age-appropriate videos on becoming an astronaut. These are linked on your Resource Board.
The Discovery Education Literacy Connections Cards are designed to save teachers valuable planning time by bringing literacy into science and science into literacy. By aligning the Discovery Education Science units and concepts to the Wonders K-6 Literacy Curriculum, teachers can integrate reading and writing skills into science and also, use robust, digital content to make their literacy instruction differentiated and multimodal.

**Where are the Literacy Connections Cards?**
Find the cards in the digital Science Techbook under the Intro tab, among the Teacher Planning Resources.

**How do you use the Literacy Connections Cards?**
The Literacy Connections Cards were developed by aligning the pacing of Wonders to the pacing of the Discovery Education Science program.

The left side of the card delineates the Wonders unit, standards, literature, and matching skills and standards. The right side of the card delineates the Science unit and concept that matches Wonders, according to pacing.

Each of the Literacy Connections Cards has a corresponding Studio Board that can be accessed by scanning the QR code or typing the Quick Code in the digital Techbook. The code will take teachers to all the resources that are referenced on the Literacy Connections card.

**The Literature Connections**
The Literature Connections identify resources from Discovery Education Experience, and, if aligned, the science content, to the Wonders literature. Many of the resources will provide minilesson, small group or centers opportunities, complete with the content as well as an instructional strategy called SOS. These resources can be utilized during the literacy block to provide multimodal experiences for students as they grow their reading, writing, speaking and listening skills.

**HOA’s and Literacy Connections**
The Hands-On Activity and Literacy Connections sections bring the Wonders skills and strategies into science. There are specific suggestions for not only how to integrate the teaching of reading and writing into science, but also where in the science concept these skills and strategies will have the most impact. Teachers will also find ideas on how to bring literacy into each of the science lessons using engaging SOS and other literacy activities like sentence frames or the creation of flipbooks.
UNIT 1: GETTING KNOW US

CCSS ELA STANDARDS

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LITERATURE

Big Book: *This School Year Will Be the Best!* [Realistic Fiction]
Read Aloud: "School Around the World"
R/W Workshop: *Jack Can* [Realistic Fiction]
Anthology:
*Nat and Sam* [Realistic Fiction]
“Rules at School” [Nonfiction]

Big Book: *Alicia’s Happy Day* [Fiction]
Read Aloud: “City Mouse and Country Mouse”
R/W Workshop: *Six Kids* [Fantasy]
Anthology:
*Go, Pip!* [Fantasy]
“I Live Here” [Nonfiction]

Big Book: *Cool Dog, School Dog* [Fiction]
Read Aloud: "Our Pets"
R/W Workshop: *A Pig for Cliff* [Fantasy]
Anthology:
*Flip* [Fantasy]
“What Pets Need” [Nonfiction]

WEEKLY TOPIC

WEEK 1: AT SCHOOL
Essential Question: What do you do at your school?
- Strategy: Visualize
- Skill: Key Details
- Text Feature: Photographs
- Writing: Informative Text

WEEK 2: WHERE I LIVE
Essential Question: What is it like where you live?
- Strategy: Visualize
- Skill: Key Details
- Text Features: Bold Print
- Writing: Informative Writing

WEEK 3: OUR PETS
Essential Question: What makes a pet special?
- Strategy: Visualize
- Skill: Text Structure: Key Details
- Text Feature: Labels
- Writing: Informative Text

SCIENCE TECHBOOK: CONCEPT

UNIT 1: PLANT SHAPES
Concept: Plants for a Purpose

NGSS PERFORMANCE EXPECTATIONS

1-LS3-1
Make observations to construct an evidence-based account that young plants and animals are like, but not exactly like their parents.

Lesson Questions:
- How can we group plants?
- How are plants the same and different?
- What plants can we eat?
- How are young plants and their parents the same?

LITERATURE CONNECTIONS

The two informational pieces, “Young Plants that Look Like Their Parents” and “Plant Characteristics” tie into the second week’s overarching question: What is it like where you live? These two readings can spark discussion about the plants where you live.

There are several videos in the Discovery Education Experience that align to the literature. These videos can be paired with the text and used as a resource to teach the key details skill. The XO Let’s Go SOS is an effective way to engage students in selecting key details from the videos.

Aligned videos include:
- Going to School is Your Job [At School]
- The Town Rat and the Country Rat ["City Mouse and Country Mouse"]
- Sid’s Pet Project [Pets]
- You’re My Best Friend [Pets] – Note: This is a song.

Take a virtual field trip (VFT) to a dairy farm during the Wonders’ focus on “What is it like where I live?” The VFT will show students how the Feld-pausch family and their team runs a dairy farm. There is also a 360 video that will allow your students to look all around the dairy farm. The SOS Strategy 20 Questions will help students to generate questions.

HANDS-ON ACTIVITY CONNECTIONS

There are two HOAs in this unit that tie into the first two weeks of Wonders as students learn about where they live:
- HOA: Walk in the Park: This HOA will align to the Wonders-At School unit. Use this HOA to learn about plants at the school.
- HOA: Growing Seeds: This HOA can specifically align to the Wonders-Where I Live unit.

Because the HOA student investigation sheets have a lot of text, consider using them as shared reading and interactive writing activities with your class or small groups.

LITERACY CONNECTIONS

Visualize: Select a sentence from the text in Techbook, i.e “Plant roots grow into the soil. Use the “Imagine, Visualize, Verbalize” strategy to have students practice how to visualize:
- Imagine: Close your eyes and think about what you are hearing in the text; think about colors, shapes, sizes, characters, setting, actions.
- Visualize: Draw what you see in your mind when you imagine the text
- Verbalize: Explain or answer questions about your drawing what you imagined and visualized from the text.

Text Features: Within the print SE, there are a variety of text features that you can use to model thinking. These features include bold print, section headings, labels & pictures with labels.

Key Details: Use the numerous images like the Gourd Growing on a Vine or the Red Peppers in these concepts to teach students how to read pictures and illustrations to identify key details that can help them with text. Use the SOS Half the Story to have students identify details in the images.

Informative Text: Descriptive Sentences: The STEM in Action activity, Designing a New Food, will provide students with opportunities to write descriptive sentences in science. This is also an opportunity to integrate a “makerspace” type of activity with writing as students make a model of their new food.
**Wonders California**

**UNIT 1: GETTING TO KNOW US**

**CCSS ELA STANDARDS**

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**LITERATURE**

*Big Book:* *Friends All Around* [Nonfiction]

*Read Aloud:* “Games Long Ago” [Nonfiction]

*R/W Workshop:* *Toss! Kick! Hop!* [Nonfiction]

*Anthology:* *Friends* [Nonfiction]

“There Are Days and There Are Days” [Poetry]

*Big Book:* *Move!*

*Read Aloud:* “Rabbit and Coyote Race” [Folktales]

*R/W Workshop:* *Move and Grin!* [Nonfiction]

*Anthology:* *Move It!* [Nonfiction]

“Using Diagrams” [Nonfiction]

**WEEKLY TOPIC**

**WEEK 4: LET’S BE FRIENDS**

Essential Question: What do friends do together?

- Strategy: Ask and Answer Questions
- Skill: Key Details
- Writing: Informative Text

**WEEK 5: LET’S MOVE**

Essential Question: How does your body move?

- Strategy: Ask and Answer Questions
- Skill: Key Details
- Text Features: Diagram

**WEEK 6: REVIEW AND ASSESS**

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**Science Techbook Concept**

**UNIT 1: PLANT SHAPES**

*Concept: Growing Plants*

**NGSS PERFORMANCE EXPECTATIONS**

1-PS4-3

Plan and conduct an investigation to determine the effect of placing objects made with different materials in the path of a beam of light.

1-LS1-1

Use materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs.

*Lesson Questions:*

- What do plants need to grow?
- How do parts of a plant help the plant grow?
- How does sunlight reach plants?

**LITERATURE CONNECTIONS**

There are several videos on the topic of friends; since the selection in Wonders is nonfiction, you may want to show fiction videos. Repeat the XO Let’s Go SOS from the last concept with the videos as it’s also connected to the games content that you will read with students.

- Clifford the Big Red Dog: *Friends of All Ages*
- Clifford the Big Red Dog: *Stinky Friends*

The “What Plants and Animals Need” reading passage falls within the first grade Lexile range and is a good passage to read as a shared text or in small, guided groups. Consider reading this within week 4 with the friends content. Engage students in making text-to-text connections.

**HANDS-ON ACTIVITY CONNECTIONS**

- Because the HOA student investigation sheets have a lot of text, consider using them as shared reading and interactive writing activities with your class or small groups.
- There are several Interactives in this concept: *How Plants Grow, Getting to Know Plants, Response to Environments.* Consider setting up these interactives as centers during Weeks 4 and 5.

**LITERACY CONNECTIONS**

*Ask and Answer Questions:* Throughout this concept, there are several “Ask Questions Like a Scientist” segments. On page 62 of the print SE, there is an activity on viewing an image of hydroponic plants and generating questions. This is a good opportunity to connect the strategy of asking and answering questions to science. There is a good song about asking questions, Singing Science, Ask a Question, that you can use as a springboard to these types of activities. You can also utilize the Question words video series [be aware that this is labeled Kindergarten Common Core, but it’s also appropriate for grade 1].

*Key Details:* Use the “Analyze Like a Scientist” passages [p. 83 and 84] in the print SE to have students underline key details. Many of these passages start with a question. This allows students to find key details to answer the question.

*Diagrams:* Teaching students to read diagrams is an important literacy skill. In the print SE, there are several places where students complete a Venn Diagram [p. 67 & p.95]. This is a good opportunity to talk about the purpose and use of Venn Diagrams. Here are several image and video resources on reading diagrams that you can use in whole group or small group instruction:

- Cactus diagram
- Solutions diagram
- Hamburger tree diagram
- Diagram Video Series

*Informative Text:* There are many opportunities in the print SE for students to write informative sentences and texts. There is a Studio Board that will provide a template for a Friends and a Plant informative text template. The Paper Slide SOS will be useful in sharing.
**Wonders California**

**UNIT 1: OUR COMMUNITY**

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**LITERATURE**

- **Big Book**: Millie Waits for the Mail [Fiction]
- **Read Aloud**: “Jobs Around Town” [Nonfiction]
- **R/W Workshop**: Good Job, Ben! [Realistic Fiction]
- **Anthology**: The Red Hat [Realistic Fiction]
- **“Firefighters at Work”** [Nonfiction]

**Big Book**: The 3 Little Dassies [Fantasy]
- **Read Aloud**: “The Three Little Pigs” [Folk tale]
- **R/W Workshop**: Cubs in a Hut [Fantasy]
- **Anthology**: The Pigs, the Wolf, and the Mud [Fantasy]
- **“Homes Around the World”** [Nonfiction]

**Big Book**: Babies in the Bayou [Nonfiction]
- **Read Aloud**: “Animals in the Desert” [Nonfiction]
- **R/W Workshop**: The Best Spot [Nonfiction]
- **Anthology**: At a Pond [Nonfiction]
- **“Way Down Deep”** [Poetry]

**WEEKLY TOPIC**

**WEEK 1: JOBS AROUND TOWN**

Essential Question: What jobs need to be done in a community?
- Strategy: Make and Confirm Predictions
- Skill: Character, Setting, Events
- Text Feature: Labels
- Writing: Opinion

**WEEK 2: BUILDINGS ALL AROUND**

Essential Question: What buildings do you know? What are they made of?
- Strategy: Make and Confirm Predictions
- Skill: Character, Setting, Events
- Text Feature: Captions
- Writing: Informative

**WEEK 3: A COMMUNITY IN NATURE**

Essential Question: Where do animals live together?
- Strategy: Reread
- Skill: Main Topic and Key Details
- Writing: Informative

**Science Techbook Concept**

**UNIT 1: PLANT SHAPE CONCEPT**

**NGSS PERFORMANCE EXPECTATIONS**

- **K-2-ETS1-3**: Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.
- **K-2-ETS1-1**: Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.
- **K-2-ETS1-2**: Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.

**LESSON QUESTIONS**

- What types of structures can people build to help plants live and grow?
- What can people learn from plants to help design structures?
- How do people choose materials to build structures?

**LITERATURE CONNECTIONS**

There are a multitude of resources to support the three topics in Wonders. Three search terms to give you a variety of resources are: community jobs; building types; animals together. Make sure when you search that you select the K-2 filter to get the most appropriate grade level resources. Below are some good choices to utilize with the topics:

- Community Jobs Series - Commercial Jobs, Agricultural Jobs, Industrial Jobs. These are 2-minute videos that students can view as they read about jobs around town.
- Exploring Buildings – A video series that explores different types of buildings. There is also a Three Little Pigs video series that engages students in examining the materials they use. Searching Three Little Pigs in Discovery Education Experience will give you many types of resources.
- Animals Channel – This Channel will provide a number of resources and SOS. Think about setting up a center to have students play the Animal Habitat Interactive.

**HANDS-ON ACTIVITY CONNECTIONS**

- **HOA: Shapes of Plants**
- **HOA: The Right Stuff – This HOA will align with the topics in Week 2 of Wonders focused on buildings. In this HOA, students build a chair and are challenged to find the right materials.

**LITERACY CONNECTIONS**

- Make and Confirm Predictions: Students will use prediction several times throughout this concept. Examples in the Print SE include pages 126, 129 and 142 and in the digital Techbook, Activities 5, 6, and 12. Introduce students to prediction in science with the song: Let’s Predict It.

**NOTE**: Rereading and Main Topic and Key Details are the primary strategy and skill on the next Literacy Connection Card #4. Therefore, you may want to scaffold the activities. For example, have students reread a sentence in this concept and in the next concept, they reread a paragraph.

**Reread**: There are several passages that will allow students to practice their rereading, including those that are in the print and digital resource as well as the reading passages that are in the Beyond section. This rereading practice can help students build their fluency with informational texts. Have each student identify a different paragraph from one of the passages. They should practice and reread that paragraph until they can read it smoothly, read it with expression, and read all the words correctly. Have students read their paragraphs to each other, with some aloud to the class.

**Main Topic and Key Details [Nonfiction]**: The same passages that are used for rereading can also be used to identify main topic and key details: Activity 3, 10, 14, 16 in both the print and the digital as well as the Beyond piece “Joanna’s Garden.” Consider having students use the digital versions and highlight main topics in one color and key details with another color. Also, consider using Four Corners SOS by picking a paragraph from one of the aforementioned pieces. Write the Main Topic and three Key Details on a separate piece of paper and place them in the four corners of the room.

**Text Feature - Labels and Captions**: Select images from the Designing for Plants concept. Have students also write a label and a caption for the image. This will help students differentiate between labels and captions.
UNIT 2: OUR COMMUNITY

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LITERATURE

Big Book: The Story of Martin Luther King, Jr. [Nonfiction/Biography]
Read Aloud: "Luis's Library" [Nonfiction]
R/W Workshop: Thump Thump Helps Out [Fantasy]
Anthology
Nell's Books [Fantasy]
“Kids Can Help” [Nonfiction]

Big Book: Me on the Map [Fiction]
Read Aloud: “Map It” [Nonfiction]
R/W Workshop: Which Way on the Map? [Nonfiction]
Anthology
Fun with Maps [Nonfiction]
“North, East, South, or West?” [Nonfiction]

WEEKLY TOPIC

WEEK 4: LET’S HELP
Essential Question: How do people help out in the community?
• Strategy: Reread
• Skill: Character, Setting, Events
• Text Feature: List
• Writing: Narrative

WEEK 5: FOLLOW THE MAP
Essential Question: How can you find your way around?
• Strategy: Reread
• Skill: Main Topic and Key Details
• Text Feature: Maps
• Writing: Informative

WEEK 6: REVIEW AND ASSESS

LITERATURE CONNECTIONS

• There is a Martin Luther King, Jr. Channel that includes videos, images, lesson starters and a variety of resources. Use the videos to build your students’ background knowledge about MLK. The SOS Four to One is an effective way to integrate informative writing. Select and print four MLK images from the Channel for this strategy.
• Review the STEM Connect unit called Saving Humpty Dumpty. This unit has students creating a helmet to help Humpty Dumpty. The challenge in this unit will align to Wonders Week 4 content.
• Since students are reading all nonfiction content in the Wonders unit on maps, consider using some fiction content. Students will enjoy a Sid the Science Kid Short video on maps. This video comes with the transcript. You can copy and paste the transcript and practice the rereading strategy on some of the sections, using this text as a Readers’ Theater script.

HANDS-ON ACTIVITY CONNECTIONS

• HOA: Baby and Adult Animals: This HOA is a compare and contrast type of activity. You can also use these images to have students write narrative and informative sentences/pieces.

LITERACY CONNECTIONS

NOTE: The connections for Rereading and Main Topic and Key Details are a repeat from Literacy Connection Card #3. Use the following digital and print passages for the rereading and main topic activities: Activity 9 [SE pages 31-32]; Activity 11 [SE pages 34-35]; Activity 15 [SE pages 43-45]. There are also two passages in the Beyond section, one that is below level and one above level.

Reread: Rereading practice can help students build their fluency with informational texts. Have each student identify a different paragraph from one of the passages. They should practice and reread that paragraph until they can read it smoothly, read it with expression, and read all the words correctly. Have students read their paragraphs to each other, with some aloud to the class.

Main Topic and Key Details: Consider having students use the digital versions and highlight main topics in one color and key details with another color. Also, consider using Four Corners SOS by picking a paragraph from one of the aforementioned pieces. Write the Main Topic and three Key Details on a separate piece of paper and place them in the four corners of the room.

Character, Setting, Events and Narrative Writing: There are numerous images in the SE that can help students develop a character, a setting or an event that they can turn into a narrative piece. Select an image from the print SE and have students cut it out, pasting it onto a writing piece of paper. [It’s also possible to copy these images digitally and then write a digital piece.] These images can also be used in the writing brainstorming process. Use a “tell me more” process with prompts such as:
• How would you describe the character?
• What are the character’s thoughts?
• How would you describe a good setting for this character?
• How would a story with this character begin?

Text Feature - Maps: The Instructional Inspiration Channel includes a Board focused on reading maps. Using the SOS Six Word Story, students will read a map and develop a six word story about why maps are important. This could be done as a whole group, small group or center activity [Remember that Studio Boards can be copied, revised and assigned to students.]

Text Feature - List: Show students the video clip “Making a List” to show them how to write a list. Connect this video with the text feature instruction in Wonders. Showing students how to write a list can help them understand how to read a list effectively.
**UNIT 3: CHANGES OVER TIME**

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### LITERATURE

**Big Book:** A Second Is a Hiccup [Fiction]
**Read Aloud:** “Measuring Time” [Nonfiction]
**R/W Workshop:**
- Nate the Snake is Late [Fantasy]
- Anthology
  - On My Way to School [Fantasy]
  - “It's About Time” [Nonfiction]

**Big Book:** Mystery Vine [Informational Text]
**Read Aloud:** “The Great Big, Gigantic Turnip” [Folktale]
**R/W Workshop:**
- Time to Plant! [Drama]
- Anthology
  - The Big Yucca Plant [Play]
  - “How Plants Grow” [Nonfiction]

**Big Book:** Interrupting Chicken [Fiction]
**Read Aloud:** “The Foolish, Timid Rabbit” [Folktale]
**R/W Workshop:**
- The Nice Mitten [Folktale]
- Anthology
  - The Gingerbread Man [Folktale]
  - “Mother Goose Rhymes” [Rhyme]

### WEEKLY TOPIC

#### WEEK 1: WHAT TIME IS IT

**Essential Question:** How do we measure time?
- Strategy: Make and Confirm Predictions
- Skill: Character, Setting, Plot
- Concepts of Print: Capitalization and Punctuation
- Writing: Narrative

#### WEEK 2: WATCH IT GROW!

**Essential Question:** How do plants change as they grow?
- Strategy: Make and Confirm Predictions
- Skill: Plot: Sequence
- Concepts of Print: Punctuation Within Sentence
- Writing: Narrative

#### WEEK 3: TALES OVER TIME

**Essential Question:** What is a folktale?
- Strategy: Make and Confirm Predictions
- Skill: Plot: Cause and Effect
- Concepts of Print: Quotation Marks/Text Styles
- Writing: Narrative

### HANDS-ON ACTIVITY CONNECTIONS

**LITERATURE CONNECTIONS**

Make and Confirm Predictions: Making and confirming predictions are a component of the hands-on activities. There are also reading passages in this concept where students can use prediction with the title: Activity 3, Activity 11, Activity 14, and Activity 19. Don't forget that there are also reading passages at different lexile levels in the Beyond section of the digital Techbook that can be used during small group instruction.

Concepts of Print - Capitalization, Punctuation and Punctuation Within Sentences: Use a highlighting activity to have students find capitals and punctuation in one of the passages. Then, have them identify why the words are capitalized and why the specific punctuation is used. Discuss and model how the capitalization and punctuation influences our reading.

Plot - Sequence: Several of the passages in this concept can be used to examine sequence. Activity 11 is an example. The sentences are available on the Resource Board. Print out the sentences and have students arrange them in an appropriate sequence and discuss how sequence helps us understand what is happening.

Plot - Cause and Effect: Cause and effect is a cross-cutting concept that is embedded throughout the unit. In Activity 9 students complete a cause and effect chart. Have them use the information they write in this chart to compose a cause-effect sentence. Use cause and effect sentence frames:

- The main cause of _____ was probably _____.
- The effects of _____ were _____.
- The reason for _____ was _____.

Writing - Narrative: Students will love the images in this concept. They can be used to write narrative stories and sentences. Students can also create a Studio Board with the images and write their piece on the Board. (This is a good artifact to share with parents.)

### NGSS PERFORMANCE EXPECTATIONS

1-PS4-1 Plan and conduct investigations to provide evidence that vibrating materials can make sound and that sound can make materials vibrate.
1-PS4-4 Use tools and materials to design and build a device that uses light or sound to solve the problem of communicating over a distance.
1-LS1-1 Use materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs.

**Lesson Questions:**
- How are sounds made?
- How does an animal hear sounds?
UNIT 3: CHANGES OVER TIME

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UNIT 3: SHADOWS, LIGHT, MOTION IN THE SKY

Concept: Light Sources

NGSS PERFORMANCE EXPECTATIONS

1-PS4-3
Plan and conduct an investigation to determine the effect of placing objects made with different materials in the path of a beam of light.

1-PS4-2
Make observations to construct an evidence-based account that objects in darkness can be seen only when illuminated.

Lesson Questions:
• Where does light come from?
• How do we use light?

LITERATURE CONNECTIONS
The Wagon Train and the American Frontier video series are good explanations of the pioneers traveling west in the mid 1800s. Please be advised, however, that these series are recommended for 3-5 and 6-8, so although the content in one of the series is in the form of a cartoon, it is leveled higher than K-2. These are good videos to build background. There is also an assignable Studio Board that uses two SOS and culminates in students writing an opinion. Remember that you can copy the Board, assign it to students, and they can also write their opinion pieces on the Board.

Edible Alphabet is a great video that combines the concept of farm to table and the alphabet. Consider assigning each student a letter of the alphabet and use the SOS Fold Learn Draw. There is also an assignable Farm to Table Studio Board that uses the Placemat SOS as well as a Farm to Table Model Lesson.

HANDS-ON ACTIVITY CONNECTIONS
• HOA: The Path of Light
• HOA: Making a Pinhole Camera

Both of these HOAs align to the Connections Within Text skills for Wonders weeks 4 and 5. Using a retelling activity, students can retell what they did in the Path of Light HOA, comparing and contrasting the different sources of light. In the Pinhole Camera HOA, they can retell how they built the camera, focusing on sequence. Use the Hot Potato SOS to have students complete the retelling.

LITERACY CONNECTIONS
Reread: Use the Partner Time SOS to have students share what they learned from rereading the passages in the different activities: Activity 3, Activity 8, Activity 12, and Activity 15. Use the Wonders reread activity/minilesson with these passages using the Partner Time SOS to have different students share their thinking.

Connections Within Text - Compare and Contrast: The double bubble map graphic organizer can be utilized to have students compare and contrast different ideas in passages they read. For example, have them compare and contrast different sources of light. They also use a Venn Diagram in Activity 13. Have student compare and contrast the double bubble map and the Venn Diagram. Which one is better and why?

Connections Within Text - Sequence: There are farm to table images on the Resource Board. Students can sequence these images and write a story. They can also compare and contrast the sequence of corn and the sequence of potatoes.

Opinion: The reading passages in the Beyond section can be used to write opinion pieces. For example, have students add a page onto the passage and illustrate it. What element in the sky is the most important? Have each student make this into a book. These passages are also on the Resource Board.
UNIT 4: ANIMALS EVERYWHERE

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LITERATURE

Read Aloud: “The Elephant’s Child” [Fantasy]
R/W Workshop: A Tale of a Tail: How the Beaver Got Its Flat Tail” [Folktales]
Anthology: How Bat Got Its Wings [Folktales]
“Bats! Bats! Bats!” [Nonfiction]

Read Aloud: “Animals Working Together” [Nonfiction]
R/W Workshop: A Team of Fish [Nonfiction]
Anthology: Animal Teams [Nonfiction]
“Busy As a Bee” [Nonfiction]

Read Aloud: “Animals in Winter” [Nonfiction]
R/W Workshop: Go Wild! [Nonfiction]
Anthology: Vulture View [Nonfiction]
“When It’s Snowing” [Poetry]

WEEKLY TOPIC

WEEK 1: ANIMAL FEATURES
Essential Question: How do animals’ bodies help them?
- Strategy: Ask and Answer Questions
- Skill - Plot: Sequence
- Text Feature: Chart
- Writing: Narrative

WEEK 2: ANIMALS TOGETHER
Essential Question: How do animals help each other?
- Strategy: Ask and Answer Questions
- Skill: Main Idea and Key Details
- Text Feature: Captions
- Writing: Opinion

WEEK 3: IN THE WILD
Essential Question: How do animals survive in nature?
- Strategy: Ask and Answer Questions
- Skill: Main Idea and Key Details
- Text Feature: Illustrations/Photographs
- Writing: Informative

UNIT 3: SHADOWS, LIGHT, MOTION IN THE SKY
Concept: Light in Action

NGSS PERFORMANCE EXPECTATIONS

1-PS4-3 Plan and conduct an investigation to determine the effect of placing objects made with different materials in the path of a beam of light.

Lesson Questions:
- What happens when light hits an object?
- How can an object change the direction of a beam of light?

LITERATURE CONNECTIONS

Discovery Education Experience has a wealth of resources on the topic of animals. To support connections between science and the Wonders literature, several great pieces of digital content have been identified to pair with the texts that students will read. In the first week, the text on bats can be paired with digital content resources; there are some really interesting bat videos! For the second week of Wonders, there are many resources on bees. There is also a Magic School Bus video on bees. There are resources on migration and hibernation. The reading passage on migration and hibernation can be used to identify main idea and key details. There is also a Model Lesson on what animals do in the winter, using the book The Mitten by Jan Brett.

HANDS-ON ACTIVITY CONNECTIONS

- HOA: Making Shadow Puppets
- HOA: Letting Light Through
- HOA: Reflection

Each of the HOAs have structures built into them to collect data and information, and then, turn it into an informative piece. Have students write concluding, informative sentences. Align this with the writing trait focus in Wonders.

LITERATURE CONNECTIONS

Ask and Answer Questions: Review the song from Literacy Connections Card: Singing Science, Ask a Question. On page 63 and 65 of the SE, students will generate questions. There are also several activities where students will watch a video and then, answer the question. Use the Three Questions SOS and modify it. Have students use the Talk Together question as the first one. Watch the video and see if they can answer the questions. Then, write key details they learned from the video in the other two columns. Generate a question to go with the key details.

Plot - Sequence: Several of the videos in this concept use sequence to explain a vocabulary term. Use the SOS Get in Line with videos to have students identify key ideas of a concept that they have to sequence. There is a Studio Board that uses one of the videos to provide an example. This Board can be copied, replicated with different videos, and assigned to students.

Text Feature - Charts: Students will create several charts in this concept: Activity 11, Activity 12, Activity 17. Take a picture of each chart after completion. Use it as a minilesson to model and identify how to read the chart.

Text Feature - Captions: Create a “good captions” checklist with students. On the Resource Board, there are photos from the concept and captions. Students should match the photos with the captions. Discuss whether these captions are good and why or why not. For those that students determine aren’t good, have them rewrite the captions.

Text Feature - Illustrations/Photographs: Several of the photos in this concept are on the Resource Board. Have students “read” the photos. This is a good opportunity to build students’ speaking skills. Have them record their photo readings and then create a QR code for the recording. Post the QR code with the photograph. Then, use the SOS Two Stars and a Wish to have students give each other feedback.

Main Idea and Key Details: There are several reading passages in this concept. Have students read the passages and highlight key details in one color and the main idea in another color. Have students work in pairs, then have them compare their highlights with another pair.

Writing - Opinion and Narrative: There are two video clips on the Resource Board about concepts of light. One uses Paul the Penguin and the other uses Sid the Science Kid. These two video clips can be used for opinion and narrative sentences and paragraphs.
### Literature Connections

**Visualize:** This strategy was first introduced on Literacy Connections Card #1. Repeat the “Imagine, Visualize, Verbalize” strategy with this concept. Select a sentence from one of the text passages, i.e., “Your shadow is made by sunlight on your body.” Use the “Imagine, Visualize, Verbalize” strategy to have students practice how to visualize:

- Imagine: Close your eyes and think about what you are hearing in the text; think about colors, shapes, sizes, characters, setting, actions.
- Visualize: Draw what you see in your mind when you imagine the text.
- Verbalize: Explain or answer questions about your drawing what you imagined and visualized from the text.

**Point of View:** There are several reading passages in the Beyond section. Use one of the passages – suggestion: “Up in the Sky.” Read the passage together as a class or in a small group. Discuss point of view with students. Then, have students work on a sentence or two from different points of view. What would the moon say? What would the stars say? What would an astronomer say?

**Text Feature - Headings and Captions:** Use the same activity, Captions Match, that had been suggested on Literacy Connections Card #7. The Captions Match for this concept is on the Resource Board. This time, however, students can also write headings for their captioned images as well.

**Connections Within Text - Sequence:** Use the Making Connections within Text graphic organizer that is on the Resource Board to have students make connections between words in the concept. You can bring the skill of sequence into their word selection as well. Remember that this graphic organizer could be created on a Studio Board, so that students can collaborate with each other.

### Hands-on Activity Connections

- **HOA: Measuring Shadows**
- **HOA: Daylight Where I Live**

Use the Wonders writing trait focus on concluding statements for informative pieces with these two HOAs. Have students write concluding sentences of these investigative findings. Use the SOS IDEA Share to give each other feedback on their concluding sentences.

### Weekly Topic

**Week 4: Insects!**

**Essential Question:** What insects do you know about? How are they alike and different?

- **Strategy:** Visualize
- **Skill:** Point of View
- **Text Feature:** Headings
- **Writing:** Informative

**Week 5: Working with Animals**

**Essential Question:** How do people work with animals?

- **Strategy:** Visualize
- **Skill:** Connections Within Text: Sequence
- **Text Feature:** Captions
- **Writing:** Informative

**Week 6: Review and Assess**
UNIT 5: FIGURE IT OUT

CCSS ELA STANDARDS

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LITERATURE

Read Aloud: “Goldilocks” [Folktales]
R/W Workshop: A Barn Full of Hats [Fantasy]
Anthology: A Lost Button [from Frog and Toad Are Friends] [Fantasy]
“Sort It Out” [Nonfiction]

Read Aloud: “Why the Sun and Moon Are in the Sky” [Folktales]
R/W Workshop: A Bird Named Fern [Fantasy]
Anthology: Kitten’s First Full Moon [Fantasy]
“The Moon” [Nonfiction]

Read Aloud: “Great Inventions” [Nonfiction]
R/W Workshop: The Story of a Robot Inventor [Nonfiction/Biography]
Anthology: Thomas Edison, Inventor [Nonfiction/Biography]
“Windshield Wipers” and “Scissors” [Poetry]

Read Aloud: “The Squeaky Bed” [Folktales]
R/W Workshop: Now, What’s That Sound? [Realistic Fiction]
Anthology: Whistle for Willie [Realistic Fiction]
“Shake! Strike! Strum!” [Nonfiction]

Read Aloud: “The Sheep, the Pig, and the Goose Who Set Up House” [Folktales]
Anthology: Time for Kids: Building Bridges [Nonfiction]
“Small Joy” [Nonfiction]

WEEKLY TOPIC

WEEK 1: SEE IT, SORT IT
Essential Question: How can we classify and categorize things?
- Strategy: Make and Confirm Predictions
- Skill: Point of View
- Text Feature: Photographs
- Writing: Opinion

WEEK 2: UP IN THE SKY
Essential Question: What can you see in the sky?
- Strategy: Make and Confirm Predictions
- Skill: Plot: Cause and Effect
- Text Feature: Captions
- Writing: Informative

UNIT 3: GREAT INVENTIONS
Essential Question: What inventions do you know about?
- Strategy: Ask and Answer Questions
- Skill - Connections Within Text: Problem and Solution
- Writing: Informative

UNIT 4: SOUNDS ALL AROUND
Essential Question: What sounds can you hear? How are they made?
- Strategy: Ask and Answer Questions
-Skill - Plot: Problem and Solution
- Text Feature: Directions
- Writing: Narrative

UNIT 5: BUILD IT!
Essential Question: How do things get built?
- Strategy: Ask and Answer Questions
- Skill: Plot: Cause and Effect
- Text Feature: Captions
- Writing: Opinion

Science Techbook Concept
UNIT 3: SHADOWS, LIGHT, MOTION IN THE SKY
Concept: Moon on the Move

NGSS PERFORMANCE EXPECTATIONS

1-ESS1-1
Use observations of the sun, moon, and stars to describe patterns that can be predicted.

Lesson Questions:
- What patterns do we see in the sky at night?

LITERATURE CONNECTIONS

There are multiple versions of Goldilocks in Discovery Education Experience. Have students compare and contrast the different pieces.

Several resources on the topic of sorting and classifying are available on the Resource Board.

The Wonders week 2 content aligns to this concept. Just a reminder to use the resources in the Beyond tab as connections to the Wonders literature.

The inventions resources can be used as small group or centers resources.

There are several sound effects on the Resource Board. Use the Surround Sound SOS as a way to have students generate questions about the sounds.

Use the Studio Board on Engineering Design with the Three Little Pigs for the Wonders week 5 content. Remember that you can copy the Board and you can assign it to students.

HANDS-ON ACTIVITY CONNECTIONS

- HOA: Star Maker
- HOA: Night Observations
- Unit Project: Experimenting with Shadows

Three strategies and skills to integrate into the HOAs and projects include making and confirming predictions, problem and solution and directions.

LITERACY CONNECTIONS

Since this is the last science concept, this is an opportunity to have students showcase some of the literacy strategies and skills they have applied throughout all the units. On the Resource Board, there is a Studio Scavenger Showcase that has been created for students to integrate the Unit 5 and some of the Unit 6 Wonders skills and strategies into science through digital tasks. It’s set up like a scavenger hunt.

Students receive points for each of the tasks and they work in teams to complete their Studio Board. These tasks include content from this science topic. Students have to integrate the different skills and strategies into the content with some type of creation that gets loaded onto their Studio Board. The Studio Scavenger Showcase will include the following Wonders skills and strategies:

- Make and Confirm Predictions
- Point of View
- Text Features: Photographs, Captions, and Directions
- Ask and Answer Questions
- Problem and Solution
- Writing: Narrative, Informative and Opinion

Follow the directions on the Studio Board for the Studio Scavenger Showcase.
The Discovery Education Literacy Connections Cards are designed to save teachers valuable planning time by bringing literacy into science and science into literacy. By aligning the Discovery Education Science units and concepts to the Wonders K-6 Literacy Curriculum, teachers can integrate reading and writing skills into science and also, use robust, digital content to make their literacy instruction differentiated and multimodal.

Where are the Literacy Connections Cards?
Find the cards in the digital Science Techbook under the Intro tab, among the Teacher Planning Resources.

How do you use the Literacy Connections Cards?
The Literacy Connections Cards were developed by aligning the pacing of Wonders to the pacing of the Discovery Education Science program. The left side of the card delineates the Wonders unit, standards, literature, and matching skills and standards. The right side of the card delineates the Science unit and concept that matches Wonders, according to pacing.

Each of the Literacy Connections Cards has a corresponding Studio Board that can be accessed by scanning the QR code or typing the Quick Code in the digital Techbook. The code will take teachers to all the resources that are referenced on the Literacy Connections card.

**The Literature Connections**
The Literature Connections identify resources from Discovery Education Experience, and, if aligned, the science content, to the Wonders literature. Many of the resources will provide minilesson, small group or centers opportunities, complete with the content as well as an instructional strategy called SOS. These resources can be utilized during the literacy block to provide multimodal experiences for students as they grow their reading, writing, speaking and listening skills.

**HOA’s and Literacy Connections**
The Hands-On Activity and Literacy Connections sections bring the Wonders skills and strategies into science. There are specific suggestions for not only how to integrate the teaching of reading and writing into science, but also where in the science concept these skills and strategies will have the most impact. Teachers will also find ideas on how to bring literacy into each of the science lessons using engaging SOS and other literacy activities like sentence frames or the creation of flipbooks.
**California Science Techbook: Literacy Cards - Grade 2 Card 1**

### Wonders California

#### Unit 1: Friends and Family

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### Literature

**Week 1: Friends Help Friends**

**Essential Question:** How do friends depend on each other?

- **Strategy:** Visualize
- **Skill:** Key Details
- **Writing:** Narrative

**Read Aloud:** “The New Kid” [Fiction/Fantasy]

**R/W Workshop:** Little Flap Learns to Fly [Fiction/Fantasy]

**Anthology:** Help! A Story of Friendship [Fiction/Fantasy]

**“Crayons”** [Poetry]

**Read Aloud:** “Dinner at Alejandro’s” [Fiction]

**R/W Workshop:** Maria Celebrates Brazil [Fiction/Realistic Fiction]

**Anthology:** Big Red Lollipop [Informational Text]

“A Look at Families” [Informational Text]

**Read Aloud:** “My Partner and Friend” [Fiction]

**R/W Workshop:** Finding Cal [Fiction]

**Anthology:** Not Norman [Fiction]

“My Puppy” [Poetry]

### Weekly Topic

#### Week 1: Friends Help Friends

**Essential Question:** How do friends depend on each other?

- **Strategy:** Visualize
- **Skill:** Key Details
- **Writing:** Narrative

### Literature Connections

**WEEK 2: Families Around the World**

**Essential Question:** How are families around the world the same and different?

- **Strategy:** Visualize
- **Skill:** Character, Setting, Events
- **Writing:** Narrative

### Hands-On Activity Connections

**Concept:** Local Landscapes

**Unit:** Landscape Shapes

**2-ESS2-3**

Obtain information to identify where water is found on Earth and that it can be solid or liquid.

**2-ESS2-2**

Develop a model to represent the shapes and kinds of land and bodies of water in an area.

**Lesson Questions:**

- How is slope identified in a landscape?
- How are different landforms identified, described, and compared?
- How can landforms be represented using shapes?

### Literature Connections

**There are several videos that can be used to align to the literature from each of the three Wonders unit concepts. Because a majority of the literature that students will read in these three units is fiction, the videos are from the nonfiction genre [Note: there are many fiction videos on these topics as well. The topics included are: Friends, Families, Pets.**

**Use the SOS Strategy Whittle It Down to have students identify words that they hear in the videos which represent key details.**

### Hands-On Activity Connections

**The HOAs for this concept are: Digging in the Sand, Finding Slopes, Landscape Board, Making a River and a Lake, and Making a Dam**

There are several HOAs in this concept. Consider using the HOAs as center activities and integrating writing narrative writing activities into them. For example, in the Digging in the Sand HOA, write a story about digging in the sand. This also provides an opportunity to incorporate illustrations and key details into the story, too. There are several popular children’s literature videos in Discovery Education Experience: In the Small, Small Pond; Miss Rumphius; Owl Moon. Look at the HOA in the next Mapping Landscapes concept called Landscape of a Setting. This would be a good HOA to complete with these videos as a transition into this concept.

### Literature Connections

**Ask and Answer Questions:** As you model and practice the ask and answer questions strategy, consider using different videos to introduce that strategy in science. The segments in the Questions video series can be used before the HOA experiences to show students that asking and answering questions within the investigation process is an important science strategy; it’s a good opportunity to make connections between literacy and science.

**Key Details: Use Illustrations:** This concept includes several photographs of landforms. Use visible thinking questions to have students determine key details from these photos. The three-question protocol for visible thinking is as follows:

1. **What is going on in this picture?**
2. **What do you see that makes you say that?**
3. **What more can you find?**

Keep student responses on chart paper. Use these questions to also “read” illustrations in texts you are reading with students in Wonders.

**Visualize:** The use of visualization with science content is an important strategy. Because the content in the Local Landscapes unit may be abstract to students, this is an important strategy to connect to understanding science content. Model the “sketch to stretch” strategy with students using the reading passage: How Water Flows.

Here is the strategy:

1. Read the passage aloud, asking students to picture in their head what they hear as you read.
2. When you are finished reading, tell students you are going to do a quick sketch of what you read and what it means to you.
3. Draw quickly on chart paper so students can see it.
4. Ask them to share their interpretations of your sketch. Why do they think they drew that sketch? What do they think it means?
5. After students have shared, give them your interpretation of your sketch.
6. Then debrief with students: How did visualizing help them understand the texts? How is visualizing similar to or different than watching a video? Why is visualizing really important in reading science information?

There are several passages in the print SE where students can collaboratively practice the Sketch-to-Stretch visualization strategy, i.e. page 22 and page 32.
UNIT 1: FRIENDS AND FAMILY

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LITERATURE

Read Aloud: "All Kinds of Vets" [Informational Text]
R/W Workshop: Taking Care of Pepper [Informational Text/Narrative Nonfiction]
Anthology:
Lola and Tiva: An Unlikely Friendship [Informational Text]
“Animal Needs” [Interview]

Read Aloud: “Families Today” [Informational Text]
R/W Workshop:
Families Work! [Informational Text]
Anthology:
Families Working Together [Informational Text]

WEEKLY TOPIC

WEEK 4: ANIMALS NEED OUR CARE
Essential Question: How do we care for animals?
• Strategy: Ask and Answer Questions
• Skill: Key Details: Use Photos
• Text Features: Photos, Captions

WEEK 5: FAMILIES WORKING TOGETHER
Essential Question: What happens when families work together?
• Strategy: Ask and Answer Questions
• Skill: Key Details
• Writing: Informative Text

WEEK 6: REVIEW AND ASSESSMENT

NGSS PERFORMANCE EXPECTATIONS

2-ESS2-3
Obtain information to identify where water is found on Earth and that it can be solid or liquid.

2-ESS2-2
Develop a model to represent the shapes and kinds of land and bodies of water in an area.

Lesson Questions:
• How do maps show objects in the real world?
• How are maps used to show landscapes?
• Why can a map also be called a model?

LITERATURE CONNECTIONS

There are several resources in Discovery Education Experience that connect to the Wonders topics. Because the comprehension strategy for both weeks is ask and answer questions and the skill is key details, consider using the A-E-I-O-U Strategy. You can change the categories of each vowel, asking students to select a key detail for one and generate a question for another.

Videos that match the literature include:
• When I Grow Up I Want to Be a Veterinarian
• Visit a Family Bakery

HANDS-ON ACTIVITY CONNECTIONS

• HOA: Landscape of a Setting: This HOA would be good to complete at the very beginning of the unit. Please note that this HOA is referenced on Literacy Connections Card #1 as a way to transition from the last concept to this one.
• HOA: Compare Maps
• HOA: A Landscape Map
• HOA: Use an Image to Make a Map

These two HOAs align to the Wonders instructional focus areas of key details and text features. As you are working on these skills in Wonders, consider doing these HOAs as activities to practice the skills. For example, when students create a landscape map, have them write captions for the parts of their map.

LITERACY CONNECTIONS

Ask and Answer Questions:
The Snowball Fight SOS strategy is a good way to have students generate questions about the concept on a post-it note, crumple and throw the post-it note, then have another student select a post-it and answer the question. Have students then sort their questions and answers to determine which ones identify key ideas and which ones identify key details.

Key Details:
STEM Project Starter #1: Background Scene requires students to determine key details from a scene of a story to create a map. There are several graphic organizers that may be used for this.

Text Features:
The “Park Map” and How are Maps Made? reading passages are a good example of how to integrate text with captions. Use these passages as whole group or small group texts, modeling or practicing how to read captions.
Wonders California

UNIT 1: ANIMAL DISCOVERIES

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LITERATURE

Read Aloud: “Swamp Life” [Fiction]
R/W Workshop:
A Visit to the Desert [Fiction/Realistic Fiction]
Anthology
Sled Dogs Run [Fiction/Realistic Fiction]
“Cold Dog, Hot Fox” [Informational/Expository Text]

Read Aloud: “The Fox and the Crane” [Fiction/Fable]
R/W Workshop:
The Boy Who Cried Wolf [Fiction/Fable]
Anthology
Wolf! Wolf! [Fiction/Fable]
“Cinderella and Friends” [Informational/Expository Text]

Read Aloud: “Explore a Coral Reef” [Informational Text]
R/W Workshop:
A Prairie Guard Dog [Informational Text/Nonfiction Narrative]
Anthology
Turtle, Turtle, Watch Out! [Informational Text]
“At Home in the River” [Informational Text/Expository Text]

WEEKLY TOPIC

WEEK 1: ANIMALS IN NATURE
Essential Question: What can animals in stories teach us?
- Strategy: Make, Confirm, Revise Predictions
- Skill: Character, Setting, Plot
- Writing: Narrative

WEEK 2: ANIMAL STORIES
Essential Question: What can animals in stories teach us?
- Strategy: Make, Confirm, Revise Predictions
- Skill: Character, Setting, Plot
- Writing: Narrative

WEEK 6: ANIMAL HABITATS
Essential Question: What are features of different animal habitats?
- Strategy: Make, Confirm, Revise Predictions
- Skill: Main Topic and Key Details
- Text Features: Bold Print, Subheading, Chart, Labels
- Writing: Informative

Science Techbook Concept

UNIT 1: LANDSCAPE SHAPES
Concept: Land and Water Relationships

NGSS PERFORMANCE EXPECTATIONS

2-ESS2-3
Obtain information to identify where water is found on Earth and that it can be solid or liquid.

2-ESS2-2
Develop a model to represent the shapes and kinds of land and bodies of water in an area.

Lesson Questions:
- Where is water found on Earth?
- How are bodies of water connected?
- How can maps be used to answer questions about land and water relationships?

LITERATURE CONNECTIONS

- There are a wealth of resources in Discovery Education Experience focused on animals. From the Animals Channel which has videos, images, and SOS to a variety of other resources like animal songs and animal initiatives that can serve as center activities, there are many resources that can be paired with the Wonders literature or used as a way to build students’ background knowledge.

- The Boy Who Cried Wolf is available in a video segment.

- Use the Magic School Bus: Take a Dive with the Week 3 Wonders content. Use the Get Your Thinking Hat On SOS with thinking hats that are aligned to reading skills and strategies students are practicing: (1) Predictors; (2) Main Idea Identifiers; (3) Key Detail Describers; as well as some that are suggested in the strategy.

HANDS-ON ACTIVITY CONNECTIONS

- HOA: Land and Water
- HOA: Mapping Rivers

The HOAs can provide students with an opportunity to research animals that live on land, in water and in rivers, connecting the HOA topics to the Wonders topics. Teach students how to search in Discovery Education Experience and select an animal image to print for each of the three environments.

LITERACY CONNECTIONS

Make, Confirm, Revise Predictions: Making, Confirming and Revising Predictions will be used throughout this concept. Beginning with Activity 2, students will make predictions on what they think will happen or what they think happened in the images. It is suggested in Activity 2 to use the Half the Story SOS. This strategy can be used throughout the concept. There are also several reading passages where students can practice prediction. It’s important to connect this strategy to what scientists do. Therefore, use the following passages to practice prediction: SE page 144, 154, 156, 162, 170-171. Print the Prediction T-Chart graphic organizer. Have students complete this prior to reading each of the passages. Once they read, highlight which predictions are correct. Tape this into the SE on each passage. Have students reflect on their predictions over time.

Character, Setting, Plot - Problem and Solution: There is a STEM Connect unit on Water By the Sea that includes a STEM Solution Seeker story. Each of these stories sets up a science challenge, so it’s ideal for identifying a problem. There is a Literacy Guide that goes with the story to provide ideas for integrating literacy strategies. In addition, think about using the Elements of a Story video clip as a center for students. It shows them how to use character, setting, and plot to understand a story. There is also a video clip on main idea that can be utilized as well.

Main Topic and Key Details: Connect the main topic and key details to the videos in this concept. There are several informational videos, Activity 5, 6, 15, and videos in the Beyond section. Use the SOS Placemat to have students complete key details in the four squares and the main topic in the center.

Text Features - Chart: Throughout both the print and the digital Science program, students will use labels, bold print and subheadings. Model and think aloud how to use these in science. There are also several charts that students will complete: Activity 2, 3, 11, and 17. Tear out an example of each of the charts as students complete them and create an anchor chart on charts. Discuss the format of each chart and note when it is important to use it. Show students the Super Science Tools: Charts video series with character Sid the Science Kid.
**LITERATURE**

Read Aloud: “Wild Animal Families” [Nonfiction]

R/W Workshop:
- Eagles and Eagles [Informational Text/Expository]
- Anthology

Baby Bears [Nonfiction]
- “From Caterpillar to Butterfly” [Informational Text]

Reread: “I Fall Down” [Nonfiction]
- “Move It!” [Informational Text]

**WEAKLY TOPIC**

**WEEK 4: BABY ANIMALS**

Essential Question: How are offspring like their parents?
- Strategy: Reread
- Skill: Main Topic and Key Details
- Text Features: Captions, Diagrams, Labels
- Writing: Opinion

**WEEK 5: ANIMALS IN POEMS**

Essential Question: What do we love about animals?
- Strategy: Reread
- Skill: Key Details
- Literary Element: Rhythm
- Writing: Narrative

**WEEK 6: REVIEW AND ASSESS**

**WEEK 1: THE EARTH’S FORCES**

Essential Question: How do the Earth’s forces affect us?
- Strategy: Reread
- Skill: Author’s Purpose
- Text Features - Diagram with Labels, Bold Print, Subheadings
- Writing: Informative

**LITERACY CONNECTIONS**

**WEEKLY TOPIC**

**WEEK 5: ANIMALS IN POEMS**

Essential Question: What do we love about animals?
- Strategy: Reread
- Skill: Key Details
- Literary Element: Rhythm
- Writing: Narrative

**WEEK 6: REVIEW AND ASSESS**

**WEEK 1: THE EARTH’S FORCES**

Essential Question: How do the Earth’s forces affect us?
- Strategy: Reread
- Skill: Author’s Purpose
- Text Features - Diagram with Labels, Bold Print, Subheadings
- Writing: Informative

**UNIT 2: MATERIALS FROM THE LAND**

Concept: Material Properties

2-PS1-1

Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.

**Lesson Questions:**
- What materials can be found in a local landscape?
- How are different materials described?
- How are materials compared?

**LITERATURE CONNECTIONS**

Since the Wonders topics are very scientific in nature, there are numerous resources that you can use as background builders, shared reading resources or center activities. Here are some standouts for each of the topics:

- **Baby Animals:** Animal Encyclopedia [video series]: Pair up students and have them learn about one of the baby animals. Modify the Can You Guess My 2-1-4 SOS by having students write 1 opinion about their baby animal instead of a clue.

- **Animals in Poems:** The Animal Alphabet video series will also give students an opportunity to learn about different animals. These videos can be downloaded and students can record their own audio for the videos. Have students read some of the Wonders poems as the audio for the animal video.

- **Earth’s Forces:** Use different narrative story videos from Discovery Education Experience to pair with informational text pieces in Wonders.

**HANDS-ON ACTIVITY CONNECTIONS**

- **HOA:** What’s In That Soil?
- **HOA:** Materials in the Schoolyard Landscape
- **HOA:** Rock Classification
- **HOA:** Comparing Different Materials

All of the HOAs in this concept have students make predictions. This is a good opportunity to tie in the make, confirm and revise prediction strategy from Literacy Connections Card #3.

**LITERACY CONNECTIONS**

Reread: Reading informational science texts is a good way to practice a rereading strategy because the text is often laden with vocabulary, sentence structure and concepts that are more challenging for students. Have students practice rereading a paragraph or two with the texts on SE print pages 12, 28, 32, 36, 50, 65-66. They should read the section three times. Ask them to rate their understanding of this text on a scale of 1-10 after each reading. Discuss their rating when they are finished and why their comprehension improved after each reading. After each passage, keep class notes and see how/if their rereading changes over time.

**Main Topic and Key Details:** One effective way to teach students to identify main topics and key details is through the “reading” of images. There are several images that serve as discussion starters throughout this concept. Use the Eye Spy strategy to engage in close readings of the images to surface the main topic and key details. Examples of images to use: Activity 3, 5 [digital], pages 9, 13 [print SE].

**Text Features - Captions, Diagrams, Labels, Bold Print, Subheadings:** All of these text features are part of both the print and the digital resources. Use modeling and think aloud strategies to show students how to use these features as they read science text. The Diagrams short video segment can be used as a center or a minilesson.

**Author’s Purpose:** The author’s purpose video segment can be used to help explain the importance of this skill. Use the four “Beyond” reading passages in small group instruction to have students read and identify the author’s purpose. The SOS There’s an APP for that is good to use with the passages. Consider starting with the “AP” in APP to have students identify the author’s purpose and then prove it.
UNIT 3: LIVE AND LEARN

CCSS ELA STANDARDS

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LITERATURE

Read Aloud: “The Hidden Sun” [Fiction]
R/W Workshop:
Starry Night [Fiction]
Anthology
Mr. Putter & Tabby See the Stars [Fiction]
“Day to Night” [Informational Text/Expository]

Read Aloud: “Color Your Community” [Nonfiction Narrative]
R/W Workshop:
Lighting Lives [Informational Text/Nonfiction Narrative]
Anthology
Biblioburro: A True Story from Columbia [Fiction/Folktale]
“The Enormous Turnip” [Fiction/Folktale]

Read Aloud: “Clouds All Around” [Expository]
R/W Workshop:
Tornado! [Informational Text/Expository]
Anthology
Wild Weather [Expository]
“Can You Predict the Weather?” [Informational Text/Expository]

WEEKLY TOPIC

WEEK 2: LOOK AT THE SKY
Essential Question: What can we see in the sky?
• Strategy: Reread
• Skill - Character, Setting, Plot: Sequence
• Writing: Narrative

WEEK 3: WAYS PEOPLE HELP
Essential Question: How can people help out their community?
• Strategy: Ask and Answer Questions
• Skill: Author’s Purpose
• Text Features: Photos with Captions
• Writing: Opinion

WEEK 4: WEATHER ALERT!
Essential Question: How does weather affect us?
• Strategy: Ask and Answer Questions
• Skill: Main Idea and Key Details
• Text Features: Photos with Captions, Bold Print, Subheadings, Sidebar with Directions
• Writing: Informative

LITERATURE CONNECTIONS

UNIT 2: MATERIALS FROM THE LAND
Concept: Changing Materials

2-PS1-4
Construct an argument with evidence that some changes caused by heating or cooling can be reversed and some cannot.

Lesson Questions:
• What happens when materials are mixed together?
• How can mixtures be separated?
• How does temperature affect material properties?
• How are material changes described and classified?

LITERACY CONNECTIONS

UNIT 2: MATERIALS FROM THE LAND
Concept: Changing Materials

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LITERACY CONNECTIONS

UNIT 2: MATERIALS FROM THE LAND
Concept: Changing Materials

2-PS1-4
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Lesson Questions:
• What happens when materials are mixed together?
• How can mixtures be separated?
• How does temperature affect material properties?
• How are material changes described and classified?
UNIT 2: MATERIALS FROM THE LAND
Concept: Materials in Design

NGSS PERFORMANCE EXPECTATIONS
K-2-ETS1-3. Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.
K-2-ETS1-1. Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.

WRITING
Handwriting:
• Good handwriting

LITERATURE
The Instructional Inspiration Channel has a Visual and Performing Arts segment. There are several Boards that use music and art topics paired with a strategy that aligns to main idea and key details, ask and answer questions as well as others like compare and contrast. These Boards are posted on the Resource Board. Remember that you can copy and change any of the assignments or questions. You can also assign these Boards directly to students.

There are also many resources to support the different places content. Pairing video with the text will certainly help students develop a better understanding of life in these remote places. Given the various videos on these topics, this is a good opportunity to use chat stations. Chat Stations are similar to the Conga Line SOS, however, students spend more time chatting with each other on certain questions and gather information from chatting. Use the different videos as centers and then, engage students in the Chat Stations. Consider also pairing the Jigsaw SOS with a structure that allows students to compare and contrast the three different types of areas.

In several of the HOAs, students will use the skill of compare and contrast. In some cases, they will use charts to gather their information. Additionally, in both of these HOAs, students will ask and answer questions. Tie these skills to what students are doing with them in Wonder.

LITERATURE CONNECTIONS
• HOA: Experimenting with Soil
• HOA: The Great Ice Cube Race
• HOA: Designing a Kaleidoscope
• HOA: The Right Stuff

In some cases, they will use charts to gather their information. Additionally, in both of these HOAs, students will ask and answer questions. Tie these skills to what students are doing with them in Wonder.

LITERATURE CONNECTIONS
Ask and Answer Questions: On Literacy Connections Card #5, the SOS Three Questions was suggested. Continue using that strategy with the video content in this unit and the resources in the Beyond section.

Main Idea and Key Details: There are many passages in the concept: Activity 3, 5, 7, 9, 12, 14, 17, etc. Continue with the activity from Literacy Connections Card #5, where students used a highlighting or circling/underlining activity to identify the main idea and key details. Use the Conga Line SOS or the Chat Stations strategy from the Literature Connections above to have students share and corroborate their main idea/key details findings.

Reread: This strategy occurs often in Wonder. Students have learned and practiced it several times. There are several reading passages in the Beyond section with a variety of Lexiles. Use these passages in small group instruction to have students practice their rereading strategy with science content. Remind students that rereading is often a very important strategy when reading information because sometimes information is more complicated.

Connections Within a Text - Compare and Contrast: In the HOAs, students will use compare and contrast. In the reading passage, “Unnatural Materials,” in the Beyond section, students can compare and contrast two different types of materials. This can be used in small group instruction.

Text Features - Map, Key, Labels, Subheading: Since this is the first time that a map as a text feature has been introduced in grade 2, there are some good resources to use on this topic on the Resource Board. There’s also an animation on a map that would allow students to create the text. Just a reminder that students may have completed the Feature Find SOS on Literacy Connections Card #5. These features could be added to the feature find.

Writing - Informative: Throughout this concept, students complete several informative and explanatory paragraphs. Integrate the Wonder’s writing trait of focusing on a topic into their science writing pieces.
UNIT 4: OUR LIFE, OUR WORLD

Wonders California

UNIT 3: HOW LANDSCAPES CHANGE

Concept: The Changing Landscape

NGSS PERFORMANCE EXPECTATIONS

2-ESS1-1
Use information from several sources to provide evidence that Earth events can occur quickly or slowly.

2-ESS2-1
Compare multiple solutions designed to slow or prevent wind or water from changing the shape of the land.

Lesson Questions:
- How is the land shaped by water and wind?
- What landscape changes happen slowly over time?
- What landscape changes happen quickly?

LITERATURE CONNECTIONS

The content in this science unit aligns to the Wonders Week 2 topic. There’s a video in the Beyond section entitled “Changes on Earth” that can be paired with the texts. There are also resources on the Resource Board that align to the texts, including a Volcano Channel that includes video of volcanic eruptions.

There are resources on the Resource Board that align to the culture content for Week 3 of Wonders. There is a series called “Celebrate with DE” that allows students to see how different holidays are celebrated around the world. To find these different segments, do a search in Discovery Education Experience.

To align with the nature folktales content, there are two resources on the Resource Board as well as a graphic organizer that students can use to map the folktales as they read or listen to them.

HANDS-ON ACTIVITY CONNECTIONS

• HOA: Let It Rain
• HOA: Rock Weathering

Both of these HOAs use cause and effect and compare and contrast. Connect these skills in the HOAs to how they are being taught and practiced in Wonders. It’s important to help students make the connections to how they use these skills to read and how they use them to do science.

LITERATURE CONNECTIONS

Reread: This strategy occurs often in Wonders. Students have learned and practiced it several times. There are several reading passages in the Beyond section with a variety of Lexiles. Use these passages in small group instruction to have students practice their rereading strategy with science content. Remind students that rereading is often a very important strategy when reading information because sometimes information is more complicated.

Connections within a Text - Cause and Effect and Character; Setting, Plot - Compare and Contrast:
The skills of cause and effect and compare and contrast are utilized throughout this concept. There is a flip book template for both of these skills on the Resource Board. Students can pick different topics in this concept to create a flip book. Modify the PaperSlide SOS and have students make recordings of them reading their flip book. Post these recordings on a Board for all students and share with parents.

Text Features - Photos, Bold Print, Subheadings: Several of the photos in this concept have been loaded onto the Resource Board. Have students engage in a process of “reading” the photos, writing some explanatory sentences about it, including bold print and a subheading.

Have students work with a partner to answer these questions about the photo before they write their sentences:
- What’s going on in this picture?
- What do you see that makes you say that?
- What more can you find?

Visualize: Return to the sketch to stretch strategy from Literacy Connections Card #1. This time, have students do the sketch to stretch strategy.
1. Read the passage aloud, asking students to picture in their head what they hear as you read. You might also consider doing this with a video segment, listening to just the sound.
2. When you are finished reading/viewing, have students do a quick sketch of what you read and what it means to them.
3. Have them draw quickly on paper.
4. Ask them to share their interpretations of their sketch with a partner. Why do they think they drew that sketch? What do they think it means?
5. Then debrief with students:
   - How did visualizing help them understand the texts?
   - How is visualizing similar to or different than watching a video?
   - Why is visualizing really important in reading science information

Writing - Informative: The Wonders writing trait focus is word choice using time-order words. Integrate this trait into the explanatory sentences that students need to write in answering the activity questions.

Writing - Narrative: In Activity 15 students will write a narrative describing how water changed a landscape. Integrate the strong opening writing trait focus into this story.

WEEKLY TOPIC

WEEK 2: EARTH CHANGES

Essential Question: How does the Earth change?
- Strategy: Reread
- Skill: Connections within a Text - Cause and Effect
- Text Features: Photos, Bold Print, Subheadings
- Writing: Informative

WEEK 3: OUR CULTURE MAKES US SPECIAL

Essential Question: How are kids around the world different?
- Strategy: Visualize
- Skill: Character, Setting, Plot - Compare and Contrast
- Writing: Narrative

WEEK 4: FOLKTALES ABOUT NATURE

Essential Question: How can we understand nature?
- Strategy: Visualize
- Skill: Theme
- Writing: Opinion

CCSS ELA STANDARDS

READING: LITERATURE
RL 2.1
RL 2.2
RL 2.3
RL 2.4
RL 2.5
RL 2.6
RL 2.7
RL 2.8
RL 2.9
RL 2.10

READING: INFORMATIONAL
RI 2.1
RI 2.2
RI 2.3
RI 2.4
RI 2.5
RI 2.6
RI 2.7
RI 2.8
RI 2.9

WRITING
W 2.1
W 2.2
W 2.3
W 2.4
W 2.5
W 2.6
W 2.7
W 2.8
W 2.9
W 2.10

SPEAKING & LISTENING
SL 2.1 a, c
SL 2.2
SL 2.3
SL 2.6
**Reading Literature**

- **RL 2.1** RI 2.1
- **RL 2.2** RI 2.2
- **RL 2.3** RI 2.3
- **RL 2.5** RI 2.4
- **RL 2.6** RI 2.5
- **RL 2.7** RI 2.6
- **RL 2.9** RI 2.7
- **RL 2.10** RI 2.9

**Writing**

- W 2.1 SL 2.1 a,b,c
- W 2.2 SL 2.2
- W 2.3 SL 2.3
- W 2.4 SL 2.3
- W 2.5 SL 2.6
- W 2.6
- W 2.7
- W 2.8
- W 2.10

**Speaking & Listening**

- SL 2.1 a,b,c
- SL 2.2
- SL 2.3
- SL 2.6

**LITERATURE**

- **Reading Aloud:** “Redwood National Forest,” “The Amazing Meadow,” “The Sahara Desert” [Poetry]
- **R/W Workshop:** “Snow Shape,” “Nature Walk,” “In the Sky” [Poetry]
- **Anthology:** “April Rain Song,” “Rain Poem” [Poetry]
- **R/W Workshop:** “Helicopters,” “Windy Tree” [Poetry]

**Read Aloud:** “A Boy Named Martin” [Realistic Fiction]

- **R/W Workshop:** A Difficult Decision [Realistic Fiction]
- **Anthology:** Grace for President [Realistic Fiction]
- **R/W Workshop:** “My First Day” [Fiction]
- **Anthology:** Once Upon a Baby Brother [Fiction]
- **Anthology:** “Bully-Free Zone” [Expository]

**LITERARY ELEMENTS**

- Theme
- Repetition
- Point of View
- Sensory Words
- Descriptive Details
- Sentence Fluency

**WEEKLY TOPIC**

**WEEK 5: POEMS ABOUT NATURE**

- **Essential Question:** What excites us about nature?
  - Strategy: Visualize
  - Skill: Theme
  - Literary Element: Repetition
  - Writing: Informative

**WEEK 6: REVIEW AND ASSESS**

**WEEK 1: BEING A GOOD CITIZEN**

- **Essential Question:** What do good citizens do?
  - Strategy: Summarize
  - Skill: Point of View
  - Writing: Opinion

**WEEK 2: COOPERATION WORKS!**

- **Essential Question:** How do people get along?
  - Strategy: Reread
  - Skill: Point of View
  - Writing: Opinion

**UNIT 3: HOW LANDSCAPES CHANGE**

**Concept:** Landscape Solutions

**HOA:** Suspension Bridge

**Wonders:**

- **K-2-ETS1-1** Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.

** hands-on Activity Connections**

**Visualize:** On other Literacy Connections cards, students have used the Sketch strategy to visualize. Use this strategy again, but ask students to do the strategy differently. Here are two ideas:

- In groups, ask students to choose the “most important moment” in a reading passage in the science concept [i.e., Activity 5, 6, Activity 11] and represent it graphically. When the groups share their work with the class, they should explain the reasons for choosing the moment they did as well as why they portrayed it as they did.

- Have students choose a section of a text and draw it, incorporating a sentence or key words into the visual. This can help students to identify the words that help them visualize.

**Hands-on Activity Connections**

- **HOA:** Comparing Erosion Solutions
- **HOA:** Suspension Bridge

**Literacy Connections**

- **Reread:** This strategy occurs often in Wonders. Students have learned and practiced it several times. There are several reading passages in the Beyond section that require students to practice this strategy with science content. Remind students that rereading is often a very important strategy when reading information because sometimes information is more complicated.
UNIT 5: LET’S MAKE A DIFFERENCE

CCSS ELA STANDARDS

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LITERATURE

Read Aloud: “My First Day” [Fiction]
R/W Workshop: Soccer Friends [Fiction]
Anthology: Once Upon a Baby Brother [Fiction]
“Bully-Free Zone” [Expository]

Read Aloud: “A Hero On and Off Skis” [Informational Text/Biography]
R/W Workshop: Cesar Chavez [Informational Text/Biography]
Anthology: Brave Bessie [Informational Text/Biography]
“The Legend of Kate Shelley” [Fiction/Legend]

Read Aloud: “Clean Water” [Fiction]
R/W Workshop: The Art Project [Fiction]
Anthology: The Woodcutter’s Gift [Fiction]
“Earth’s Resources” [Informational Text/Expository]

Read Aloud: “Town Rules” [Time for Kids]
R/W Workshop: Visiting the Past [Time for Kids]
Anthology: Setting the Rules [Time for Kids]
“American Symbols” [Time for Kids]

WEEKLY TOPIC

WEEK 2: COOPERATION WORKS! (con’t from Literacy Connections Card #8)
Essential Question: How do people get along?
• Strategy: Reread
• Skill: Point of View
• Writing: Opinion

WEEK 3: OUR HEROES
Essential Question: What do heroes do?
• Strategy: Summarize
• Skill - Character, Setting, Plot: Problem and Solution
• Text Features: Bold Print, Subheadings, Timeline
• Writing: Informative

WEEK 4: PRESERVING OUR EARTH
Essential Question: How can we protect the Earth?
• Strategy: Make, Confirm, Revise Predictions
• Skill - Character, Setting, Plot: Problem and Solution
• Writing: Narrative

WEEK 5: RIGHTS AND RULES
Essential Question: Why are rules important?
• Strategy: Make, Confirm, Revise Predictions
• Skill: Connections Within a Text; Cause and Effect
• Text Features: Subheadings, Chart
• Writing: Informative

HANDS-ON ACTIVITY CONNECTIONS

• HOA: What Lives Here?
• HOA: Count Them All
• HOA: Plant Needs

Each of the HOAs includes prediction. Connect this to the strategy that students are using in Wonders. Students will also use summarization in each of the HOAs. Again, this is an opportunity to use the strategy that students are using in Wonders in the science content.

LITERACY CONNECTIONS

Since this is one of the last science concepts, this is an opportunity to have students showcase some of the literacy strategies and skills they have applied throughout all the units. On the Resource Board, there is a Studio Scavenger Showcase that has been created for students to integrate the Unit 5 skills and strategies into science through digital tasks. It’s set up like a scavenger hunt. Students receive points for each of the tasks and they work on teams to complete their Studio Board. These tasks include content from this science topic. Students have to integrate the different skills and strategies into the content with some type of creation that gets loaded onto their Studio Board. The Studio Scavenger Showcase will include some of the following Wonders skills and strategies:
• Reread
• Summarize
• Make, Confirm, Revise Predictions
• Point of View
• Skill: Connections Within a Text; Sequence
• Text Features: Bold Print, Subheadings, Timeline, Chart
• Skill: Character, Setting, Plot: Problem and Solution
• Skill: Connections Within a Text; Cause and Effect
• Writing: Narrative
• Writing: Informative
• Writing: Opinion

UNIT 4: BIODIVERSITY IN HABITATS
Concept: Living Landscapes

NGSS PERFORMANCE EXPECTATIONS

2-LS4-1
Make observations of plants and animals to compare the diversity of life in different habitats.

2-LS2-1
Plan and conduct an investigation to determine if plants need sunlight and water to grow.

Lesson Questions:
• How can we design solutions in a location with erosion?
• How can we design solutions in a location with earthquakes?

LITERATURE CONNECTIONS

The Discovery Education Experiences resources that align to the Wonders units are as follows:

Week 2: There are several resources that focus on cooperation. These videos can serve as centers. Pair these videos with opinion writing. There is also a Studio Board on Getting Along with Others: Compromise and it uses the SOS Six Word Story. Pair these videos with opinion writing.

Week 3: The Animated Hero Series on the Resource Board can provide students with information about a variety of different heroes. Use this series to have students do research on a hero. Continue with the SOS Six Word Story and have students summarize each hero’s life.

Week 4: The Earth Day: Straws series is a good way to have students investigate a real-world problem that jeopardizes the Earth. In the Teacher’s Guide that accompanies the series, there is a sea sculpture activity that will bring a hands-on component to the readings.

Week 5: There is a Rules Channel that includes a variety of resources to integrate with the Time for Kids readings.
**Wonders California**

**UNIT 6: HOW ON EARTH?**

**CCSS ELA STANDARDS**

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**LITERATURE**

- **Read Aloud:** “The Bluebell” [Fiction/Myth]
  - R/W Workshop: Why Fir Tree Keeps His Leaves [Myth]
  - Anthology: The Golden Flower: A Taino Myth from Puerto Rico [Fiction/Myth]
  - “A Pumpkin Plant” [Informational Text/Expository]
- **Read Aloud:** “How Does Energy Make Your Hair Stand Up?” [Informational Text/Expository]
  - R/W Workshop: Pedal Powers [Informational Text/Expository]
  - Anthology: My Light [Informational Text/Expository]
  - “The Power of Water” [Informational Text/Expository]
- **Read Aloud:** “Teamwork in Space” [Informational Text/Expository]
  - R/W Workshop: Dive Teams [Informational Text/Expository]
  - Anthology: Astronaut Handbook [Informational Text/Expository]
  - “teamwork to the Top” [Informational Text/Narrative Nonfiction]
- **Read Aloud:** “Keep the Change” [Informational Text/Expository]
  - R/W Workshop: The Life of a Dollar Bill [Informational Text/Expository]
  - Anthology: Money Madness [Informational Text/Expository]
  - “King Midas and the Golden Touch” [Fiction/Myth]

**LITERACY CONNECTIONS**

- **Weekly Topic:** WEEK 1: PLANT MYTHS AND FACTS
  - **Essential Question:** What do myths help us understand?
    - **Strategy:** Reread
    - **Skill:** Theme
    - **Writing:** Opinion

**HANDS-ON ACTIVITY CONNECTIONS**

- **WEEK 2: WE NEED ENERGY**
  - **Essential Question:** How do we use energy?
    - **Strategy:** Reread
    - **Skill:** Author’s Purpose
    - **Text Features:** Photos with Captions, Subheadings, Diagrams, Labels
    - **Writing:** Informative

**WEEK 3: TEAM UP TO EXPLORE**

- **Essential Question:** Why is teamwork important?
  - **Strategy:** Summarize
  - **Skill:** Main Idea and Key Details
  - **Text Features:** Photos with Captions, Maps, Labels
  - **Writing:** Opinion

**WEEK 4: MONEY MATTERS**

- **Essential Question:** How do we use money?
  - **Strategy:** Summarize
  - **Skill:** Connections Within a Text: Summarize
  - **Text Features:** Photos with Captions, Graphs, Labels, Subheadings
  - **Writing:** Informative

**LITERACY CONNECTIONS**

- **Reread:** Return to the Pause-Think-Retell activity from Literacy Connections Card #2. Have students read a passage. Pause after each paragraph. Think about the key idea and details. Reread what you read in order to see how much you understood. If there is no or little recall, then reread. Use the Talking Sticks SOS to have students share.
- **Writing - Opinion:** In Activity 21, students will write a narrative piece. However, this can also become an opinion piece. Students generally love to write about animals. Have students write an opinion piece on how to save animals’ habitats. Include the Wonders traits on strong openings and supportive details.
- **Author’s Purpose:** There is an author’s purpose Studio Board created for grade 2 students. It uses different clips of videos and students determine the author’s purpose from 5 choices: inform, entertain, persuade, explain, describe. Remember that Studio Boards can be assigned. See the Resource Board.
- **Text Features - Photos with Captions, Subheadings, Diagrams, Labels, Graphs, Maps:** Each of these text features will be utilized in the SE. In fact, one of the student objectives in this concept is that students will draw a diagram. Develop a coding system for these text features with students. For example, circle photos with captions or star the subheadings. Establish a checkpoint during the concept and see how many of each text feature they have identified. Have discussions about why the text features are useful each time they are coded.
- **Summarize:** There are numerous passages in the Beyond section. These passages at different Lexile levels can be used in small group instruction. Use a version of the SOS Fold, Draw, and Learn. Have students write important words on the front flap after reading the piece as the first step.
- **Main Idea and Key Details:** Use the videos in this concept and in the Beyond section to have students identify the main idea and key details. Use the Listen Up SOS, using one group to identify the main idea and the other, key details.
- **Connections Within a Text - Problem and Solution:** The text in Activity 21 sets up the problem within the text. Students then use a graphic organizer to determine how to include the solution. Using the graphic organizer, they are guided to write a story. This can also serve as a guided writing lesson, helping students to both read and write a problem and solution type of text.
California Literacy Cards
The Discovery Education Literacy Connections Cards are designed to save teachers valuable planning time by bringing literacy into science and science into literacy. By aligning the Discovery Education Science units and concepts to the Wonders K-6 Literacy Curriculum, teachers can integrate reading and writing skills into science and also, use robust, digital content to make their literacy instruction differentiated and multimodal.

Where are the Literacy Connections Cards?
Find the cards in the digital Science Techbook under the Intro tab, among the Teacher Planning Resources.

How do you use the Literacy Connections Cards?
The Literacy Connections Cards were developed by aligning the pacing of Wonders to the pacing of the Discovery Education Science program.

The left side of the card delineates the Wonders unit, standards, literature, and matching skills and standards. The right side of the card delineates the Science unit and concept that matches Wonders, according to pacing.

Each of the Literacy Connections Cards has a corresponding Studio Board that can be accessed by scanning the QR code or typing the Quick Code in the digital Techbook. The code will take teachers to all the resources that are referenced on the Literacy Connections card.

The Literature Connections
The Literature Connections identify resources from Discovery Education Experience, and, if aligned, the science content, to the Wonders literature. Many of the resources will provide minilesson, small group or centers opportunities, complete with the content as well as an instructional strategy called SOS. These resources can be utilized during the literacy block to provide multimodal experiences for students as they grow their reading, writing, speaking and listening skills.

HOA’s and Literacy Connections
The Hands-On Activity and Literacy Connections sections bring the Wonders skills and strategies into science. There are specific suggestions for not only how to integrate the teaching of reading and writing into science, but also where in the science concept these skills and strategies will have the most impact. Teachers will also find ideas on how to bring literacy into each of the science lessons using engaging SOS and other literacy activities like sentence frames or the creation of flipbooks.
**LITERATURE**

**Read Aloud:** “Three Pigs, a Wolf, and a Book” [Fantasy]  
**R/W Workshop:** Bruno’s New Home [Fantasy]  
**Anthology:** Woolf [Fantasy]  
**Jennie and the Wolf** [Fable]  

**Read Aloud:** “Ready for Aloha” [Realistic Fiction]  
**R/W Workshop:** The Dream Catcher [Realistic Fiction]  
**Anthology:** Yoon and the Jade Bracelet [Fiction]  
“Family Traditions” [Expository Text]  

**Read Aloud:** “Faith Ringgold: Telling Stories Through Art”  
**R/W Workshop:** Room to Grow [Narrative Nonfiction]  
**Anthology:** Gary the Dreamer [Nonfiction]  
“Sharing Polkas and Pitas” [Expository Text]

**WEEKLY TOPIC**

**WEEK 1: STORYTIME**  
**Essential Question:** What can stories teach you?  
**Strategy:** Visualize  
**Skill:** Character, Setting, Plot: Character  
**Writing:** Narrative

**WEEK 2: TRADITIONS**  
**Essential Question:** What can traditions teach you about cultures?  
**Strategy:** Visualize  
**Skill:** Character, Setting, Plot: Sequence  
**Writing:** Narrative

**WEEK 3: COMMUNITIES**  
**Essential Question:** How do people from different cultures contribute to a community?  
**Strategy:** Ask and Answer Questions  
**Skill:** Text Structure: Sequence  
**Writing:** Informative

**HANDS-ON ACTIVITY CONNECTIONS**  
There are several complex concepts in this unit, i.e. force, motion, work. There are also several video clips to demonstrate these concepts. Use the Silence is Golden SOS Strategy to have students visualize each of these concepts. Combine this strategy with sketching and have student sketch the main idea that they visualize from the video. Students should collaborate on their sketches and share their main ideas before watching the video again.

**Sequence:** In the Beyond section, there are two readings, “Let’s Play Catch” and “Forces on the Court.” Use these two passages to have students identify paragraphs where the sequence of events is important to the overall message. Have them identify words and phrases in those paragraphs that show a sequence of events is happening, i.e., “As a result” or “First...then.” Use one or more of these paragraphs to think aloud how you comprehend what is happening when you read sequential events.

**Ask and Answer Questions:** Bring this strategy into the STEM in Action section. Use the Discovery Education Science Alliance: Asking Questions video to introduce students to the questioning strategy in Science. Model asking questions as you unpack the STEM in Action Project Starters.

**Narrative:** Embed narrative writing into the STEM Project Starters. Use brainstorming to generate narrative story topics for each of the projects. This is an opportunity to integrate the development of ideas (Wonders writing trait) into science. [Note: Students don’t need to write the narrative pieces. This activity demonstrates the importance of the brainstorming process]. The Reasons for Writing video can set the stage for brainstorming.
### CCSS ELA STANDARDS

<table>
<thead>
<tr>
<th>READING: LITERATURE</th>
<th>READING: INFORMATIONAL</th>
<th>WRITING</th>
<th>SPEAKING &amp; LISTENING</th>
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</thead>
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<tr>
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<td>W 3.1a</td>
<td>SL 3.1a-d</td>
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<td>SL 3.3</td>
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<td>RL 3.7</td>
<td>RI 3.5</td>
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<td></td>
<td>RI 3.10</td>
<td>W 3.10</td>
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</tr>
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### LITERATURE

**Read Aloud:** “Chester Greenwood and His Cold Ears” [Biography]
**R/W Workshop:** Mary Anderson’s Great Invention [Biography]
**Anthology:**
- All Aboard! Elijah McCoy’s Steam Engine [Biography]
- “Lighting the World” [Expository Text]

**Read Aloud:** “America’s Landmarks and Memorials” [Expository Text]
**R/W Workshop:** A Natural Beauty [Expository Text]
**Anthology:**
- A Mountain of History [Expository Text]
- “A Landmark Street” [Expository Text]

### WEEKLY TOPIC

#### WEEK 4: INVENTIONS
Essential Question: How can problem solving lead to new ideas?
- **Strategy:** Ask and Answer Questions
- **Skill:** Text Structure: Cause and Effect
- **Text Features:** Diagrams, Sidebars
- **Writing:** Informative

#### WEEK 5: LANDMARKS
Essential Question: How do landmarks help us understand our country’s story?
- **Strategy:** Ask and Answer Questions
- **Skill:** Main Idea and Key Details
- **Text Features:** Captions, Maps, Sidebar
- **Writing:** Opinion

#### WEEK 6: REVIEW AND ASSESSMENT

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### HANDS-ON ACTIVITY SOS CONNECTIONS

#### HOA: Changing Charges

**LITERACY CONNECTIONS**

**Ask and Answer Questions:** As you introduce the ask and answer questions strategy, point out that Science is set up using this structure. Most of the sections within both the print SE and the digital Science Techbook begin with a question and follow with text. Discuss with students why this is structured this way. Introduce the In Science.Asking and Answering Questions graphic organizer and have students work in pairs to complete it as they read a section of the static force content.

**Cause and Effect:** [This comes directly from the Teacher Notes in the Explore section of the digital Science Techbook]. Throughout this concept, students will examine what causes static charge and the effects of positive or negative charges on how objects interact. Students will use their understanding of static electricity to explain changes in charge; how static charge can build and how charges can be released through discharge. Students may find the graphic organizer “Cause/Event/Effect Chart” helpful for organizing their notes on this topic.

Have students analyze if the text “Don’t Move” from the Beyond section of the digital Techbook has a cause and effect text structure. Brainstorm cause and effect signal words to integrate into the text to make the structure more evident. Cause and effect signal words may include: cause, effect, result, one reason, in order to, if...then, finally, led to, due to.

**Captions:** On page 86 of the print SE, students will draw a cartoon about static electricity. Generate the qualities of effective captions. Ideas may include:
- Give readers information they cannot get from just looking at the cartoon.
- A caption should complete the photo. The reader should not have to look at the story, but she should want to look at the story.
- A good caption describes the action.

**Informative Writing:** There are many places in the digital Science Techbook within the Static Force content for students to write either informational or explanatory text. Use the dashboard feature to randomize student responses of an open-ended, short answer question, i.e. Can You Explain? Select random responses and work as a class or small group to rewrite the response by focusing on the writing trait you are currently exploring. For example, if you are working on word choice, examine the word choices in the responses and discuss how to make them stronger or more effective.
UNIT 1: PLAYGROUND FORCES
Concept: Magnetic Force

NGSS PERFORMANCE EXPECTATIONS

3-PS2-4 Define a simple design problem that can be solved by applying scientific ideas about magnets.

3-PS2-3 Ask questions to determine cause and effect relationships of electric or magnetic interactions between two objects not in contact with each other.

Lesson Questions:
- Why are some materials attracted to magnets while others are not?
- How can the size of the force between two objects change?
- How are magnets different from other materials?
- What happens when magnetic poles interact?
- Why are some materials attracted to magnets while others are not?

LITERATURE CONNECTIONS

There are several Anansi stories in various formats in Discovery Education Experience. These stories could serve as centers for students. Use the Quick Write SOS to have students make a prediction about the Anansi story. Have students confirm and revise their predictions after the story. You could also create a Studio Board and have students collaborate on their predictions.

Most of the pieces in Wonders on immigration are fiction. Use informational resources in Discovery Education Experience to pair with the fiction resources. The Levar Burton Reading Rainbow Field Trip: Coming to America is a good example of a resource to pair with the historical fiction texts. This is also a good opportunity to use immigration images and have students write headings or use the SOS Instagram-in.

The WordGirl video, A Vote for Becky, is a good way to reinforce vocabulary. There are opinion and narrative writing prompts to go with the video.

HANDS-ON ACTIVITY CONNECTIONS

- HOA: Compass Close-Up
- HOA: Magnets
- HOA: A Clean Sweep with Magnets

The HOAs ask students to use prediction to determine what they think will happen. In the print SE, students will write a prediction on pages 108, 110, and 114. On page 129, have student predict their answers first.

LITERACY CONNECTIONS

Make, Confirm or Revise Predictions: Use the SOS Stem Completion with the video in the unit and the Beyond section. Good sentence stems and sentence frames to help students use prediction in science are:
- I think ____ is going to happen because ____.
- I know ____ so I predict that ____.
- I predict ____ because ____.
- I can predict that ____ because ____.

Have students select one to complete prior to watching one of the Magnet videos.

Rereread: The different texts in this Magnets concept lend themselves to practicing rereading because a lot of the vocabulary is different and somewhat abstract for students. Select one of the print SE selections [111-112, 118-119, 124] or the two passages in the digital Beyond section and have students practice rereading. Use the SOS Paperslide to have students identify what they learn when they reread and why they reread. These different Paperslide videos can be shared with students in lower grades.

Author's Point of View: Use the Point of View video segment as a center to reinforce this skill.

Text Features - Headings, Bar Graph: Both the print SE and the digital Techbook use headings. Model and think aloud how to read the headings. In unit 1, SE page 35, students completed a bar graph. Use this as an opportunity to reflect on how it was used and how they read it.

Writing - Narrative and Opinion: The Word Girl video referenced in the Literature section aligns to the Week 3 Wonders content and has accompanying narrative and opinion writing prompts.
UNIT 2: FIGURE IT OUT

CCSS ELA STANDARDS

- **READING:** LITERATURE
  - RL 3.1
  - RL 3.2
  - RL 3.3
  - RL 3.4
  - RL 3.5
  - RL 3.6
  - RL 3.7
  - RL 3.10

- **READING:** INFORMATIONAL
  - RI 3.1
  - RI 3.2
  - RI 3.3
  - RI 3.4
  - RI 3.5
  - RI 3.6
  - RI 3.7
  - RI 3.9

- **WRITING:**
  - W 3.1a
  - W 3.2a
  - W 3.3a, b
  - W 3.4
  - W 3.5
  - W 3.6
  - W 3.7
  - W 3.8
  - W 3.10

- **SPEAKING & LISTENING:**
  - SL 3.1b-d
  - SL 3.2
  - SL 3.3
  - SL 3.4a
  - SL 3.5
  - SL 3.6

**LITERATURE**

**Read Aloud:** “The Bald Eagle: A Success Story” [Expository Text]

**R/W Workshop:**
- “Kids to the Rescue!” [Expository Text]

**Anthology:**
- Whooing Cranes in Danger [Expository Text]
- “Help the Manatees!” [Expository Text]

**Read Aloud:** “New Bike, Old Bike” [Poetry]

**R/W Workshop:**
- “Empanada Day”
- “Cold Feet”

*Our Washing Machine*
- “Bugged” [Poetry]

**Anthology:**
- “The Inventor Thinks Up Helicopters”
- “The Ornithopter” [Poetry]
- “Montgolfier Brothers’ Hot Air Balloon” [Poetry]

**WEEKLY TOPIC**

**WEEK 4: SURVIVAL**

Essential Question: How can people help animals survive?
- Strategy: Reread
- Skill: Author’s Point of View
- Text Features: Map
- Writing: Informative

**HOA: From a Seed to a Plant**

**HOA: Animal Life Cycle Mobile:** This HOA, included in the digital Beyond section, can be used as an exploratory center during Wonders Week 4. It’s an opportunity for students to explore different animals and create their life cycle in the form of a mobile. Students could also add a component to their mobile focused on how their animal survives.

**HANDS-ON ACTIVITY CONNECTIONS**

- HOA: From a Seed to a Plant
- HOA: Animal Life Cycle Mobile: This HOA, included in the digital Beyond section, can be used as an exploratory center during Wonders Week 4. It’s an opportunity for students to explore different animals and create their life cycle in the form of a mobile. Students could also add a component to their mobile focused on how their animal survives.

**WEEK 5: FIGURE IT OUT**

Essential Question: How do people figure things out?
- Strategy: Reread
- Skill: Point of View
- Literary Elements: Alliteration and Rhyme
- Writing: Narrative

**WEEK 6: REVIEW AND ASSESS**

Essential Question: How do people figure things out?
- Strategy: Reread
- Skill: Point of View
- Literary Elements: Alliteration and Rhyme
- Writing: Narrative

**INFORMATIONAL WRITING & SPEAKING**

**LITERATURE CONNECTIONS**

Reread: This strategy is a repeat from the previous week [see Literacy Card #3]. Students may still be working on their reread PaperSlides. Continue sharing these with each other.

**Author’s Point of View:** In week 3 of the Wonders unit, students were introduced to point of view. The Tomie DePaola series on point of view will serve as a good follow-up. Each video segment can serve as a small activity or center. Students can gather 2-3 things they learned about point of view from Tomie DePaola.

**Text Features - Map:** The Reading Maps video series and accompanying teacher’s guide can be used as a small group or individual activity. The cloze passage on page 20 of the teacher’s guide that goes with the video can be used to develop vocabulary as well.

**Informative Writing Prompt:** Have students select an animal and a stage of the animal’s life cycle. Prompt: Write a paragraph about the animal in one stage of life. Describe how the animal lives and survives. Consider creating this prompt on a Studio Board and have students write their paragraph on the Board. These paragraphs can be used as shared writing examples. There is an example Studio Board that can be copied and assigned to your students on the Literacy Connections page of the Resource Board.

**Narrative Writing:** There are so many photos and images in this concept that would be interesting to students. Print them out and post them around the room. Have students use them to develop narrative stories.
Reading:
"A Great American Teacher" [Biography]
"Jane's Discovery" [Historical Fiction]
"Meeting the Pride of Puerto Rico" [Historical Fiction]
"The Inchworm's Tale" [Folktale]
"Bear, Beaver, and Bee" [Folktales]
"Our Home in the Solar System" [Expository Text]
"The Pride of Puerto Rico" [Historical Fiction]
"Meeting the Pride of Puerto Rico" [Historical Fiction]
"Get a Backbone!" [Expository Text]

Wonders California
UNIT 3: ONE OF A Kind

UNIT 2: LIFE CYCLES FOR SURVIVAL
Concept: Inherited Traits

NGSS PERFORMANCE EXPECTATIONS
3-LS4-2 Use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing.
3-LS3-1 Analyze and interpret data to provide evidence that plants and animals have traits inherited from parents and that variation of these traits exists in a group of similar organisms.

Lesson Questions:
• What traits do offspring inherit from their parents?
• How are siblings similar and different?
• How do inherited traits help an organism’s survival?

LITERATURE CONNECTIONS
There is a wealth of digital content to support the three weeks of Wonders texts.

There are many resources for the Week 1 Wonders content on unique animals. This is a good opportunity to use the Polar Bear International Virtual Field Trip content as a kick off to unique animals. There is also an Animals Channel with many resources.

For the week 2 focus on leadership, there is a series entitled, “Change Makers.” This series has 5 different segments that highlight young leaders who have made an impact. These segments would make good center activities.

The Week 3 content can be paired with content from the Solar System Channel. With summarization and main idea and key details as the skill and strategy focus areas, the SOS Three Truths and a Lie is a good way to have students summarize with key details. Have students watch different videos and create their three truths and a lie, then present them to each other.

HANDS-ON ACTIVITY CONNECTIONS
• HOA: Plant Generations

There is a lot of writing in this particular hands-on activity. Even though the Wonders focus for two of the weeks is narrative, this is a good opportunity to integrate the traits of sentence fluency and word choice into informative and explanatory science writing. Use different parts of the HOA as shared writing and focus on these specific writing traits.

LITERATURE CONNECTIONS

Visualize: Use the videos in these lessons to build students’ visualization skills. The SOS Strategy, Surround Sound, uses visualization and can be integrated into the inherited traits concept. There are also effective videos in Discovery Education Experience on visualization to use for minilessons. See the Resource Board.

Problem and Solution: The section on adaptations is the best place in this concept to discuss the structure of problem and solution. For example, in the Beyond section, there is a passage entitled “The Tallest Animals on Land.” Students can identify the problem and solution for giraffes in this passage. Use the problem and solution sentence stem: The problem is ___ and the solution is ___. Have students use this structure throughout the concept.

Writing - Narrative: There are several images in the Beyond section. Have students select an image. Prompt: Write a story about this animal. Make sure your story has a beginning, a middle, and an end.

Character, Setting, Plot: Cause and Effect: This is an opportunity to continue to connect a reading skill like cause and effect to science. As you are digging into inherited traits, ask students: What is the cause? What is the effect? Use the “Cause/Event/Effect” chart to have students keep examples of inherited traits cause and effects.

Summarize: Use text and video passages such as Activity 7, 9 or 10 to have students summarize. Use the SOS The Envelope Please and instead of questions in the envelope, put summary words like: In summary; To conclude; It has been shown that…; To review…; In short…; In conclusion…; To sum up…; In this video we learned…; The main idea of this text or video is….

Main Idea and Key Details: The Envelope Please SOS can also be used to practice the main idea and key details skill as well. Also, consider using the three videos in the Beyond section as centers. There is a Studio Board on the Resource Board that uses the Tabletop Texting SOS. Discuss the concept of texting with students and share that texters use sentences or phrases that are 140 characters or less. Embed one of the Beyond videos in the Studio Board and assign it to students.

Text Features: Key Words, Chart: Have students examine the different charts that are used throughout the SE for the unit. See SE pages 11, 29, 42, 84, 98, 101, and 116. Break students into different small groups to analyze and share how to read the charts.

Writing - Informative: There are several explanatory paragraphs that students will write throughout this concept. Integrate the Wonders trait of organization and strong paragraphs into this writing. The research topic of rat terriers in Activity 14 [SE page 87] is a good example of a writing piece where students can practice writing a strong paragraph.

WEEKLY TOPIC

WEEK 1: BE UNIQUE
Essential Question: What makes different animals unique?
• Strategy: Visualize
• Skill: Problem and Solution
• Writing: Narrative

WEEK 2: LEADERSHIP
Essential Question: How can one person change the way you think?
• Strategy: Visualize
• Skill - Character, Setting, Plot: Cause and Effect
• Writing: Narrative

WEEK 3: DISCOVERIES
Essential Question: What do we know about Earth and its neighbors?
• Strategy: Summarize
• Skill: Main Idea and Key Details
• Text Features: Key Words, Chart
• Writing: Informative
UNIT 4: THE CHANGING ENVIRONMENT

READING: LITERATURE

RL 3.1
RL 3.2
RL 3.3
RL 3.4
RL 3.5
RL 3.6
RL 3.7

RL 3.1
RL 3.2
RL 3.3
RL 3.4
RL 3.5
RL 3.6

W. 3.1a
W. 3.2a, d
W. 3.3a, b
W. 3.4
W. 3.7
W. 3.8

UNIT 2: LIFE CYCLES FOR SURVIVAL

Concept: Working in Groups

NGSS PERFORMANCE EXPECTATIONS

3-LS2-1
Construct an argument that some animals form groups that help members survive.

Lesson Questions:
- Why do some animals live in large groups?
- How do animals work together in small groups?

LITERATURE CONNECTIONS

There’s a great series called Using Materials: Design and Engineer Using Ideas from Nature that can accompany the texts in week 4 Wonders. Continue using the SOS strategy The Envelope Please from Literacy Connections Card #5 or use the TableTop Texting Strategy that is embedded on a Studio Board. These strategies align to the summarization strategy and the main ideas and key details skill.

There is a short video series entitled, “Reading in Science.” These segments can be used as minilessons prior to reading some of the passages in this concept. It reinforces the skill of main idea and key details. There is a quiz included with the series.

The “Wagon Train” series is a nonfiction narrative that will pair with the expository texts in Wonders week 5. There are blackline masters that accompany this series and can be used as activities to check students’ understanding.

HANDS-ON ACTIVITY CONNECTIONS

- HOA: Surviving in a Changing Environment
- Focus on the informative writing trait of writing strong conclusions for this activity. In the SE, page 103, have students work in pairs to draft their conclusions. Use the IDEA Share SOS to have students give each other feedback on their paragraphs.

LITERACY CONNECTIONS

Summarize: [con’t from Literacy Connections Card #5]
Use text and video passages such as Activity 7, 10 or 11 to have students summarize. Use the SOS The Envelope Please and instead of questions in the envelope, put summary words like: In summary; To conclude; It has been shown that…; To review…; In short…; In conclusion…; To sum up…; In this video we learned…; The main idea of this text or video is…

Also, note that in Activity 5, students use the A-E-I-O-U SOS. This is a good strategy to support summarization as well.

Main Idea and Key Details: [con’t from Literacy Connections Card #5]
The Envelope Please SOS can also be used to practice the main idea and key details skill as well. Also, consider using the three videos in the Beyond section as centers. There is a Studio Board on the Resource Board that uses the TableTop Texting SOS. Discuss the concept of writing with students and share that texters use sentences or phrases that are 140 characters or less. Embed the Wonders writing trait on voice into the piece.

Tabletop Texting SOS. Discuss the concept of texting with students and share that texters use sentences or phrases that are 140 characters or less. Embed the Wonders writing trait on voice into the piece.

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UNIT 4: MEET THE CHALLENGE

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RL 3.3
RL 3.4
RL 3.5
RL 3.6
RL 3.7

READING: INFORMATIONAL
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RI 3.2
RI 3.3
RI 3.4
RI 3.5
RI 3.6
RI 3.7
RI 3.8

WRITING
W 3.1a
W 3.2a
W 3.3d
W 3.6
W 3.7
W 3.8
W 3.10

SPEAKING & LISTENING
SL 3.1b-d
SL 3.2
SL 3.3
SL 3.5

LITERATURE

Read Aloud: “Three Wishes” [Folktales]
R/W Workshop:
“Nail Soup” [Folktales]
Anthology:
The Real Story of Stone Soup [Folktales]
“Healthful Food Choices” [Expository Text]

Read Aloud: “Dancing La Raspa” [Realistic Fiction]
R/W Workshop:
“The Impossible Pet Show” [Realistic Fiction]
Anthology:
The Talented Clementine [Realistic Fiction]
“Clementine and the Family Meeting” [Realistic Fiction]

Read Aloud: “African Lions” [Expository Text]
R/W Workshop:
“Gray Wolf! Red Fox!” [Expository Text]
Anthology:
Amazing Wildlife of the Mojave [Expository Text]
“Little Half Chick” [Folktales]

WEEKLY TOPIC

WEEK 1: CHOICES
Essential Question: What are the choices that are good for us?
• Strategy: Ask and Answer Questions
• Skill: Compare and Contrast
• Writing: Opinion

WEEK 2: SKILLS AND TALENT
Essential Question: How can you use what you know to help others?
• Strategy: Ask and Answer Questions
• Skill: Point of View
• Writing: Opinion

WEEK 3: ADAPTATIONS
Essential Question: How do animals adapt to challenges in their habitat?
• Strategy: Reread
• Skill: Compare and Contrast
• Text Features: Map, Photo with Captions
• Writing: Informative

HANDS-ON ACTIVITY CONNECTIONS

Ask and Answer Questions: Have students practice asking and answering questions with the passages in the following activities: 2, 6, 8, 12 and the texts in the Beyond section. Use the following activity:
1. Have the text in the center between two students. Students should also have cards with question words on them. 
2. Taking turns, student one reads the text aloud until a designated stopping point. 
3. Student one chooses one of the cards and reads it aloud (e.g., who). The student should then pose a question using the word on the card that can be answered by the text just read. 
4. Student two answers the question. 
5. Reverse roles and continue until the entire text is read and all words are used at least once.

Point of View: The dinosaur content in this unit can be used to explore point of view. Students can create dinosaurs dialogues from different points of view: the dinosaur, a fossil, a scientist, etc.

Writing - Opinion: Have students use the 2-1-4 SOS with a type of dinosaur. Instead of a fossil, a scientist, etc.

Reread: Select one of the rereading passages that students completed on a previous Literacy Connections Card and replay it for students. Introduce them to a rereading rate scale and have them use it for different passages in science. This can be replicated on a post-it note and attached to different passages in science. Use the Rating Scale to assess your understanding after each read:
1. I do not understand
2. I somewhat understand
3. I still have several questions
4. I understand and have a few questions
5. I totally understand

Compare and Contrast: One way to build students’ compare and contrast skills is to have them transact with visual texts. In this primarily oral activity, give students two or more photographs or pictures to compare and contrast. There are several in this concept. Students reflect on the pictures and critically evaluate them through discussion. Students work together to identify the similarities and differences in the pictures and then record their findings. Have students reflect on how their compare and contrast work helped them understand the visual more clearly.

Text Features - Map, Photo with Captions: On Literacy Connections Card #6, students created a collage of photos with captions. They can continue to add to their collage with photos and captions from this concept.

UNIT 3: SURVIVING IN CHANGING ENVIRONMENTS

Concept: Understanding Fossils

NGSS PERFORMANCE EXPECTATIONS

3-LS4-1
Analyze and interpret data from fossils to provide evidence of the organisms and the environments in which they lived long ago.

Lesson Questions:
• What are fossils?
• How can you find clues in fossils?
• How can you interpret fossil information?

LITERATURE CONNECTIONS

There are three Studio Boards embedded on the Resource Board that use videos on healthy eating with different SOS. Remember that you can use these boards as is and assign them to students or you can copy and revise them to meet the needs of your students.

Since the Wonders week 2 content is realistic fiction, there are some entertaining resources for students on talents on the Resource Board. Additionally, this is a good time to introduce different careers to students. Since the world of work is everchanging, it is important, beginning as early as kindergarten, to help students understand the various career opportunities that are available. There is a performing arts series on the Resource Board.

Animal adaptations was a topic in the last science concept. There are also different resources that can be paired with the Wonders texts on the Resource Board. There is a Studio Board that has ideas for different adaptation centers.

LITERARY CONNECTIONS

HOA: Where Did I Come From?
HOA: Making Fossils

Use the questions and claims in these hands-on activities as shared writing activities. Have students compose the responses together to develop exemplars for organization and claims with evidence.
UNIT 4: MEET THE CHALLENGE

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UNIT 3: SURVIVING IN CHANGING ENVIRONMENTS

Concept: Interactions in the Environment

NGSS PERFORMANCE EXPECTATIONS

3-LS3-2
Use evidence to support the explanation that traits can be influenced by the environment.

3-LS4-3
Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all.

Lesson Questions:
- How can you describe a habitat?
- How can the environment affect organisms?
- How can animal behavior be influenced by inheritance and the environment?
- How do habitats match the needs of different organisms?

LITERATURE CONNECTIONS

There are a variety of resources in Discovery Education Experience to pair with the Wonders texts. These resources range from focusing on the Wright Brothers or the Tuskegee Airmen to exploring whether people can fly as well as eagles. This is a good opportunity to use the Inquiry Chart SOS and have students compare different types of flight experiences.

Use the inspiration focused resources to set up centers for students and pair these with the SOS Connect the Dots. Have students make connections from one resource to the next, focusing on the topic of inspiration.

HANDBS-ON ACTIVITY CONNECTIONS

- HOA: Living Or Nonliving
- HOA: Neighborhood Habitat
- HOA: Plant Observations
- HOA: Habitats All Around

In these hands-on activities, students will use the skill of compare and contrast. In the Living or Nonliving HOA, students will compare and contrast living and nonliving things. In the Neighborhood Habitat, students can compare and contrast their observations with their classmates. In the HOA: Plant Observations, students compare and contrast two different plants. Finally, in the Habitats All Around HOA, students will research a habitat and compare and contrast their findings with their classmates. In all of these activities, have students discuss the structure they are using to compare and contrast, and how these structures can help them when reading.

LITERACY CONNECTIONS

Reread: Continue the activity from Literacy Connection Card #7. Bring back the rereading rate scale and have students use it for different passages in science. This can be replicated on a post-it note and attached to different passages.

1: I do not understand
2: I somewhat understand
3: I still understand
4: I understand and have a few questions
5: I totally understand

Text Features - Sidebar: As mentioned in previous Literacy Connections Cards, one of the best ways to help students understand how to read a text feature is to have them write one. Use the passages in the SE, such as Activity 11, or even a video, such as Activity 3, and have students write a sidebar piece.

Writing - Informative: In Activity 11, students read and watch a video to write explanatory paragraphs. Integrate the Wonders writing trait of organization into this piece.

Theme: Often times, theme is analyzed in literary texts. However, in this concept and the next one, there is a strong theme of saving the environment in all of the passages and particularly in the videos and passages in the Beyond section. Use the question, “What message does the author hide and want you to find?” and have students find three pieces of evidence to support their findings. Use the SOS Let’s Roll to have students discuss their themes. The sentence stems for the Let’s Roll SOS are on the Resource Board.

Writing - Narrative: Teach students how to take screenshots from a video. Have them select three images from one of the videos in the concept or in the Beyond section. Write a narrative based on those three images. Consider having students place these on a Studio Board. These can be shared with other students as well as parents.

WEEKLY TOPIC

WEEK 4: FLIGHT

Essential Question: How are people able to fly?
- Strategy: Reread
- Skill: Compare and Contrast
- Text Features: Sidebar
- Writing: Informative

WEEK 5: INSPIRATION

Essential Question: How can others inspire us?
- Strategy: Reread
- Skill: Theme
- Literary Elements: Repetition and Rhyme
- Writing: Narrative

WEEK 6: REVIEW AND ASSESS
**UNIT 5: TAKE ACTION**

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### LITERATURE

**Read Aloud:** "Wei and the Golden Goose" [Fairy Tale]

**R/W Workshop:**
- "Juanita and the Beanstalk" [Fairy Tale]
- Anthology:
  - Clever Jack Takes the Cake [Fairy Tale]
  - "When Corn Was Cash" [Expository Text]

**Read Aloud:** "The School Garden" [Realistic Fiction]

**R/W Workshop:**
- "The New Hoop" [Realistic Fiction]

**Anthology:**
- Bravo, Tavo! [Realistic Fiction]
- "Trash Into Art" [Expository Text]

**Read Aloud:** "Firefighters: Teamwork Counts" [Expository Text]

**R/W Workshop:**
- "Rescue Dogs Save the Day" [Expository Text]

**Anthology:**
- Wildfires [Expository Text]
- "Windy Gale and the Great Hurricane" [Tall Tale]

### WEEKLY TOPIC

#### WEEK 1: LET'S TRADE

**Essential Question:** How do we get what we need?
- **Strategy:** Summarize
- **Skill:** Point of View
- **Writing:** Narrative

#### WEEK 2: REUSE AND RECYCLE

**Essential Question:** How can we reuse what we already have?
- **Strategy:** Summarize
- **Skill:** Point of View
- **Writing:** Narrative

#### WEEK 3: TEAMING UP

**Essential Question:** How do teams work together?
- **Strategy:** Ask and Answer Questions
- **Skill:** Author's Point of View
- **Text Features:** Headings, Chart
- **Writing:** Informative

### HANDS-ON ACTIVITY CONNECTIONS

**HOA: It's All Downstream**

**Concept:** Environmental Changes

**Lesson Questions:**
- How can environments change?
- How does environmental change impact living things?
- How has your environment changed?
- How can we minimize human impacts on the environment?

**LITERATURE CONNECTIONS**

Since the Wonders week 1 content is focused on the fairy tale genre, there are different resources that can support these selections. There is a Weston Woods Channel that includes a section of fairy tales. These are mostly common fairy tales, however, students can view them from the lens of the Wonders essential question. Additionally, there are audiobooks that tell Grimm's Fairy Tales as well. These are all linked on the Resource Board. Given the summarization and point of view strategy and skill, use the Pick a Card SOS. Although this is primarily a primary strategy, students can select an image from the fairy tale, put their picture in it and summarize. The images can be drawn or selected from Discovery Education Experience. For the videos, students can also use a screenshot. Their puppet could also be a character from the story and tell what happened from a different point of view.

Students develop charts in each of the HOAs. These resources are linked on the Resource Board. The Pick a Card SOS would allow students to generate summary questions and answer different types of summary or point of view questions on this topic.

The Reuse and Recycle content is a good fit with the science content, since there is a lot of emphasis on saving the environment. There are several resource, both core interactive texts and videos, on reducing human's impact on the environment. These resources are linked on the Resource Board. The Pick a Card SOS would allow students to ask questions about how the environment impacts from a different point of view. Some students record their summary retellings.

**LITERACY CONNECTIONS**

**Summarize:** There are several passages in this concept and in the Beyond section. Use the ABC Summary SOS to have students summarize the passages. Give different groups of students a cluster of letters to use for their summary.

**Point of View and Author's Point of View:** Activity 17 will require students to write an argument that uses evidence. This argumentative piece can be written from different points of view. Also, the different pieces in the Beyond section make good resources for small group instruction and can serve as texts to discuss author's point of view.

**Writing - Narrative:** Have students watch the “Preserving Polar Habitats” video in the Beyond section. Use the photo images on the Resource Board to write a polar bear narrative.

**Ask and Answer Questions:** One of the student objectives for this concept is that students will ask questions about how human activities affect the environment. Use the Reading Between the Lines SOS, however, modify it and have students work in pairs to write their responses to questions in the SE. Select 5-6 pairs to paste their response into a wordle. Identify the most common words that appear for each question. Discuss why those words are important for answering the question. Students can also place their responses into a wordle and have the rest of the class experience. For the videos, students can also use a screenshot. Their puppet could also be a character from the story and tell what happened from a different point of view.

**Text Features - Headings, Chart:** Students develop charts in each of the HOAs. Be sure to connect these charts and how to read them with the Wonders focus on text features. Also, the photo images on polar bears on the Resource Board can also be used to have students practice writing headings.

**Writing - Informative:** In several activities, students will need to complete informative pieces. For example, in Activity 4, students will write about how plants and animals in a forest could be affected by a forest fire.
UNIT 5: TAKE ACTION

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LITERATURE

Read Aloud: “Jimmy Carter: A Good Citizen” [Biography]
R/W Workshop:
“Dolores Huerta: Growing Up Strong” [Biography]
Anthology:
Elizabeth Leads the Way: Elizabeth Cady Stanton and the Right to Vote [Biography]
“Susan B. Anthony Takes Action!” [Biography]

Read Aloud: “Using Power” [Expository Text]
R/W Workshop:
“Here Comes Solar Power” [Expository Text]
Anthology:
It’s All in the Wind [Expository Text]
“Power for All” [Expository Text]

WEEKLY TOPIC

WEEK 4: GOOD CITIZENS
Essential Question: What do good citizens do?
- Strategy: Ask and Answer Questions
- Skill: Author’s Point of View
- Text Features: Caption, Timeline
- Writing: Informative

WEEK 5: REUSE AND RECYCLE
Essential Question: What are different kinds of energy?
- Strategy: Ask and Answer Questions
- Skill: Cause and Effect
- Text Features: Photographs and Captions, Sidebar
- Writing: Opinion

WEEK 6: REVIEW AND ASSESS

Science Techbook Concept
UNIT 4: WEATHER IMPACTS
Concept: Regional Climates

NGSS PERFORMANCE EXPECTATIONS

3-ESS2-2
Obtain and combine information to describe climates in different regions of the world.
Lesson Questions:
- How are climates different around the world?
- What is the climate like in different regions?
- How can climate predict weather conditions??

LITERATURE CONNECTIONS
The topic of energy has a wealth of resources, beginning with an Energy Channel. Consider using some of the different resources, like the songs or ebooks. These are linked, along with the Channel, on the Resource Board.

HANDS-ON ACTIVITY CONNECTIONS

- HOA: Earth’s Revolution and Climates
This HOA is not embedded into the concept; it is part of the Beyond section. This activity engages students in building a model. Consider having students build this model and then take photos of the model and its construction. Have students write and develop captions and sidebars for their work. Pair this work with the informative writing focus for the Wonders content.

LITERACY CONNECTIONS

Ask and Answer Questions: Activity 2 will kick-off the asking questions strategy in this concept. Students will ask three questions about the drought map. Then, extend the QR Code Graffiti Walk strategy and assign students to different passages in this concept. For example, use texts from Activity 3, 7, 10 or 11. Have students develop questions from these passages and then turn them into a QR code. Develop an answer sheet and have students complete a question walk around the room. Make a list of question words that students can use and have them choose question words from that list.

Author’s Point of View: The STEM Activity 14 in this concept has a component that asks students to research the climate in their region over the past 50 years. This is an opportunity to integrate point of view into interviews that they may conduct. If students have access to people who have lived in that region for 50 years or more years, they can analyze points of views from people who have different longevity in the region.

Writing - Informative: Students will complete many explanatory paragraphs. In Activity 3, the simple question “What is climate change?” provides a good opportunity to do a shared writing with the class. Pair this writing with the Wonders organization writing trait.

Cause and Effect: Since cause and effect is a crosscutting concept, students will use this skill often throughout this concept: the Unit Project and Activity 8. One of the objectives is that students will describe what causes Earth to have different climates. Therefore, encourage students to become “cause” detectives. Ask them to find evidence of cause and effect all throughout the concept. Use post-it notes or highlighting to identify cause and effect. The most important piece, however, is helping students understand how cause and effect supports their comprehension. After each cause is identified in the concept, ensure that students find the effect and help students understand how cause and effect supports their comprehension.

Text Features - Photographs and Captions, Sidebar: See the HOA section for ideas on how to integrate photographs, captions and sidebars into this concept.

Writing - Opinion: Develop opinion writing prompts for students on the topic of climate. Here are some examples:
- Pretend you have met someone who recently moved to your region. Write three paragraphs. Describe the best part of the weather and the climate, the dos and don’ts of how to prepare for different types of bad weather, and the causes and effects of different kinds of weather.
- Read the passage in the Beyond section, “A Trip Through Two Climate Zones.” Develop an opinion list by selecting one of the zones that you think is the best. Identify three reasons that you think the zone is the best one. Use the Pechakucha SOS and have each student develop a presentation with their three points.
UNIT 6: THINK IT OVER

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<td></td>
<td>W 3.10</td>
<td>SL 3.3</td>
</tr>
</tbody>
</table>

LITERATURE

Read Aloud: “Pandora Finds a Box” [Myth/Drama]
R/W Workshop:
“Athena and Arachne [Myth/Drama]
Anthology:
King Midas and the Golden Touch [Drama/Myth]
“Carlos’s Gift” [Realistic Fiction]

Read Aloud: “Joshua’s Old Neighbor” [Historical Fiction]
R/W Workshop:
“The Big Blizzard” [Historical Fiction]
Anthology:
Noah’s Ark [Historical Fiction]
“The Wind and the Sun” [Fable]

Read Aloud: “Mrs. Jamison, Astronaut” [Biography]
R/W Workshop:
“Rocketing Into Space” [Biography]
Anthology:
Out of This World! The Ellen Ochoa Story [Biography]
“A Flight to Lunar City” [Adventure]

WEEKLY TOPIC

WEEK 1: TREASURES
Essential Question: How do you decide what is important?
• Strategy: Ask and Answer Questions
• Skill: Author’s Point of View
• Text Features: Caption, Timeline
• Writing: Informative

WEEK 2: WEATHER
Essential Question: How can weather affect us?
• Strategy: Make, Confirm, and Revise Predictions
• Skill: Theme
• Writing: Narrative

WEEK 3: LEARNING TO SUCCEED
Essential Question: Why are goals important?
• Strategy: Reread
• Skill: Problem and Solution
• Text Features: Keywords, Photographs
• Writing: Informative

NGSS PERFORMANCE EXPECTATIONS

3-ESS2-1
Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season.

Lesson Questions:
• How do people use common tools to measure weather conditions?
• How do meteorologists look for weather patterns and forecast weather?
• How can weather data be presented so it clearly and accurately describes weather conditions?
• How can climate predict weather conditions?

LITERATURE CONNECTIONS

LITERARY CONNECTIONS

WEEK 4: WEATHER IMPACTS
Concept: Predicting Weather

DTO 3.4
3.3
2.8
1.8
1.6
1.3
1.2
1.1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0

R/W Workshop:
“Mrs. Jamison, Astronaut” [Biography]
R/W Workshop:
“Rocketing Into Space” [Biography]
Anthology:
Out of This World! The Ellen Ochoa Story [Biography]
“A Flight to Lunar City” [Adventure]

WEEKLY TOPIC

WEEK 1: TREASURES
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• Skill: Theme
• Writing: Narrative

WEEK 3: LEARNING TO SUCCEED
Essential Question: Why are goals important?
• Strategy: Reread
• Skill: Problem and Solution
• Text Features: Keywords, Photographs
• Writing: Informative

LITERATURE CONNECTIONS

HANDS-ON ACTIVITY CONNECTIONS

Ask and Answer Questions: This concept begins with having students generate at least three questions in Activity 2. Use the SOS Twenty Questions throughout this concept. It’s a good way to have students focus on different images in the concept and generate questions.

Author’s Point of View: There are several passages in the Beyond section to use in small group instruction. Have students read them and discuss them from the author’s point of view.

Text Features - Caption, Timeline: Have students rate the captions for each of the photos in the Beyond section. These can be used for centers or for small group instruction. The make, confirm, and revise predictions strategy can be utilized and practiced with any of these resources. Use the SOS Get a Clue and have students match a video with no sound to a transcript. This will also help students to hone in on key vocabulary as well.

The Women of the Hubble Space Telescope series can be paired with the week 3 Wonders content on setting goals. This video aligns to both the biographical content as well as the focus on space.

LITERACY CONNECTIONS

Ask the students if they have ever thought about posing a question. Place the most important words at the beginning of the caption. Consider the length. How can climate predict weather conditions? How can weather data be presented so it clearly and accurately describes expected during a particular season. The women of the Hubble Space Telescope series can be paired with the week 3 Wonders content on setting goals. This video aligns to both the biographical content as well as the focus on space.
NGSS PERFORMANCE EXPECTATIONS

WEEK 6: REVIEW AND ASSESS

Essential Question: How can you protect yourself from severe weather?

LITERATURE

Read Aloud: “Respect for the Florida Panther” [Expository Text]
R/W Workshop:
Butterflies Big and Small” [Expository Text]
Anthology:
Alligators and Crocodiles [Expository Text]
The Monkey and the Crocodile” [Folk tale]

Read Aloud: “Show and Tell”. [Narrative Poem]
R/W Workshop:
The Camping Trip,” “Bubble Gum” [Non-Prose]
Anthology:
“Ollie’s Escape” [Non-Prose]
The Gentleman Bookworm” [Narrative Poem]

HANDS-ON ACTIVITY CONNECTIONS

LITERATURE CONNECTIONS

HOA: Emergency Kit and Plan

Use the Wonders focus traits for informative writing with this HOA. Students will write a plan for an emergency. This is an opportunity to incorporate different formats of informative writing into science. Explanatory paragraph writing, writing charts and tables, and writing how-to pieces are all areas of informative writing that can be incorporated into this HOA.

HANDS-ON ACTIVITY CONNECTIONS

LESSON QUESTIONS:

- What causes different types of severe weather?
- Why is severe weather dangerous?
- How can you protect yourself from severe weather?

LITERATURE CONNECTIONS

Since the content for Wonders week 5 is primarily from the poetry genre, there are different genres on the Resource Board focused on humor. One of the resources has students examine funny folktales.

While _____ shows _____, _____ shows _______.
_____ and _____ are like in that they both _______.
_____ and _____ all show _______.
_____ is , while _____ is ___.
While _____ shows _____, _____ shows _______.

At least one resource for Wonders week 5 shows funny folktales.

LITERACY CONNECTIONS

Reread: Rereading is a strategy that has spiraled through Wonders several times. Use of the ideas from previous Literacy Connection Cards with the passages and Beyond readings in this concept. These ideas are as follows:

- Have each student identify a different paragraph from one of the passages. They should practice and reread that paragraph until they can read it smoothly, read it with expression, and read all the words correctly. Have students read their paragraphs to each other, with some aloud to the class.
- Use the SOS Paperslide to have students identify what they learn when they reread. These different Paperslide videos can be shared with students in lower grades.
- First reads can focus on text features such as headings, vocabulary, and interpreting images. Rereads can focus on specific details or misconceptions students might have about such topics.

Compare and Contrast: Because this concept analyzes several different types of severe weather, the compare and contrast skill fits well with this content. There are several opportunities for students to use compare and contrast. In Activity 8, students will complete a Venn Diagram to compare and contrast hurricanes and tornadoes. In Activity 9, students will learn about droughts and floods. Have students create a graphic organizer to compare and contrast them. Use a variation of the SOS Things That Make You Go Hmmm… to have students compare and contrast different types of severe weather.

Text Features - Headings, Diagram:

One of the student objectives for this concept is as follows: I can use written information, tables, diagrams, and charts to support designs that reduce the effect of severe weather. Therefore, as students use charts and diagrams, connect these text features to their work to match that skill. Examples include:

- Headings, diagrams, and charts show the contents of the paragraph and help the reader to understand the topic.
- Diagrams can illustrate how different parts of a system work together.
- Headings provide a summary of the paragraph and help the reader to focus on key ideas.

Writing - Informative

Students will complete research in Activity 10 on different types of severe weather. Therefore, as students use charts and diagrams, connect these text features to their work to match that skill. Examples include:

- Writing - Informative:
  - Students will complete research in Activity 10 on different types of severe weather. Use this research to have students write an informative piece.
  - Point of View: In the STEM in Action activity, students will write a piece from the point of view of a structural engineer. Work with students to identify how a structural engineer would write a piece. Have them use these skills as a checklist to write and reflect on their piece. Qualities on this list may include: use of technical vocabulary, may include sketches, use of clear and concise sentences, use of headings, etc.
  - Literary Elements - Rhythm and Rhyme: In the first concept of this unit, student wrote a song. Given that these literary elements are a focus in this Wonders week, consider having students write a rhyming poem on different types of severe weather.
  - Writing - Narrative: There are two video resources on the Resource Board: “Braze Irene” and “Hailstones and Halibut Bones” that can serve as mentors for narrative writing with weather as the topic.
The Discovery Education Literacy Connections Cards are designed to save teachers valuable planning time by bringing literacy into science and science into literacy. By aligning the Discovery Education Science units and concepts to the Wonders K-6 Literacy Curriculum, teachers can integrate reading and writing skills into science and also, use robust, digital content to make their literacy instruction differentiated and multimodal.

Where are the Literacy Connections Cards?
Find the cards in the digital Science Techbook under the Intro tab, among the Teacher Planning Resources.

How do you use the Literacy Connections Cards?
The Literacy Connections Cards were developed by aligning the pacing of Wonders to the pacing of the Discovery Education Science program. The left side of the card delineates the Wonders unit, standards, literature, and matching skills and standards. The right side of the card delineates the Science unit and concept that matches Wonders, according to pacing.

Each of the Literacy Connections Cards has a corresponding Studio Board that can be accessed by scanning the QR code or typing the Quick Code in the digital Techbook. The code will take teachers to all the resources that are referenced on the Literacy Connections card.

The Literature Connections
The Literature Connections identify resources from Discovery Education Experience, and, if aligned, the science content, to the Wonders literature. Many of the resources will provide minilesson, small group or centers opportunities, complete with the content as well as an instructional strategy called SOS. These resources can be utilized during the literacy block to provide multimodal experiences for students as they grow their reading, writing, speaking and listening skills.

HOA’s and Literacy Connections
The Hands-On Activity and Literacy Connections sections bring the Wonders skills and strategies into science. There are specific suggestions for not only how to integrate the teaching of reading and writing into science, but also where in the science concept these skills and strategies will have the most impact. Teachers will also find ideas on how to bring literacy into each of the science lessons using engaging SOS and other literacy activities like sentence frames or the creation of flipbooks.
UNIT 1: THINK IT THROUGH

LITERATURE

Read Aloud: “The Princess and the Pea”
R/W Workshop: “The Dragon Problem”
Anthology:
The Princess and the Pea [Fairy Tale]
“Tomas and the Sons” [Fable]

Read Aloud: “Say Something” [Realistic Fiction]
R/W Workshop: “The Talent Show” [Realistic Fiction]
Anthology:
Experts, Incorporated [Realistic Fiction]
“Speaking Out to Stop Bullying” [Informational Text: Expository]

Read Aloud: “Avalanche!” [Informational Text: Expository]
R/W Workshop: “A World of Change” [Informational Text: Expository]
Anthology:
Earthquakes [Informational Text: Expository]
“Tornado” [Informational Text: Expository]

WEEKLY TOPIC

WEEK 1: CLEVER IDEAS

Essential Question: Where do good ideas come from?
• Strategy: Make, Confirm, or Revise Predictions
• Skill: Character, Setting, Plot: Sequence
• Write to Research: Write a List
• Write About Reading: Write an Analysis [sequence of events]

WEEK 2: THINK OF OTHERS

Essential Question: How do your actions affect others?
• Strategy: Make, Confirm, or Revise Predictions
• Skill: Character, Setting, Plot: Problem and Solution
• Write to Research: Paraphrase Facts
• Write About Reading: Write an Analysis [analyze problem and solution]

WEEK 3: TAKE ACTION

Essential Question: How do people respond to natural disasters?
• Strategy: Reread
• Skill: Compare and Contrast
• Write to Research: Write Helpful Tips and Notes
• Write About Reading: Write an Analysis [analyze, compare and contrast text structure]

LITERATURE CONNECTIONS

• Reading: “Avalanche!” [Informational Text: Expository]
• Reading: “Speaking Out to Stop Bullying”.

HANDS-ON ACTIVITY CONNECTIONS

• HOA: Rolling Cars
• HOA: Changing Motion

LITERATURE CONNECTIONS

Make and Confirm, or Revise Predictions: Prediction is a natural part of science. In each of the HOAs, students will predict the outcomes. For example, this statement is part of the Rolling Cars HOA: “Ask each group to predict and agree on what will happen…have groups check if their prediction was correct.” See page 27 and 32 of the SE for examples. Use the MythBusters video clip to demonstrate how they make predictions and then many times, need to change their thinking.

Reread: There are two interesting reading passages in the Explore More Resources/Beyond section of the digital Science Techbook. These passages, one below level and one above level, can be used in small group instruction as texts to practice rereading. Use a “reread with color” activity. Have students read the passage once and write a few sentences about the topic in one color. Read a second time and have them add to what they wrote, but in a different color. Have them read one more time and add new details with a third color.

Problem and Solution: The Fixies: Friction video can help students learn about the concept of friction and also identify the problem and solution to help them understand the concept. A problem/solution graphic organizer can be used with the video, connecting this to the analyzing problem and solution writing Activity in Wonders.

Sequence: The STEM In Action: Launching an F-18, SE page 45, uses sequence words to explain how the F-18 is launched. This is particularly evident in the second main paragraph. Have students identify those words that help to make the paragraph sequential: Then, After, Finally. Discuss with students where those words are in the sentences [at the beginning] and talk about why.

Compare and Contrast: The Get Venn-y With It SOS will be an effective way to compare and contrast the concepts in this unit: force, motion, energy. This could be a one-time activity or it can be ongoing throughout the concept.
Wonders California
UNIT 1: THINK IT THROUGH

CCSS ELA STANDARDS

READING: LITERATURE
RL 4.1
RL 4.3
RL 4.4
RL 4.7

READING: INFORMATIONAL
RI 4.1
RI 4.2
RI 4.4
RI 4.7
RI 4.9

WRITING
W 4.1a
W 4.2b
W 4.3b
W 4.6
W 4.7
W 4.8
W 4.9a,b
W 4.10

SPEAKING & LISTENING
SL 4.1b-d
SL 4.2
SL 4.3
SL 4.4

UNIT 1: THINK IT THROUGH

WEEKLY TOPIC

WEEK 4: IDEAS IN MOTION
Essential Question: How can science help you understand how things work?
- Strategy: Reread
- Skill: Text Structure: Cause and Effect
- Text Features: Headings, Speech Balloons
- Write to Research: Draft a Plan
- Write About Reading: Write and Analysis (analyze strong word choice)

WEEK 5: PUTTING IDEAS TO WORK
Essential Question: How can starting a business help others?
- Strategy: Reread
- Skill: Main Idea and Key Details
- Text Features: Graph, Headings
- Write to Research: Write a Summary Paragraph
- Write About Reading: Write and Analysis [how author informs and explains important topics]

WEEK 6: REVIEW AND ASSESSMENT

Science Techbook Concept
UNIT 1: CAR CRASHES
Concept: Energy and Motion

NGSS PERFORMANCE EXPECTATIONS

4-PS3-1: Use evidence to construct an explanation relating the speed of an object to the energy of that object.

Lesson Questions:
- What is energy?
- Does energy disappear when it is changed?
- What are the different forms of potential and kinetic energy?
- How are different forms of energy used to move objects?

LITERATURE CONNECTIONS

The energy and motion focus of this concept aligns to the Wonders Ideas in Motion, Week 4 content since there are many objects that work because of energy and motion. This is also a great time to show some of the Outrageous Acts of Science videos from Garage Genius.

In STEM Connect, the grade 4-5 Learning: Lend Me a Hand unit has resources that would align to Week 5 of Wonders. This content can also engage students in using communication, creativity, collaboration and critical thinking. Since the next week of Wonders is an assessment week, you might consider using some of the STEM Connect content to engage students while others are being assessed.

HANDS-ON ACTIVITY CONNECTIONS

- HOA: Energy in the Classroom
- HOA: Energy Scavenger Hunt

Both of the HOAs connect to the Wonders content. Consider doing these HOAs in partnership with the literacy content, so students can make clear connections between the two content areas.

LITERARY CONNECTIONS

Reread: In the last concept, students used the color activity to identify how rereading helped them. Now, introduce them to Backup and Reread. Create a three-column chart as follows:

Page Number | I was confused by | So, I decided to BACK UP AND REREAD. I figured out...
---|---|---

Keep this chart as a class or have students create this individually in a science notebook. Use this with the following readings in the SE, pages 61, 63-64, 66-67, 71-72, 76-77.

Cause and Effect Text Structure: The crosscutting concept for this topic is cause and effect, so there will be a lot of opportunities to talk about this with students. However, since the focus in Wonders is cause and effect text structure, you might consider having students use their knowledge and understanding to write cause and effect pieces using the videos that are part of the concept. Then, use an SOS like Pechakucha. Have students work in small teams to watch concept-based videos like “Let’s Investigate Roller Coasters,” “Ski Jump” or “Coffee-Powered Car,” and have them create a Pechakucha that is cause and effect driven.

Main Idea and Key Details: In combination with the reread strategy above, use these readings to have students identify main ideas and key details. The Six Word Story SOS is not only a very popular strategy with teachers and students, but also it’s an effective way to have students summarize the main idea. You may also want to use the Six Word Story with the video clips like Energy, Energy Basics, Potential Energy, etc. that are part of the concepts in the digital Techbook.

Text Features: Headings, Speech Balloons, Graphs: Use the SOS Feature Find to review different types of text features. Remind students that science reading will use a lot of text features. Discuss why they think that is and have them predict which ones they think they would be used more often. Use the chart that is referenced in the Feature Find strategy to review what they might see and then, use the “More Ideas” game idea of keeping track of the different text features that students encounter throughout this concept.

Drafting a Plan: Beginning on page 80 of the SE, students will draft a plan to answer a designated question. Bring the skills and content from Wonders into this activity.

Writing a Summary Paragraph: Students will write summary paragraphs several times throughout this concept. Bring the skills they are learning from Wonders into this activity. See the SE pages 61, 73, 77, 78, and 84.
UNIT 2: AMAZING ANIMALS

CCSS ELA STANDARDS

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<th>READING: LITERATURE</th>
<th>READING: INFORMATIONAL</th>
<th>WRITING</th>
<th>SPEAKING &amp; LISTENING</th>
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</thead>
<tbody>
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<td>RI 4.1</td>
<td>W 4.1a</td>
<td>SL 4.1b-d</td>
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<td>RI 4.2</td>
<td>W 4.2a-b</td>
<td>SL 4.2</td>
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<td>W 4.9a,b</td>
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<td>W 4.10</td>
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</tr>
</tbody>
</table>

LITERATURE

Read Aloud: “The Coyote and the Hen” [Folktale]
R/W Workshop: “The Fisherman and the Kaha Bird” [Folktale]
Anthology: The Secret Message [Folktale]
“The Fox and the Goat” [Fable]

Read Aloud: “A Grasshopper’s Sad Tale” [Dramatic Scene]
R/W Workshop: “The Ant and the Grasshopper” [Drama]
Anthology: Ranita, The Frog Princess [Drama]
“The Moonlight Concert” [Mystery]

WEEKLY TOPIC

WEEK 1: LITERARY LESSONS

Essential Question: What are some messages in animal stories?
- Strategy: Ask and Answer Questions
- Skill: Theme
- Writing: Narrative

WEEK 2: ANIMALS IN FICTION

Essential Question: How do animal characters change familiar stories?
- Strategy: Ask and Answer Questions
- Skill: Theme
- Writing: Narrative

UNIT 1: CAR CRASHES
Concept: Speed

NGSS PERFORMANCE EXPECTATIONS

4-PS3-1
Use evidence to construct an explanation relating the speed of an object to the energy of that object.

Lesson Questions:
- What is speed?
- How do I calculate speed?
- What is the relationship between speed and kinetic energy?
- How can we change the speed of an object?

LITERATURE CONNECTIONS

There is a Fables and Folktales Channel that has a variety of resources to use for small groups and centers. There are videos which could be paired with an SOS. Since the strategy focus for both weeks is Ask and Answer Questions, consider using the Twenty Questions SOS or Blurt Out SOS to engage students in practicing their questioning skills.

Some of the fables and folktales have transcripts. Since the Wonders literature is focusing on drama, have students work with the transcript to create a mini-drama/Readers’ Theater script for a tale. The Paul Bunyan tale with a portion of the transcript is an example on your Resources Board.

The Ant and the Grasshopper is a video in Discovery Education Experience. There is a pre-built assignment that you can assign to students. This assignment has students analyze the story to determine why it is a fable.

HANDS-ON ACTIVITY CONNECTIONS

- HOA #1: Measuring Speed
- HOA #2: Hit the Slopes

As you are completing the HOAs for this concept, the Michael Phelps vs. Shark series. The concept of speed is embedded all throughout the series and it will bring real-world application to the concept.

LITERACY CONNECTIONS

There are two e-books on the concept of speed that can be used as centers or reading workshop texts: Speeding to the Finish Line and Now That’s Fast.

Ask and Answer Questions: Every concept begins with a Can You Explain question. Bring the concept of asking and answering questions into science. There are several opportunities in the print SE for students to ask questions: pages 94-95, 125. Kick off this concept by asking students what kinds of questions scientists ask. Begin to generate a list [i.e. questions about why things happen; questions about how things work; what if questions; comparison types of questions [which is stronger?]]. Use the Questions video series to examine asking and answering questions in science. While working through the print SE, categorize the types of questions students answer.

Theme: The Wizard of Oz themes video will reinforce the concept of a theme.

Narrative Writing: Use images of speed and have students create a narrative story framework using the narrative graphic organizer.
Incorporate science instruction into your literacy courses or make valuable connections to literacy standards within your science classrooms. So much more than ELA Correlations, these Literacy Connections directly align the Wonders program to Science Techbook. This allows you to seamlessly incorporate Science Techbook right when it matters most, connecting by THEME, SKILL, STRATEGY, and WRITING. Whether your students are learning to read or reading to learn, Science Techbook has a solution for you!
Save instructional time with Literacy Connection Strategies

Discovery Education Science Techbook Experience makes it easy to integrate literacy connections

Incorporate science instruction into your literacy courses or make valuable connections to literacy standards within your science classrooms. So much more than ELA Correlations, these Literacy Connections directly align the Wonders program to Science Techbook. This allows you to seamlessly incorporate Science Techbook right when it matters most, connecting by THEME, SKILL, STRATEGY, and WRITING. Whether your students are learning to read or reading to learn, Science Techbook has a solution for you!

Wonders California

UNIT 3: THAT’S THE SPIRIT

CCSS ELA STANDARDS

READING: LITERATURE
RL 4.1
RL 4.2
RL 4.3
RL 4.4
RL 4.5
RL 4.6
RL 4.7

READING: INFORMATIONAL
RI 4.1
RI 4.2
RI 4.3
RI 4.4
RI 4.5
RI 4.6
RI 4.7

WRITING
W 4.1 a, c
W 4.2 b
W 4.3 c, d
W 4.6
W 4.7
W 4.8
W 4.9 a, b
W 4.10

Speaking & listening
SL 4.1 b-d
SL 4.2
SL 4.3
SL 4.5

WEEKLY TOPIC

WEEK 1: FRIENDSHIP
Essential Question: How can you make new friends feel welcome?
• Strategy: Visualize
• Skill: Point of View
• Writing: Narrative

WEEK 2: HELPING THE COMMUNITY
Essential Question: In what ways can you help your community?
• Strategy: Visualize
• Skill: Point of View
• Text Features: Timeline
• Writing: Narrative

WEEK 3: LIBERTY AND JUSTICE
Essential Question: How can one person make a difference?
• Strategy: Reread
• Skill: Author's Point of View
• Text Features: Timeline
• Writing: Opinion

WEEK 4: POWERFUL WORDS
Essential Question: How can words lead to change?
• Strategy: Reread
• Skill: Author's Point of View
• Text Features: Captions; Primary Sources
• Writing: Informative

WEEK 5: FEEDING THE WORLD
Essential Question: In what ways can advances in science be helpful or harmful?
• Strategy: Reread
• Skill: Author's Point of View
• Text Features: Maps
• Writing: Opinion

LITERATURE

Read Aloud: “Samson’s Advice” [Fantasy]
R/W Workshop: “At the Library” [Fantasy]
Anthology: The Cricket in Times Square [Fantasy]
“The Girl and the Cheno” [Legend]

Read Aloud: “Books” [Historical Fiction]
R/W Workshop: “Remembering Hurricane Katrina” [Realistic Fiction]
Anthology: Aguinado [Realistic Fiction]
“Partaking in Public Service” [Informational Text: Expository]

[Informational Text: Biography]
R/W Workshop: “Judy’s Appalachia” [Informational Text: Biography]
Anthology: Delivering Justice: W.W. Law and the Fight for Civil Rights
[Informational Text: Biography]
“Keeping Freedom in the Family: Coming of Age in the Civil Rights Movement” [Autobiography]

Read Aloud: “Bringing Words to the Deaf” [Biography]
R/W Workshop: “Words for Change” [Biography]
Anthology: Abe’s Honest Words: The Life of Abraham Lincoln [Biography]
“A New Birth of Freedom” [Informational Text: Speech]

Read Aloud: “All About Organic” [Persuasive Article]
R/W Workshop: “Food Fight” [Persuasive Article]
Anthology: A New Kind of Corn [Persuasive]
“The Pick of the Patch” [Procedural]
UNIT 2: ENERGY RESOURCES
Concept: Devices and Energy

NGSS PERFORMANCE EXPECTATIONS

4-PS3-2
Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric currents.

Lesson Questions:
• What do devices do with energy?
• How does energy move?
• Where does most of the energy we use come from and go to?

LITERATURE CONNECTIONS

Since there is a lot of content in grade 4, the pacing of Wonders and Discovery Science units does not match up evenly. Therefore, in order to provide flexibility, all of the Literature Connections for Science Unit 2 will be listed on the Literacy Connections Cards that go with the concepts.

Friends: The Wonders content is all fantasy, therefore, different genres of resources on friendship are available on the Resource Board. Use the SOS Inquiry Chart to have students generate questions on friendship and then, use the Wonders and the Discovery content to answer their questions.

Helping in the Community: There are several resources that will help students explore communities as they read about how to help in their community. There are also several images on the Resource Board that students can use to write a narrative story.

Liberty and Justice: The Liberty’s Kids Channel has a series of video resources, all in alphabetical order, that examine the concepts of liberty and justice through history. Use the SOS ABC Summary with these resources and have students work in pairs to watch a segment and build out their assigned letter.

Powerful Words: There are several primary source audios from different presidents on the Resource Board. Use the SOS You Can Quote Me On That! to prepare students to listen to these. Please note that these are, in all likelihood, too advanced for students, so consider only playing a portion.

Feeding the World: There are several food and science resources, including a virtual tour of an egg farm, on the Resource Board that can be paired with the Wonders texts. There are also several writing prompts that can easily be assigned to students.

HANDS-ON ACTIVITY CONNECTIONS

• HOA: Energy and Everyday Devices
• HOA: Build an Energy Chain

In this HOA students will write a story about their lack of electricity. Incorporate the Wonders focus on strong words into this piece.

LITERACY CONNECTIONS

Visualization: Since this is the first time that visualization is introduced in fourth grade, create an anchor chart with students. Use the following sentence starters on the anchor chart:
• This page makes me see...
• I am picturing...
• When the author says these words, I visualize...
• I’m imagining...

Discuss with students why visualization is important in science. Use these sentence starters with the passages in the unit. Read a passage aloud and have students complete the prompts. This can also be done with partners as well. Introduce students to the read, visualize and understand graphic organizer on the Resource Board.

Point of View: In the STEM in Action Activity 18, have students “write like an engineer.” Write the pieces from an engineer’s point of view. Ask students what that would look and sound like. Generate a list of criteria to help them draft their response from this point of view.

Writing - Narrative: In the Beyond section, there is a reading piece entitled “Master of Lightning” that focuses on Nikola Tesla. Use the SOS Fakebook and have students create a narrative on Tesla.
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Wonders California

CCSS ELA STANDARDS

READING: LITERATURE
RL 4.1
RL 4.2
RL 4.3
RL 4.6
RL 4.7

READING: INFORMATIONAL
RI 4.1
RI 4.2
RI 4.3
RI 4.5
RI 4.9

WRITING
W 4.1 a, c
W 4.2 b
W 4.3 c, d
W 4.6
W 4.7
W 4.8
W 4.9 a, b
W 4.10

speaking & listening
SL 4.1 b-d
SL 4.2
SL 4.3
SL 4.5

UNIT 3: THAT’S THE SPIRIT

WEEKLY TOPIC

WEEK 1: FRIENDSHIP
Essential Question: How can you make new friends feel welcome?
- Strategy: Visualize
- Skill: Point of View
- Writing: Narrative

WEEK 2: HELPING THE COMMUNITY
Essential Question: In what ways can you help your community?
- Strategy: Visualize
- Skill: Point of View
- Text Features: Timeline
- Writing: Narrative

WEEK 3: LIBERTY AND JUSTICE
Essential Question: How can one person make a difference?
- Strategy: Reread
- Skill: Author’s Point of View
- Text Features: Timeline
- Writing: Opinion

WEEK 4: POWERFUL WORDS
Essential Question: How can words lead to change?
- Strategy: Reread
- Skill: Author’s Point of View
- Text Features: Captions; Primary Sources
- Writing: Informative

WEEK 5: FEEDING THE WORLD
Essential Question: In what ways an advance in science be helpful or harmful?
- Strategy: Reread
- Skill: Author’s Point of View
- Text Features: Maps
- Writing: Opinion

LITERATURE

Read Aloud: "Samson’s Advice" [Fantasy]
R/W Workshop: "At the Library" [Fantasy]
Anthology:
The Cricket in Times Square [Fantasy]
“The Girl and the Chenoo” [Legend]

Read Aloud: "Books" [Historical Fiction]
R/W Workshop: "Remembering Hurricane Katrina" [Realistic Fiction]
Anthology:
Aguiñaldo [Realistic Fiction]
“Partaking in Public Service” [Informational Text: Expository]

R/W Workshop: “Judy’s Appalachia” [Informational Text: Biography]
Anthology:
Delivering Justice: W.W. Law and the Fight for Civil Rights [Informational Text: Biography]
“Keeping Freedom in the Family: Coming of Age in the Civil Rights Movement” [Autobiography]

Read Aloud: "Bringing Words to the Deaf” [Biography]
R/W Workshop: “Words for Change” [Biography]
Anthology:
Abe’s Honest Words: The Life of Abraham Lincoln [Biography]
“A New Birth of Freedom” [Informational Text: Speech]

Read Aloud: “All About Organic” [Persuasive Article]
R/W Workshop: “Food Fight” [Persuasive Article]
Anthology:
A New Kind of Corn [Persuasive]
“The Pick of the Patch” [Procedural]
UNIT 2: ENERGY RESOURCES
Concept: About Fuels

NGSS PERFORMANCE EXPECTATIONS

4-ESS3-2
Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans.

4-ESS3-1
Obtain and combine information to describe that energy and fuels are derived from natural resources and their uses affect the environment.

Lesson Questions:
- What are the different types of fuels?
- What are fossil fuels used for?
- Why is it important to conserve fossil fuels?
- What is nuclear energy?

LITERATURE CONNECTIONS

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Friends: The Wonders content is all fantasy, therefore, different genres of resources on friendship are available on the Resource Board. Use the SOS Inquiry Chart to have students generate questions on friendship and then, use the Wonders and the Discovery content to answer their questions.

Helping in the Community: There are several resources that will help students explore communities as they read about how to help in their community. There are also several images on the Resource Board that students can use to write a narrative story.

Liberty and Justice: The Liberty’s Kids Channel has a series of video resources, all in alphabetical order, that examine the concepts of liberty and justice through history. Use the SOS ABC Summary with these resources and have students work in pairs to watch a segment and build out their assigned letter.

Powerful Words: There are several primary source audios from different presidents on the Resource Board. Use the SOS You Can Quote Me On That! to prepare students to listen to these. Please note that these are, in all likelihood, too advanced for students, so consider only playing a portion.

Feeding the World: There are several food and science resources, including a virtual tour of an egg farm, on the Resource Board that can be paired with the Wonders texts. There are also several writing prompts that can easily be assigned to students.

HANDS-ON ACTIVITY CONNECTIONS

- HOA: Living Without Electricity
  In this HOA students will write a story about their lack of electricity. Incorporate the Wonders focus on strong words into this piece.

LITERACY CONNECTIONS

Visualization: Since this is the first time that visualization is introduced in fourth grade, create an anchor chart with students. Use the following sentence starters on the anchor chart:
- This page makes me see...
- I am picturing...
- When the author says these words, I visualize...
- I’m imagining...

Discuss with students why visualization is important in science. Use these sentence starters with the passages in the unit. Read a passage aloud and have students complete the prompts. This can also be done with partners as well. Introduce students to the read, visualize and understand graphic organizer on the Resource Board.

Since there are numerous passages in this concept and in the Beyond section, use these passages to have students sketch their visualizations with SOS like Paper Slide or Instagram-In.

Point of View: In Activity 2, the passage on fuels and road trips is written in a narrative style. Have students analyze the point of view. Would the passage change if it were written from a different point of view? Why or why not?

Text Features - Timeline: In Activity 5, students create a flowchart. However, students could also use this passage to create a timeline. Remember that one of the best ways to help students understand how to read a timeline is to have them create one.
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Wonders California

UNIT 3: THAT’S THE SPIRIT

CCSS ELA STANDARDS

READING: LITERATURE
RL 4.1
RL 4.2
RL 4.3
RL 4.6
RL 4.7

READING: INFORMATIONAL
RI 4.1
RI 4.2
RI 4.3
RI 4.5

WRITING
W 4.1 a, c
W 4.2 b
W 4.3 c, d
W 4.6

WRITING: SPEAKING & LISTENING
SL 4.1 b-d
SL 4.2
SL 4.3
SL 4.5

WEEKLY TOPIC

WEEK 1: FRIENDSHIP
Essential Question: How can you make new friends feel welcome?
• Strategy: Visualize
• Skill: Point of View
• Writing: Narrative

WEEK 2: HELPING THE COMMUNITY
Essential Question: In what ways can you help your community?
• Strategy: Visualize
• Skill: Point of View
• Text Features: Timeline
• Writing: Narrative

WEEK 3: LIBERTY AND JUSTICE
Essential Question: How can one person make a difference?
• Strategy: Reread
• Skill: Author’s Point of View
• Text Features: Timeline
• Writing: Opinion

WEEK 4: POWERFUL WORDS
Essential Question: How can words lead to change?
• Strategy: Reread
• Skill: Author’s Point of View
• Text Features: Captions; Primary Sources
• Writing: Informative

WEEK 5: FEEDING THE WORLD
Essential Question: In what ways an advance in science be helpful or harmful?
• Strategy: Reread
• Skill: Author’s Point of View
• Text Features: Maps
• Writing: Opinion

LITERATURE

Read Aloud: “Samson’s Advice” [Fantasy]
R/W Workshop: “At the Library” [Fantasy]
Anthology:
The Cricket in Times Square [Fantasy]
“The Girl and the Chenoo” [Legend]

Read Aloud: “Books” [Historical Fiction]
R/W Workshop: “Remembering Hurricane Katrina” [Realistic Fiction]
Anthology:
Aguinado [Realistic Fiction]
“Partaking in Public Service” [Informational Text: Expository]

R/W Workshop: “Judy’s Appalachia” [Informational Text: Biography]
Anthology:
Delivering Justice: W.W. Law and the Fight for Civil Rights [Informational Text: Biography]
“Keeping Freedom in the Family: Coming of Age in the Civil Rights Movement” [Autobiography]

Read Aloud: “Bringing Words to the Deaf” [Biography]
R/W Workshop: “Words for Change” [Biography]
Anthology:
Abe’s Honest Words: The Life of Abraham Lincoln [Biography]
“A New Birth of Freedom” [Informational Text: Speech]

Read Aloud: “All About Organic” [Persuasive Article]
R/W Workshop: “Food Fight” [Persuasive Article]
Anthology:
A New Kind of Corn [Persuasive]
“The Pick of the Patch” [Procedural]

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UNIT 2: ENERGY RESOURCES
Concept: Renewable Energy Resources

NGSS PERFORMANCE EXPECTATIONS

4-PS3-2
Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric currents.

4-PS3-4
Apply scientific ideas to design, test, and refine a device that converts energy from one form to another.

4-Ess3-1
Obtain and combine information to describe that energy and fuels are derived from natural resources and their uses affect the environment.

Lesson Questions:
- What are some of the different ways we use energy from the sun?
- How can we harness the wind to provide useful energy?
- How can energy from falling water be used to generate electricity?
- How do we use energy from deep within Earth?

LITERATURE CONNECTIONS

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Friends: The Wonders content is all fantasy, therefore, different genres of resources on friendship are available on the Resource Board. Use the SOS Inquiry Chart to have students generate questions on friendship and then, use the Wonders and the Discovery content to answer their questions.

Helping in the Community: There are several resources that will help students explore communities as they read about how to help in their community. There are also several images on the Resource Board that students can use to write a narrative story.

Liberty and Justice: The Liberty’s Kids Channel has a series of video resources, all in alphabetical order, that examine the concepts of liberty and justice through history. Use the SOS ABC Summary with these resources and have students work in pairs to watch a segment and build out their assigned letter.

Powerful Words: There are several primary source audios from different presidents on the Resource Board. Use the SOS You Can Quote Me On That! to prepare students to listen to these. Please note that these are, in all likelihood, too advanced for students, so consider only playing a portion.

Feeding the World: There are several food and science resources, including a virtual tour of an egg farm, on the Resource Board that can be paired with the Wonders texts. There are also several writing prompts that can easily be assigned to students.

HANDS-ON ACTIVITY CONNECTIONS

- HOA: Make a Solar House
- HOA: Modeling a Turbine Generator

In these HOAs students create a solar house and a model of a turbine generator. Use these HOAs to have students take photos of their creations and their steps throughout the investigation. Have them write captions and even create a "how to" timeline of their investigations. This is a good way to bring text features into the hands-on portion of science.

LITERACY CONNECTIONS

Visualization: In Activity 8, students will draw an image based on the text. Bring visualization into the discussion. What key words in the paragraph help students to visualize what they should draw? Use the visualization comparison chart on the Resource Board with different texts and videos (played with only sound) in this concept.

Reread: Students worked on rereading in the first unit of Wonders. There were two different activities shared on the Literacy Connections Cards to help students use rereading in science. Both activities are listed below. Use these activities throughout this concept and with the passages in the Beyond section.

- Use a “reread with color” activity. Have students read the passage once and write a few sentences about the topic in one color. Read a second time and have them add to what they wrote, but in a different color. Have them read one more time and add new details with a third color.
- Introduce students to Backup and Reread. Create a three-column chart as follows:

<table>
<thead>
<tr>
<th>Page Number</th>
<th>I was confused by...</th>
<th>So, I decided to BACK UP AND REREAD. I figured out...</th>
</tr>
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</table>

Keep this chart as a class or have students create this individually in a science notebook.

- A third idea for rereading is to use the AEIOU strategy each time students read a passage. Have them work with a partner and read a passage three times, charting their AEIOU each time. Have them reflect on the changes in their responses when they reread.

Author’s Point of View: Have students analyze points of view in two different ways in this concept. Have them analyze images from a variety of points of view using the POV chart on the Resource Board. Also, the Step Inside SOS can be used with the videos in this concept.

Writing - Informative: The Wonders writing trait is focused on strong conclusions. Bring this trait into the explanatory pieces that students will write in Activities 10 and 11.

Writing - Opinion: The Wonders Research component in this unit is focused on taking a stand in the environment. Use the information in this science concept to support the Wonders research.
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Wonders California

UNIT 3: THAT’S THE SPIRIT

READING: LITERATURE
RL 4.1
RL 4.2
RL 4.3
RL 4.6
RL 4.7

READING: INFORMATIONAL
RI 4.1
RI 4.2
RI 4.3
RI 4.6
RI 4.7

WRITING
W 4.1 a, c
W 4.2 b, d
W 4.3 c, d
W 4.6
W 4.7
W 4.8
W 4.9 a, b
W 4.10

SPEAKING & LISTENING
SL 4.1 b-d
SL 4.2
SL 4.3
SL 4.5

WEEKLY TOPIC

WEEK 1: FRIENDSHIP
Essential Question: How can you make new friends feel welcome?
- Strategy: Visualize
- Skill: Point of View
- Writing: Narrative

WEEK 2: HELPING THE COMMUNITY
Essential Question: In what ways can you help your community?
- Strategy: Visualize
- Skill: Point of View
- Text Features: Timeline
- Writing: Narrative

WEEK 3: LIBERTY AND JUSTICE
Essential Question: How can one person make a difference?
- Strategy: Reread
- Skill: Author’s Point of View
- Text Features: Timeline
- Writing: Opinion

WEEK 4: POWERFUL WORDS
Essential Question: How can words lead to change?
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LITERATURE
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Read Aloud: “Bringing Words to the Deaf” [Biography]
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Read Aloud: “All About Organic” [Persuasive Article]
R/W Workshop: “Food Fight” [Persuasive Article]
Anthology:
A New Kind of Corn [Persuasive]
“The Pick of the Patch” [Procedural]
**UNIT 2: ENERGY RESOURCES**

**Concept:** Energy and the Environment

**NGSS PERFORMANCE EXPECTATIONS**

- **4-PS3-2**
  Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric currents.

- **4-ESS3-1**
  Obtain and combine information to describe that energy and fuels are derived from natural resources and their uses affect the environment.

**Lesson Questions:**
- How does the extraction of fossil fuels impact the environment?
- How can burning fossil fuels damage the environment?
- What are some negative impacts of renewable energy?
- How can we reduce the amount of energy we use?

**LITERATURE CONNECTIONS**

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**Liberty and Justice:** The Liberty’s Kids Channel has a series of video resources, all in alphabetical order, that examine the concepts of liberty and justice through history. Use the SOS ABC Summary with these resources and have students work in pairs to watch a segment and build out their assigned letter.

**Powerful Words:** There are several primary source audios from different presidents on the Resource Board. Use the SOS You Can Quote Me On That! to prepare students to listen to these. Please note that these are, in all likelihood, too advanced for students, so consider only playing a portion.

**Feeding the World:** There are several food and science resources, including a virtual tour of an egg farm, on the Resource Board that can be paired with the Wonders texts. There are also several writing prompts that can easily be assigned to students.

**HANDS-ON ACTIVITY CONNECTIONS**

- **HOA:** Oil Spill Cleanup
- **HOA:** Acid Rain

In these HOAs students will complete informative writing explanations using the results of their investigations. For example, on SE page 156, students will write a paragraph giving advice to an oil company. Integrate the Wonders writing trait focused on strong conclusions into the student explanations. On SE page 165, students will write a conclusion.

**LITERACY CONNECTIONS**

**Reread:** Students worked on rereading in the first unit of Wonders. There were two different activities shared on the Literacy Connections Cards to help students use rereading in science. Both activities are listed below. Use these activities throughout this concept and with the passages in the Beyond section.

- Use a “reread with color” activity. Have students read the passage once and write a few sentences about the topic in one color. Read a second time and have them add to what they wrote, but in a different color. Have them read one more time and add new details with a third color.
- Introduce students to Backup and Reread. Create a three-column chart as follows:

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Keep this chart as a class or have students create this individually in a science notebook.

- A third idea for rereading is to use the AEIOU strategy each time students read a passage. Have them work with a partner and read a passage three times, charting their AEIOU each time. Have them reflect on the changes in their responses when they reread.

**Author’s Point of View:** Have students analyze points of view in two different ways in this concept. Have them analyze images from a variety of points of view using the POV chart on the Resource Board. Also, the Step Inside SOS can be used with the videos in this concept.

**Writing - Opinion:** The Wonders Research component in this unit is focused on taking a stand in the environment. Use the information in this science concept to support the Wonders research. Students will also create a problem and solution chart in Activity 20. This information can be used to have students generate problem-solution paragraphs as a form of opinion writing. The Writing in Science video series can be used as minilessons to support students’ writing throughout this concept. Finally, the 4 Corners SOS is a good activity to have students generate opinions and then, take a stand on an opinion.
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Wonders California

UNIT 4: FACT OR FICTION?

LITERATURE

Read Aloud: "Speaking Out Against Child Labor" [Informational Text: Narrative Nonfiction]
Anthology: See How They Run [Informational Text: Narrative Nonfiction]
“The Birth of American Democracy” [Informational Text: Expository]

Read Aloud: “Elephant Versus Monkey” [Fantasy]
R/W Workshop: “The TimeSpecs 3000” [Fantasy]
Anthology: LaRue for Mayor [Fantasy]

Read Aloud: “Good-bye Icebox” [Historical Fiction]
R/W Workshop: “A Telephone Mix-Up” [Historical Fiction]
Anthology: The Moon Over Star [Historical Fiction]
“3…2…1 We Have Spin-Off” [Expository]

Read Aloud: “Pictures in the Sky” [Expository]
R/W Workshop: “Wonders in the Night Sky” [Expository]
Anthology: Why Does the Moon Change Shape? [Expository]
“Why the Sun Travels Across the Sky” [Myths]

Read Aloud: “Sam’s Box” [Narrative Poem]
R/W Workshop: “Sing to Me,” “The Climb” [Narrative Poem]
Anthology: “Swimming to the Rock,” “The Moondust Footprint” [Narrative Poem]
“Genius,” “Winner” [Narrative Poem]
UNIT 3: EARTH’S CHANGING SURFACE
Concept: Breaking Down and Moving Rocks

NGSS PERFORMANCE EXPECTATIONS

4-PS3-2
Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric currents.

4-ESS3-1
Obtain and combine information to describe that energy and fuels are derived from natural resources and their uses affect the environment.

Lesson Questions:
• How does the extraction of fossil fuels impact the environment?
• How can burning fossil fuels damage the environment?
• What are some negative impacts of renewable energy?
• How can we reduce the amount of energy we use?

LITERATURE CONNECTIONS

Since there is a lot of content in grade 4, the pacing of Wonders and Discovery Science units does not match up evenly. Therefore, in order to provide flexibility, all of the Literature Connections for Science Unit 2 will be listed on the Literacy Connections Cards that go with the concepts.

Our Government: There are numerous resources on the Resource Board that can be paired with the Wonders texts. There is a Channel on Government that includes a variety of video segments and images that can be matched to an SOS strategy that focuses on asking and answering questions such as Three Questions or QR Code Graffiti Walk, giving students the answers with a QR code and having them generate the questions. Keep in mind that students can do both of these activities for the QR code SOS. One group of students can watch a video and generate a question with answers. Then, make a QR code with the answers while another group can do the walk and determine the questions.

Leadership: Various videos and images can be paired with the Wonders content to help students gain a deeper understanding of leaders who run for office. One of the videos highlights the Senate and the other highlights the House of Representatives. There are also resources in Discovery Education Experience on different political leaders. Use the SOS Can You Guess My 2-1-4? to have students write 2 facts, 1 clue and 4 images on their leader. Then, have them share with other students. Studio Boards can be used for this strategy.

Breakthroughs: There is a video series in Discovery Education Experience entitled “4 Awesome Discoveries.” This series shows 4 different discoveries that are unique, i.e., hot and cold time travel; zombie ants; proteins found in crocodile teeth, etc. These breakthroughs can also be utilized with the Can You Guess My 2-1-4? SOS. Students can watch one of the breakthrough videos, create a Studio Board using the strategy and then other students can make predictions on the breakthrough. There are several of these segments on the Resource Board, but they can also be found through searching for 4 Awesome Discoveries in Discovery Education Experience.

Wonders in the Sky: Although astronomy topics are not part of the grade 4 science content, there are many resources available in Discovery Education Experience. [Please note that “Patterns in the Night Sky” is a unit in grade 5]. Several Channels of information and resources can provide content for small group instruction, centers, or media to create multimodal text experiences. In addition, there are reading passages that use a cause and effect text structure on the Resource Board. Consider using the SOS Pechakucha, having students use one of the resources on the Board, generate a question and then answer it by creating a Pechakucha.

Achievements: Since most of the literature within Wonders is poetry, there are a variety of different resources from different genres that can be paired with the Wonders texts. On the Resource Board, there are video segments on different types of achievements. Since students are examining these achievements from the perspective of the writer, use the Multiple Perspectives SOS.

HANDS-ON ACTIVITY CONNECTIONS

• HOA: Modeling Mechanical and Chemical Weathering
• HOA: Glacier Erosion

In these HOAs, students will make, confirm and revise their predictions. There are also several questions that students will answer throughout the investigation. Connect these strategies in science to their use in reading. Consider making a T-Chart with students to compare and contrast how these are used in both circumstances [the outcome of which is helping students to understand that they are very similar when using them for reading or science.]

LITERACY CONNECTIONS

Ask and Answer Questions: Students will begin this concept by examining images and generating questions using an “I Wonder” format in Activity 2. Additionally, in Activity 3, students will continue to examine images and answer questions.

Make, Confirm, or Revise Predictions: There are numerous times during this concept that students will use prediction. In Activity 7, students will make a prediction on the answer to many questions and then confirm their predictions.

Text Structure - Cause and Effect: In Activity 6 and Activity 13, students will read different types of cause and effect passages. Have students highlight causes in one color and effects in another color. On page 19 of the SE, students will identify the causes and effects using a T-chart. In Activity 11, students will draw an illustration after each paragraph. Have one group of students draw an illustration of the causes and the paragraph while the second group of students draws an illustration of the effects. Have students pair up and compare and contrast their illustrations.

Point of View: Use the reading passage in the Beyond section, “Landslide Disaster” or the video segment, “Weathering” to have students rewrite parts from a different point of view. Remember that the video has a transcript that can be copied and used for this purpose. This video is also editable, meaning that it can be downloaded and the audio removed. Students can read their new script with a different viewpoint.

Text Features - Boldface Words; Pronunciations: In Activity 14, students will write the definition of words based on two images. Have students use the vocabulary word as a boldface word in their definition. Having students utilize text features in their writing helps them to understand how to utilize them effectively in their reading.

Writing - Opinion: In Activity 3, students will compose a paragraph to answer questions like “what would each scene look like 10 years from now?” In Activity 9, students respond to the question “Do you think chemical weathering or mechanical weathering happens faster?” after watching two videos. Integrate the Wonders writing trait on strong opinion paragraphs into these responses.

Writing - Narrative: Use the different images in this concept as the impetus for narratives. Incorporate the Paperchat SOS, using the image in the center. Have students circulate to write different narrative passages about an image. Have students determine the best narratives and discuss the features of those that are identified as “the best.”

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Wonders California

UNIT 4: FACT OR FICTION?

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**READING:**
- **LITERATURE:** RL 4.3, RL 4.5, RL 4.6, RL 4.7
- **INFORMATIONAL:** RI 4.5

**WRITING:**
- W 4.3 a, d
- W 4.6
- W 4.7
- W 4.8
- W 4.9 a, b
- W 4.10

**SPEAKING & LISTENING:**
- SL 4.3
- SL 4.5

**WEEK 1: OUR GOVERNMENT**
Essential Question: Why do we need government?
- Strategy: Ask and Answer Questions
- Skill - Text Structure: Cause and Effect
- Text Features: Boldface Words; Pronunciations
- Writing: Opinion

**WEEK 2: LEADERSHIP**
Essential Question: Why do people run for public office?
- Strategy: Make, Confirm, or Revise Predictions
- Skill: Point of View
- Writing: Narrative

**WEEK 3: BREAKTHROUGHS**
Essential Question: How do inventions and technology affect your life?
- Strategy: Make, Confirm, or Revise Predictions
- Skill: Point of View
- Writing: Narrative

**WEEK 4: WONDERS IN THE SKY**
Essential Question: How do you explain what you see in the sky?
- Strategy: Ask and Answer Questions
- Skill - Text Structure: Cause and Effect
- Text Features: Diagrams, Boldface Words; Pronunciations
- Writing: Informative

**WEEK 5: ACHIEVEMENTS**
Essential Question: How do writers look at success in different ways?
- Strategy: Visualize
- Skill: Theme
- Literary Elements: Stanza; Repetition
- Writing: Narrative

**LITERATURE**

- **Read Aloud:** “Speaking Out Against Child Labor” [Informational Text: Narrative Nonfiction]
- **R/W Workshop:** “A World Without Rules” [Informational Text: Narrative Nonfiction]
- **Anthology:** See How They Run [Informational Text: Narrative Nonfiction]
  “The Birth of American Democracy” [Informational Text: Expository]

- **Read Aloud:** “Elephant Versus Monkey” [Fantasy]
- **R/W Workshop:** “The TimeSpecs 3000” [Fantasy]
- **Anthology:** LaRue for Mayor [Fantasy]

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- **Read Aloud:** “Pictures in the Sky” [Expository]
- **R/W Workshop:** “Wonders in the Night Sky” [Expository]
- **Anthology:** Why Does the Moon Change Shape? [Expository]
  “Why the Sun Travels Across the Sky” [Myths]

- **Read Aloud:** “Sam’s Box” [Narrative Poem]
- **R/W Workshop:** "Sing to Me,” “The Climb” [Narrative Poem]
- **Anthology:** “Swimming to the Rock,” “The Moondust Footprint” [Narrative Poem]
  “Genius,” “Winner” [Narrative Poem]
UNIT 3: EARTH'S CHANGING SURFACE
Concept: Changing Landscapes

NGSS PERFORMANCE EXPECTATIONS

4-ESS2-1
Make observations and/or measurements to provide evidence of the effects of weathering or the rate of erosion by water, ice, wind, or vegetation.

3-5-ETS1-3
Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.

4-ESS2-2
Analyze and interpret data from maps to describe patterns of Earth's features.

4-ESS1-1
Identify evidence from patterns in rock formations and fossils in rock layers to support an explanation for changes in a landscape over time.

Lesson Questions:
- How do landscapes change?
- What sorts of landforms are sculpted by water and ice?
- How does wind create landforms?
- How does deposition make layers of rock?

LITERATURE CONNECTIONS

Since there is a lot of content in grade 4, the pacing of Wonders and Discovery Science units does not match up evenly. Therefore, in order to provide flexibility, all of the Literature Connections for Science Unit 2 will be listed on the Literacy Connections Cards that go with the concepts.

Our Government: There are numerous resources on the Resource Board that can be paired with the Wonders texts. There is a channel on Government that includes a variety of video segments and images that can be matched to an SOS strategy that focuses on asking and answering questions such as Three Questions or QR Code Graffiti Walk, giving students the answers with a QR code and having them generate the questions. Keep in mind that students can do both of these activities for the QR code SOS. One group of students can watch a video and generate a question with answers. Then, make a QR code with the answers while another group can do the walk and determine the questions.

Leadership: Various videos and images can be paired with the Wonders content to help students gain a deeper understanding of leaders who run for office. One of the videos highlights the Senate and the other highlights the House of Representatives. There are also resources in Discovery Education Experience on different political leaders. Use the SOS Can You Guess My 2-1-4? to have students write 2 facts, 1 clue and 4 images on their leader. Then, have them share with other students. Studio Boards can be used for this strategy.

Breakthroughs: There is a video series in Discovery Education Experience entitled “4 Awesome Discoveries.” This series shows 4 different discoveries that are unique, i.e. hot and cold time travel; zombie ants; proteins found in crocodile teeth, etc. These breakthroughs can also be utilized with the Can You Guess My 2-1-4? SOS. Students can watch one of the breakthrough videos, create a Studio Board using the strategy and then other students can make predictions on the breakthrough. There are several of these segments on the Resource Board, but they can also be found through searching for 4 Awesome Discoveries in Discovery Education Experience.

Wonders in the Sky: Although astronomy topics are not part of the grade 4 science content, there are many resources available in Discovery Education Experience. [Please note that “Patterns in the Night Sky” is a unit in grade 5]. Several channels of information and resources can provide content for small group instruction, centers, or media to create multimodal text experiences. In addition, there are reading passages that use a cause and effect text structure on the Resource Board. Consider using the SOS Pechakucha, having students use one of the resources on the Board, generate a question and then answer it by creating a Pechakucha.

Achievements: Since most of the literature within Wonders is poetry, there are a variety of different resources from different genres that can be paired with the Wonders texts. On the Resource Board, there are video segments on different types of achievements. Since students are examining these achievements from the perspective of the writer, use the Multiple Perspectives SOS.

HANDS-ON ACTIVITY CONNECTIONS

- HOA: School Landscape
- HOA: Using a Stream Table to Model Valley Landforms
- HOA: Sand Shifters
- HOA: Modeling Deposition and Rock Formation

All of the HOAs in this concept use both the asking and answering questions strategy as well as making, confirming and revising predictions.

In the School Landscape HOA, consider integrating different text features that students have examined thus far: captions, boldface words, diagrams, etc., into their landscape map.

LITERATURE CONNECTIONS

Ask and Answer Questions: Students will begin this concept by examining images and generating questions with question words like what, why and when in Activity 2. Additionally, in Activity 4, students will continue to examine images and answer questions. In Activity 6, students will use the Visual Walkabout SOS to examine different landform images and generate their questions. This SOS can be used with other images in this concept to have students generate questions.

Make, Confirm, or Revise Predictions: There are several reading passages in this concept. Use the making predictions sentence stems on the Resource Board using the Let's Roll SOS. This SOS can be used throughout the concept and also with the passages that are in the Beyond section.

Text Structure - Cause and Effect: In Activity 7, students will read about the cause of the Grand Canyon and in Activity 9, students will read about the formation of deltas. Have students highlight causes in one color and effects in another color.

Point of View: Activity 15 has numerous short passages that can all be rewritten according to different points of view. Have students experiment with this type of writing to determine which point of view gives the best information.

Text Features - Boldface Words; Pronunciations: In Activity 5, students will label different landforms. Have students use the landform word as a boldface word in their description of the formation process. Having students utilize text features in their writing helps them to understand how to utilize them effectively in their reading.

In Activity 9, there is an example of a diagram. Use the Partner Time SOS to pair students and read the diagram. Do this several times so students can hear different interpretations.

Writing - Opinion: In Activity 11, students will read about erosion by glaciers and then, write a claim and support it with evidence. Integrate the Wonders writing trait on strong opinion paragraphs into these responses.

Writing - Narrative: There are numerous images in the Beyond section. On Literacy Connections Card #9, it was suggested to incorporate the Paperchat SOS, using the image in the center and having students circulate to write different narrative passages about an image. This SOS can be replicated for this concept. The SOS Fold Draw Learn with some modifications can also be used with the images to compose a narrative. Have students craft different parts of a narrative with this SOS.
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UNIT 3: EARTH’S CHANGING SURFACE
Concept: Mapping Landforms

NGSS PERFORMANCE EXPECTATIONS

4-ESS2-1
Make observations and/or measurements to provide evidence of the effects of weathering or the rate of erosion by water, ice, wind, or vegetation.

4-ESS2-2
Analyze and interpret data from maps to describe patterns of Earth’s features.

Lesson Questions:
- How can maps be used to provide information about landforms?
- What are some of the major landform features on Earth?
- How can we identify smaller landforms using maps?
- Can we use maps to identify landform relationships and patterns?

LITERATURE CONNECTIONS

Since there is a lot of content in grade 4, the pacing of Wonders and Discovery Science units does not match up evenly. Therefore, in order to provide flexibility, all of the Literature Connections for Science Unit 2 will be listed on the Literacy Connections Cards that go with the concepts.

Our Government: There are numerous resources on the Resource Board that can be paired with the Wonders texts. There is a Channel on Government that includes a variety of video segments and images that can be matched to an SOS strategy that focuses on asking and answering questions such as Three Questions or QR Code Graffiti Walk, giving students the answers with a QR code and having them generate the questions. Keep in mind that students can do both of these activities for the QR code SOS. One group of students can watch a video and generate a question with answers. Then, make a QR code with the answers while another group can do the walk and determine the questions.

Leadership: Various videos and images can be paired with the Wonders content to help students gain a deeper understanding of leaders who run for office. One of the videos highlights the Senate and the other highlights the House of Representatives. There are also resources in Discovery Education Experience on different political leaders. Use the SOS Can You Guess My 2-1-4? to have students write 2 facts, 1 clue and 4 images on their leader. Then, have them share with other students. Studio Boards can be used for this strategy.

Breakthroughs: There is a video series in Discovery Education Experience entitled “4 Awesome Discoveries.” This series shows 4 different discoveries that are unique, i.e. hot and cold time travel; zombie ants; proteins found in crocodile teeth, etc. These breakthroughs can also be utilized with the Can You Guess My 2-1-4? SOS. Students can watch one of the breakthrough videos, create a Studio Board using the strategy and then other students can make predictions on the breakthrough. There are several of these segments on the Resource Board, but they can also be found through searching for 4 Awesome Discoveries in Discovery Education Experience.

Wonders in the Sky: Although astronomy topics are not part of the grade 4 science content, there are many resources available in Discovery Education Experience. [Please note that “Patterns in the Night Sky” is a unit in grade 5]. Several Channels of information and resources can provide content for small group instruction, centers, or media to create multimodal text experiences. In addition, there are reading passages that use a cause and effect text structure on the Resource Board. Consider using the SOS Pechakucha, having students use one of the resources on the Board, generate a question and then answer it by creating a Pechakucha.

Achievements: Since most of the literature within Wonders is poetry, there are a variety of different resources from different genres that can be paired with the Wonders texts. On the Resource Board, there are video segments on different types of achievements. Since students are examining these achievements from the perspective of the writer, use the Multiple Perspectives SOS.

HANDS-ON ACTIVITY CONNECTIONS

- HOA: Major Landforms on Earth
- HOA: Mapping Rivers and Watersheds

In both of the HOAs in this concept, students will make predictions to begin their investigation. In addition, both of these HOAs require students to make models. Use the IDEA share SOS to have students give each other feedback.

LITERACY CONNECTIONS

Ask and Answer Questions: Students will begin this concept by examining images and generating questions using an “I Wonder” framework. Additionally, in Activity 3, students will examine a map and answer questions.

Make, Confirm, or Revise Predictions: There are several reading passages in this concept: Activity 6, 9, and 10. Use the making predictions sentence stems on the Resource Board using the Let’s Roll SOS. This SOS can be used throughout the concept and also with the passages that are in the Beyond section.

Text Structure - Cause and Effect: In Activity 13, students will craft effect paragraphs in response to a cause. Have students brainstorm different words and phrases that are used in cause and effect text structures: because, as a result, resulted, caused, affected, since, due to, effect, so, this led to, reason why, for this reason. Once students draft their paragraphs, have them partner together and provide feedback. Use the SOS Quick Conference.

Text Features - Boldface Words; Pronunciations: In the reading passages in the concept, there are numerous boldface words. Integrate the Wonders instruction on boldface words into science. There are two reading passages in the Beyond section. These passages do not have boldface words, however, in small groups, students can identify which words should be boldfaced. Use the SOS Vocabulary Quadrants for the words they identify. In Activity 7, students will create a Venn Diagram.

Writing - Opinion: The Wonders writing trait focus in Week 4 for informative texts is figurative language. There are several opportunities for students to engage in informative writing, especially in writing responses to questions. Explore types of figurative language that can be appropriate to include in their science responses. There is a video series in Discovery Education Experience that can be used to emphasize students’ understanding of figurative language.

Writing - Narrative: The STEM in Action, Activity 15 requires students to write a narrative of their journey as the captain of a ship. Integrate the Wonders narrative focus areas of plot development and sensory language into the narrative.
Save instructional time with Literacy Connection Strategies

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Wonders California

UNIT 4: FACT OR FICTION?

READING: LITERATURE
RL 4.3
RL 4.5
RL 4.6
RL 4.7

READING: INFORMATIONAL
RI 4.5
RI 4.7
RI 4.8
RI 4.9

WRITING
W 4.3 a, d
W 4.6
W 4.7
W 4.8
W 4.9 a, b
W 4.10

WEAKLY TOPIC

WEEK 1: OUR GOVERNMENT
Essential Question: Why do we need government?
- Strategy: Ask and Answer Questions
- Skill: Text Structure: Cause and Effect
- Text Features: Boldface Words; Pronunciations
- Writing: Opinion

WEEK 2: LEADERSHIP
Essential Question: Why do people run for public office?
- Strategy: Make, Confirm, or Revise Predictions
- Skill: Point of View
- Writing: Narrative

WEEK 3: BREAKTHROUGHS
Essential Question: How co inventions and technology affect your life?
- Strategy: Make, Confirm, or Revise Predictions
- Skill: Point of View
- Writing: Narrative

WEEK 4: WONDERS IN THE SKY
Essential Question: How do you explain what you see in the sky?
- Strategy: Ask and Answer Questions
- Skill: Text Structure: Cause and Effect
- Text Features: Diagrams, Boldface Words; Pronunciations
- Writing: Informative

WEEK 5: ACHIEVEMENTS
Essential Question: How do writers look at success in different ways?
- Strategy: Visualize
- Skill: Theme
- Literary Elements: Stanza; Repetition
- Writing: Narrative

LITERATURE

Read Aloud: “Speaking Out Against Child Labor” [Informational Text: Narrative Nonfiction]
Anthology:
See How They Run [Informational Text: Narrative Nonfiction]
“The Birth of American Democracy” [Informational Text: Expository]

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Anthology:
“Swimming to the Rock,” “The Moondust Footprint” [Narrative Poem]
“Genius,” “Winner” [Narrative Poem]
UNIT 3: EARTH’S CHANGING SURFACE
Concept: Volcanoes

NGSS PERFORMANCE EXPECTATIONS

4-ESS3-2
Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans.

4-ESS2-1
Make observations and/or measurements to provide evidence of the effects of weathering or the rate of erosion by water, ice, wind, or vegetation.

3-5-ETS1-3
Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.

4-ESS2-2
Analyze and interpret data from maps to describe patterns of Earth’s features.

3-5-ETS1-2
Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.

4-ESS1-1 - Identify evidence from patterns in rock formations and fossils in rock layers to support an explanation for changes in a landscape over time.

Lesson Questions:
- Where are volcanoes found on Earth?
- How are volcanoes formed?
- How can scientists predict volcanic eruptions?

LITERATURE CONNECTIONS

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HANDS-ON ACTIVITY CONNECTIONS

- HOA: Cake Batter Lava

In this HOA, students use the strategy of prediction to answer several questions for the investigation. This is a good opportunity to discuss how strategies often go together, i.e. ask and answer questions and prediction.

LITERACY CONNECTIONS

Ask and Answer Questions: Students will begin this concept by generating questions using a “what, why, when” framework after watching a video on “Mount Vesuvius.” In Activity 7, students will generate questions after reading the text, and then work with a partner to answer the questions. Use the SOS Conga Line to have students share their questions and gather answers from different people.

Visualize: Use the SOS Sketchnotes with the different passages in this concept, i.e. Activity 10, Activity 13, Activity 15. Have students work in small groups and separate the passages by paragraphs. Have students sketch what they visualize as someone in the group reads the paragraph in the passage aloud. Using whiteboards or similar types of tools works well for this activity. The important part of this strategy is having students compare their sketches to look for similarities and identify the evidence for their sketches.

Text Structure - Cause and Effect: In Activity 8, students will use a cause and effect graphic organizer to determine the causes and effects of volcanoes. Use this information to have students write a piece that uses a cause and effect text structure.

Theme: Generally in informative or nonfiction text, there is not a theme, but a central idea. This can be discussed with students and then, introduce them to the WIN strategy for determining the central idea of the passages they read. The reading passages in the Beyond section can be used for this. The WIN strategy is as follows: What or Who: Figure out the what or who of the passage

Information: What is the most important information about the who or what

Number of words: Write the central idea using the fewest number of words possible.

Writing - Informative: In the Discovery Education Experience, there is a grade 4 Model Lesson entitled “Why We Can’t Look Away: Exploring the Power of Volcanoes.” This Model Lesson, referenced on the Resource Board, culminates in an informative research piece. This Model Lesson can be integrated into the science content.

Writing - Narrative: There are numerous images in the Beyond section that can be used to write narratives. These images are on the Resource Board along with ideas for narrative writing prompts about volcanoes to pair with them.
Incorporate science instruction into your literacy courses or make valuable connections to literacy standards within your science classrooms. So much more than ELA Correlations, these Literacy Connections directly align the Wonders program to Science Techbook. This allows you to seamlessly incorporate Science Techbook right when it matters most, connecting by THEME, SKILL, STRATEGY, and WRITING. Whether your students are learning to read or reading to learn, Science Techbook has a solution for you!

Wonders California

UNIT 5: FIGURE IT OUT

Discovery Education Science Techbook Experience makes it easy to integrate literacy connections

CCSS ELA STANDARDS

READING: LITERATURE
RL 4.1
RL 4.2
RL 4.3
RL 4.6
RL 4.8

READING: INFORMATIONAL
RI 4.1
RI 4.2
RI 4.3
RI 4.4
RI 4.5
RI 4.7
RI 4.9

WRITING
W 4.1.a
W 4.1.b
W 4.2.a
W 4.3.a
W 4.3.d
W 4.4
W 4.6
W 4.7
W 4.8
W 4.9.a,b
W 4.10

WRITING

LITERATURE

Read Aloud: “A Special Birthday Hug” [Realistic Fiction]
R/W Workshop: “Sadie’s Game” [Realistic Fiction]
Anthology:
Mama, I’ll Give You the World [Realistic Fiction]
“What If It Happened to You?” [Realistic Fiction]

Read Aloud: “Horse-tamer Hattie Heads West” [Tall Tale]
R/W Workshop: “My Big Brother, Johnny Kaw” [Tall Tale]
Anthology:
Apples to Oregon [Informational Text: Expository]
“Bound: Settling the American West” [Informational Text: Expository]

Read Aloud: “George Washington Carver: Scientist and Inventor” [Biography]
R/W Workshop: “Stephanie Kwolek: Inventor” [Biography]
Anthology:
How Ben Franklin Stole the Lightning [Biography]
“Energy is Everywhere” [Expository]

Read Aloud: “Stick Like a Gecko” [Expository]
R/W Workshop: “Your World Up Close” [Expository]
Anthology:
A Drop of Water [Expository]
“The Incredible Shrinking Potion” [Fantasy]

Read Aloud: “Pictures From Long Ago” [Informational Text]
R/W Workshop: “Where It All Began” [Informational Article]
Anthology:
Rediscovering Our Spanish Beginnings [Informational Article]
“History’s Mysteries” [Informational Article]
UNIT 4: EARTHQUAKES
Concept: Earthquake Causes and Impacts

NGSS PERFORMANCE EXPECTATIONS

4-ESS3-2
Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans.

4-ESS2-2
Analyze and interpret data from maps to describe patterns of Earth’s features.

Lesson Questions:
• What are earthquakes, and where do they occur?
• Can scientists predict or forecast when an earthquake will occur?
• What are some impacts of earthquakes?

LITERATURE CONNECTIONS

Since there is a lot of content in grade 4, the pacing of Wonders and Discovery Science units does not match up evenly. Therefore, in order to provide flexibility, all of the Literature Connections for Science Unit 2 will be listed on the Literacy Connections Cards that go with the concepts.

Making It Happen: There are a number of resources that are focused on kindness. These video segments can serve as centers, having students investigate the concept of kindness. Use the SOS Think, Puzzle, Explore with some modifications. Because the strategy in Wonders is visualization, change puzzle to visualize: Think, Visualize, Explore. Have students think about what they know on the topic of the video by analyzing the title. Then, in the visualization section, sketch or in words, describe what the image/scene would look like. Move into explore as described by the strategy.

On the Move: On the Resource Board, there is a video series on westward expansion that can be paired with the Wonders literature. Additionally, there is a narrative writing prompt that can be assigned to students, incorporating the Wonders writing trait focus. Finally, there are two audio clips on westward expansion. Because the Wonders strategy is visualization, use the Sketchnotes SOS with the audio and have students compare their visualizations.

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Digging Up the Past: There is a wealth of resources in Discovery Education Experience on this topic. However, consider digging up the past in California. There are video segments and also a Lodge McCammon song about the history of California that can be used as center. Because the strategy is summarization and the text structure focuses on sequence, there are a variety of SOS that can be used with these resources.

HANDS-ON ACTIVITY CONNECTIONS

• HOA: Plotting Earthquakes
The HOA in this unit has students plotting earthquakes and then predicting where earthquakes will likely occur. On the Resource Board, there is a narrative writing prompt that can then be used with this HOA. Integrate the Wonders writing trait focus into the prompt.

LITERACY CONNECTIONS

Visualization: On Literacy Connections Cards #5 and #6, visualization was introduced with an anchor chart. Refer back to the anchor chart that was created. Because the Standards require students to interpret words and phrases, the earthquakes concept provides good opportunities for visualization because the content is very concrete. In the reading passages in this concept, Activities 2, 5, 8, 9, 11, and 12, have students highlight those words and phrases that are integral for visualization. Assign small groups of students different paragraphs in these passages, then have them share out with the whole class. Use the Yes, No, Maybe So SOS as a way to debrief the chosen words and phrases.

Text Structures - Problem and Solution, Cause and Effect, Sequence: The Wonders skills for weeks 1 and 2 focus on character, setting and plot which will not align to the informative readings that students will do in science. However, this is also a good way to make connections between fiction and informative texts. Help students to understand that problem and solution and cause and effect are also evident in informative texts, but in different ways, like text structure. There are numerous readings in this concept and in the beyond section; see the graphic organizers in the SE pages 34 and 37. Use the Collage SOS to have students build a large collage of the different types of text structures and examples of them. They can use a Studio Board for this or they can use paper. Have them also describe the different elements of the text structures, e.g. the language that is used in a cause and effect piece. Note that this can be an ongoing activity throughout the Earthquake unit, incorporating the sequence text structure in Wonders week 3.
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Wonders California

UNIT 5: FIGURE IT OUT

CCSS ELA STANDARDS

READING: LITERATURE
RL 4.1
RL 4.2
RL 4.3
RL 4.6
RL 4.8

READING: INFORMATIONAL
RI 4.1
RI 4.2
RI 4.3
RI 4.4

WRITING
W 4.1a
W 4.2a
W 4.3a
W 4.3d
W 4.4
W 4.5
W 4.6
W 4.7
W 4.8
W 4.9a, b
W 4.10

WRITING
SL 4 a-d
SL 4.2
SL 4.3

WEEKLY TOPIC

WEEK 1: MAKING IT HAPPEN
Essential Question: In what ways do people show they care about each other?
• Strategy: Visualize
• Skill - Character, Setting, Plot: Cause and Effect
• Writing: Narrative

WEEK 2: ON THE MOVE
Essential Question: What are some reasons people moved west?
• Strategy: Visualize
• Skill - Character, Setting, Plot: Problem and Solution
• Writing: Narrative

WEEK 3: INVENTIONS
Essential Question: How can inventions solve problems?
• Strategy: Summarize
• Skill - Text Structure: Problem and Solution
• Text Features: Time Lines; Photographs and Captions
• Writing: Informative

WEEK 4: ZOOM IN
Essential Question: What can you discover when you look closely at something?
• Summarize
• Skill - Text Structure: Sequence
• Text Features: Photographs and Captions
• Writing: Opinion

WEEK 5: DIGGING UP THE PAST
Essential Question: How can learning about the past help you understand the future?
• Summarize
• Skill - Text Structure: Sequence
• Text Features: Sidebars and Maps
• Writing: Informative

LITERATURE

Read Aloud: “A Special Birthday Hug” [Realistic Fiction]
R/W Workshop: “Sadie’s Game” [Realistic Fiction]
Anthology:
Mama, I’ll Give You the World [Realistic Fiction]
“What If It Happened to You?” [Realistic Fiction]

Read Aloud: “Horse-tamer Hattie Heads West” [Tall Tale]
R/W Workshop: “My Big Brother, Johnny Kaw” [Tall Tale]
Anthology:
Apples to Oregon [Informational Text: Expository]
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Read Aloud: “George Washington Carver: Scientist and Inventor” [Biography]
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Anthology:
How Ben Franklin Stole the Lightning [Biography]
“Energy is Everywhere” [Expository]

Read Aloud: “Stick Like a Gecko” [Expository]
R/W Workshop: “Your World Up Close” [Expository]
Anthology:
A Drop of Water [Expository]
“The Incredible Shrinking Potion” [Fantasy]

Read Aloud: “Pictures From Long Ago” [Informational Text]
R/W Workshop: “Where It All Began” [Informational Article]
Anthology:
Rediscovering Our Spanish Beginnings [Informational Article]
“History’s Mysteries” [Informational Article]
UNIT 4: EARTHQUAKES
Concept: Earthquake Waves

NGSS PERFORMANCE EXPECTATIONS

4-ESS3-2
Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans.

4-PS4-1
Develop a model of waves to describe patterns in terms of amplitude and wavelength and that waves can cause objects to move.

3-S-ETS1-3
Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.

3-S-ETS1-2
Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.

3-S-ETS1-1
Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.

Lesson Questions:
• What are waves, and how do they travel through a medium?
• How do amplitude and wavelength determine the nature and impact of seismic waves?
• How do seismic waves from an earthquake travel through the earth?
• How do scientists detect seismic waves?
• How do earthquakes cause tsunamis?

LITERATURE CONNECTIONS

Since there is a lot of content in grade 4, the pacing of Wonders and Discovery Science units does not match up evenly. Therefore, in order to provide flexibility, all of the Literature Connections for Science Unit 2 will be listed on the Literacy Connections Cards that go with the concepts.

Making It Happen: There are a number of resources that are focused on kindness. These video segments can serve as centers, having students investigate the concept of kindness. Use the SOS Think, Puzzle, Explore with some modifications. Because the strategy in Wonders is visualization, change puzzle to visualize: Think, Visualize, Explore. Have students think about what they know on the topic of the video by analyzing the title. Then, in the visualization section, sketch or in words, describe what the image/scene would look like. Move into explore as described by the strategy.

On the Move: On the Resource Board, there is a video series on westward expansion that can be paired with the Wonders literature. Additionally, there is a narrative writing prompt that can be assigned to students, incorporating the Wonders writing trait focus. Finally, there are two audio clips on westward expansion. Because the Wonders strategy is visualization, use the Sketchnotes SOS with the audio and have students compare their visualizations.

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Zoom In: This topic provides a good opportunity to use the SOS Half the Story. Use selected images on the Resource Board from Discovery Education Experience and have students try to identify what it is. Start with the shark image because you can zoom in closely on its teeth. Then, use the zoom on the computer to make the picture bigger, giving students more clues along the way.

Digging Up the Past: There is a wealth of resources in Discovery Education Experience on this topic. However, consider digging up the past in California. There are video segments and also a Lodge McCammon song about the history of California that can be used as center. Because the strategy is summarization and the text structure focuses on sequence, there are a variety of SOS that can be used with these resources.

HANDS-ON ACTIVITY CONNECTIONS

• HOA: Model Earthquake Waves
• HOA: Make a Seismometer

These HOAs can serve as experiences for informative writing. On the Resource Board, there is an example of a prompt that can be used with the Model Earthquake Waves HOA. Remember that these prompts can be written on a Studio Board and then, assigned to students. This is also a good way to have students collaborate on writing pieces, giving each other feedback.

LITERACY CONNECTIONS

Visualization: For ideas to incorporate visualization, see Literacy Connections Card #13.

Summarization: Incorporate the summarization strategy into all of the passages in this concept, Activities 3, 8, and 9. Use the SOS Snowball Fight to have students write a summary and then, revise another student’s summary that they pick up after the snowball toss.

Text Structures - Problem and Solution, Cause and Effect, Sequence: Continued from Literacy Connections Card #13: The Wonders skills for weeks 1 and 2 focus on character, setting and plot which will not align to the informative readings that students will do in science. However, this is also a good way to make connections between fiction and informative texts. Help students to understand that problem and solution and cause and effect are also evident in informative texts, but in different ways, like text structure. There are numerous readings in this concept and in the beyond section; see the graphic organizers in the SE pages 34 and 37. Use the Collage SOS to have students build a large collage of the different types of text structures and examples of them. They can use a Studio Board for this or they can use paper. Have them also describe the different elements of the text structures, e.g. the language that is used in a cause and effect piece. Note that this can be an ongoing activity throughout the Earthquake unit, incorporating the sequence text structure in Wonders week 3.

Text Features - Timelines; Photographs and Captions: There are many examples of photographs and captions in this unit. Return to the Yes, No, Maybe So SOS to have students evaluate how well the photographs and the captions support the text and ideas in this concept. Have students generate lists of photographs and caption exemplars, then use these lists as they encounter these text features in the concept.

Writing - Opinion: Integrate the Wonder writing trait focus of formal voice into the Can You Explain claim, evidence, reasoning piece in Activity 16.
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Wonders California

UNIT 5: FIGURE IT OUT

READING: LITERATURE
RL 4.1
RL 4.2
RL 4.3
RL 4.6
RL 4.8
READING: INFORMATIONAL
RI 4.1
RI 4.2
RI 4.3
RI 4.4
RI 4.5
RI 4.6
RI 4.7
RI 4.8
RI 4.9
RI 4.10
WRITING
W4.1a
W4.2a
W4.3a
W4.3d
W4.6
W4.7
W4.8
W4.9a,b
W4.10
SPEAKING & LISTENING
SL 4 a-d
SL 4.2
SL 4.3

WEEKLY TOPIC

WEEK 1: MAKE IT HAPPEN
Essential Question: In what ways do people show they care about each other?
- Strategy: Visualize
- Skill - Character, Setting, Plot: Problem and Solution
- Writing: Narrative

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Essential Question: What are some reasons people moved west?
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Essential Question: How can inventions solve problems?
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Essential Question: What can you discover when you look closely at something?
- Summarize
- Skill - Text Structure: Sequence
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WEEK 5: DIGGING UP THE PAST
Essential Question: How can learning about the past help you understand the future?
- Summarize
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UNIT 4: EARTHQUAKES
Concept: Reducing Earthquake Impacts

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Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.

3-5-ETS1-1
Define a simple design problem reflecting a need or want that includes specified criteria for success and constraints on materials, time, or cost.

Lesson Questions:
- How can I prepare for an earthquake?
- How can buildings be made earthquake resistant?

LITERATURE CONNECTIONS

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HANDS-ON ACTIVITY CONNECTIONS

- HOA: Earthquake Safety Zones
- HOA: My Earthquake Preparedness Plan
- HOA: Earthquake Resistant House

These HOAs align well to the Wonders focus on sequence text structures. There are also some passages in the Beyond section that have this structure as well. Continue with the Collage SOS that was started at the beginning of this unit and examine with students how this structure is important for this type of information.

LITERATURE CONNECTIONS

Summarization: Incorporate the summarization strategy into all of the passages in this concept, Activities 7, 8, 11, and 13. Use the SOS Snowball Fight to have students write a summary and then, revise another students’ summary that they pick up after the snowball toss. Additionally, because several of these passages have different sections, this SOS can be specific to these different sections.

Text Structures - Problem and Solution, Cause and Effect, Sequence: Continued from Literacy Connections Card #13: The Wonders skills for weeks 1 and 2 focus on character, setting and plot which will not align to the informative readings that students will do in science. However, this is also a good way to make connections between fiction and informative texts. Help students to understand that problem and solution and cause and effect are also evident in informative texts, but in different ways, like text structure. There are numerous readings in this concept and in the beyond section; see the graphic organizers in the SE pages 34 and 37. Use the Collage SOS to have students build a large collage of the different types of text structures and examples of them. They can use a Studio Board for this or they can use paper. Have them also describe the different elements of the text structures, e.g. the language that is used in a cause and effect piece. Note that this can be an ongoing activity throughout the Earthquake unit, incorporating the sequence text structure in Wonders week 3.

Text Features - Timelines; Photographs Captions, Sidebar, Map: There are many examples of photographs and captions in this unit. Return to the Yes, No, Maybe So SOS to have students evaluate how well the photographs and the captions support the text and ideas in this concept. Have students generate lists of photographs and caption exemplars, then use these lists as they encounter these text features in the concept.

In this concept, students will also create different kinds of maps in Activity 5 and Activity 10. In Activity 17, students will read maps. Bring this topic from Wonders into the science conversations.

Writing - Informative: The Wonders informative writing trait focus is strong conclusions. This trait can be incorporated into the explanatory writing pieces in Activity 8 or Activity 11.
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UNIT 5: SENSES AND SURVIVAL
Concept: Adaptation and Survival

4-LS1-1
Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.

4-LS1-2
Use a model to describe that animals receive different types of information through their senses, process the information in their brain, and respond to the information in different ways.

Lesson Questions:
• What are adaptations?
• What are some examples of adaptations in animals and plants?
• How are body systems adapted to meet the needs of an organism?
• How do human activities impact the survival of organisms?

LITERATURE CONNECTIONS

Since there is a lot of content in grade 4, the pacing of Wonders and Discovery Science units does not match up evenly. Therefore, in order to provide flexibility, all of the Literature Connections for Science Unit 4 will be listed on the Literacy Connections Cards that go with the concepts.

Old and New: There are many resources in Discovery Education Experience that focus on traditions. Several of these resources are available on the Resource Board. There is also an informative writing prompt that can be assigned to students. This is a good opportunity to have students work in small teams to learn about various traditions using the Jigsaw SOS. Since the skill of theme is a focus, one of the guiding questions that students can explore is “what is the theme of [the specific tradition]?”

Notes from the Past: Discovery Education Experience contains numerous resources for students on the past. There is an interesting video clip on the Resource Board entitled “Historical Events Define a Culture” which can be used to kickoff the Wonders topic. There’s also an historical events calendar in the service that allows students to know what happened on a particular day in different categories, i.e. humanities, biography, health, etc. Assign this calendar to students and have them report out on different events, determining how these historical events have contributed to our present and future.

Resources: The Light and Sound science unit aligns to the Wonders unit. If pacing works, it would be ideal to have these two topics paired together. There are also numerous reading passages in the Beyond section that can be used in small group instruction, paired with a Wonders text. Additionally, there are some interesting resources on the Resource Board that focus on energy in the future. Since asking and answering questions is the Wonders strategy, have students work in small groups to watch the video and generate questions. Then, use the Puppet Pictures SOS to have students ask the questions in the video. Remember that most of the videos are editable, meaning that sounds can be removed. Students can use their puppet to retell portions of the video and ask questions.

Money Matters: In Discovery Education Experience there is a Channel on financial literacy. This Channel has funny video resources and accompanying lesson plans. Consider selecting a lesson from the earn, save, and spend categories. The main idea and key details skill can be incorporated into all of these topics.

Finding My Place: Allow students to create their own videos that explain who they are. Use the XO Let’s Go SOS as students read different pieces and also watch some of the video segments on the Resource Board. Have all students watch the “I am Adjectives” video and create different videos to mashup into a class video. You can use a green screen set-up for this as well and students can place themselves in an image. If you need tips on how to use a green screen, go to the Discovery Educator Network and search this topic.

HANDS-ON ACTIVITY CONNECTIONS

• HOA: Plant Adaptations
The last question of the plant adaptations investigation can become a narrative writing prompt. Have students select one of the plants they observed and write a story of that plant in a different environment. Incorporate the Wonders writing trait of strong word choice and organization into the piece.

LITERACY CONNECTIONS

Reread: This strategy has been prevalent throughout the Wonders series. There are three activities that have been shared on the Literacy Connections Cards to support rereading in science. Let students choose an activity that best supports their rereading.
• Use a “reread with color” activity. Have students read the passage once and write a few sentences about the topic in one color. Read a second time and have them add to what they wrote, but in a different color. Have them read one more time and add new details with a third color.
• Have students use the Backup and Reread activity. Create a three-column chart as follows:

<table>
<thead>
<tr>
<th>Page Number</th>
<th>I was confused by...</th>
<th>So, I decided to BACK UP AND REREAD...</th>
<th>I figured out...</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

• A third idea for rereading is to use the AEIOU strategy each time students read a passage. Have them work with a partner and read a passage three times, chartering their AEIOU each time. Have them reflect on the changes in their responses when they reread.

Theme: There are 8 reading passages in the Beyond section. Return to the WIN strategy from Literacy Connections Card #12. The WIN strategy is as follows:
- What or Who: Figure out the what or who of the passage
- Information: What is the most important information about the who or what
- Number of words: Write the central idea using the fewest number of words possible

Writing - Narrative: There are several images from this concept on the Resource Board. Use the SOS Quick Write to generate short narrative stories that go with the images.
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Wonders California

UNIT 6: PAST, PRESENT AND FUTURE

CCSS ELA STANDARDS

READING: LITERATURE
RL 4.1
RL 4.2
RL 4.3
RL 4.4

READING: INFORMATIONAL
RI 4.1
RI 4.2
RI 4.3
RI 4.5
RI 4.7

WRITING
W 4.1 a, b
W 4.2 d
W 4.3 a, d
W 4.6
W 4.7
W 4.8
W 4.9 a, b
W 4.10

SPEAKING & LISTENING
SL 4.1 b-d
SL 4.2
SL 4.3

WEEKLY TOPIC

WEEK 1: OLD AND NEW
Essential Question: How do traditions connect people?
• Strategy: Reread
• Skill: Theme
• Writing: Narrative

WEEK 2: NOTES FROM THE PAST
Essential Question: Why is it important to keep a record of the past?
• Strategy: Reread
• Skill: Theme
• Writing: Narrative

WEEK 3: RESOURCES
Essential Question: How have our energy resources changed over the years?
• Strategy: Ask and Answer Questions
• Skill: Main Idea and Key Details
• Text Features: Sidebars
• Writing: Opinion

WEEK 4: MONEY MATTERS
Essential Question: What has been the role of money over time?
• Ask and Answer Questions
• Skill: Main Idea and Key Details
• Text Features: Headings, Glossary
• Writing: Informative

WEEK 5: FINDING MY PLACE
Essential Question: What shapes a person’s identity?
• Reread
• Skill: Theme
• Writing: Opinion

LITERATURE

Read Aloud: “Reading the Sky” [Historical Fiction]
R/W Workshop: “A Surprise Reunion” [Historical Fiction]
Anthology:
The Game of Silence [Historical Fiction]
“Native Americans: Yesterday and Today” [Expository]

Read Aloud: “Waiting for the Battle Orders” [Historical Fiction]
R/W Workshop: “Freedom at Fort Mose” [Historical Fiction]
Anthology:
Valley of the Moon [Historical Fiction]
“One Nation, Many Cultures” [Expository]

Read Aloud: “Light Through the Ages” [Narrative Nonfiction]
R/W Workshop: “The Great Energy Debate” [Narrative Nonfiction]
Anthology:
Energy Island [Narrative Nonfiction]
“The Gift of Fire” [Prometheus]; “Water vs. Wisdom” [Poseidon and Athena] [Myths]

Read Aloud: “All About Money” [Expository]
R/W Workshop: “The History of Money” [Expository]
Anthology:
The Big Picture of Economics [Expository]
“The Miller’s Good Luck” [Folktales]

Read Aloud: “Papa’s Pastry Shop,” “One Day” [Poetry]
R/W Workshop: “Climbing Blue Hill,” “My Name is Ivy,” “Collage” [Poetry]
Anthology:
“The Drum,” “Birdfoot’s Grampa,” “My Chinatown” [Poetry]
“Growing Up,” “My People” [Poetry]
**NGSS PERFORMANCE EXPECTATIONS**

4-PS3-2
Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric currents.

4-LS1-1
Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.

4-LS1-2
Use a model to describe that animals receive different types of information through their senses, process the information in their brain, and respond to the information in different ways.

**Lesson Questions:**
- How do animals sense their environment?
- How do animals process the sensory information they receive?
- How do different parts of the body work together as a system to receive, transmit, and react to information?

**LITERATURE CONNECTIONS**

Since there is a lot of content in grade 4, the pacing of Wonders and Discovery Science units does not match up evenly. Therefore, in order to provide flexibility, all of the Literature Connections for Science Unit 4 will be listed on the Literacy Connections Cards that go with the concepts.

**Old and New:** There are many resources in Discovery Education Experience that focus on traditions. Several of these resources are available on the Resource Board. There is also an informative writing prompt that can be assigned to students. This is a good opportunity to have students work in small teams to learn about various traditions using the Jigsaw SOS. Since the skill of theme is a focus, one of the guiding questions that students can explore is “what is the theme of [the specific tradition]?”

**Notes from the Past:** Discovery Education Experience contains numerous resources for students on the past. There is an interesting video clip on the Resource Board entitled “Historical Events Define a Culture” which can be used to kickoff the Wonders topic. There’s also an historical events calendar in the service that allows students to know what happened on a particular day in different categories, i.e., humanities, biography, health, etc. Assign this calendar to students and have them report out on different events, determining how these historical events have contributed to our present and future.

**Resources:** The Light and Sound science unit aligns to the Wonders unit. If pacing works, it would be ideal to have these two topics paired together. There are also numerous reading passages in the Beyond section that can be used in small group instruction, paired with a Wonders text. Additionally, there are some interesting resources on the Resource Board that focus students on energy in the future. Since asking and answering questions is the Wonders strategy, have students work in small groups to watch the video and generate questions. Then, use the Puppet Pictures SOS to have students ask the questions in the video. Remember that most of the videos are editable, meaning that sounds can be removed. Students can use their puppet to retell portions of the video and ask questions.

**Money Matters:** In Discovery Education Experience there is a Channel on financial literacy. This Channel has funny video resources and accompanying lesson plans. Consider selecting a lesson from the earn, save, and spend categories. The main idea and key details skill can be incorporated into all of these topics.

**Finding My Place:** Allow students to create their own videos that explain who they are. Use the XO Let’s Go SOS as students read different pieces and also watch some of the video segments on the Resource Board. Have all students watch the “I am Adjectives” video and create different videos to mashup into a class video. You can use a green screen set-up for this as well and students can place themselves in an image. If you need tips on how to use a green screen, go to the Discovery Educator Network and search this topic.

**HANDS-ON ACTIVITY CONNECTIONS**

- **HOA:** Reaction Time

Include this narrative writing prompt into the reaction time investigation: Write a description of a place that you love to go and include sights and sounds in your description. At the end of your description, determine which sense is more important in making your place great.

**LITERACY CONNECTIONS**

**Reread:** This strategy has been prevalent throughout the Wonders series. There are three activities that have been shared on the Literacy Connections Cards to support rereading in science. Let students choose an activity that best supports their rereading.

- **Use a “reread with color” activity.** Have students read the passage once and write a few sentences about the topic in one color. Read a second time and have them add to what they wrote, but in a different color. Have them read one more time and add new details with a third color.
- **Have students use the Backup and Reread activity.** Create a three-column chart as follows:

<table>
<thead>
<tr>
<th>Page Number</th>
<th>I was confused by...</th>
<th>So, I decided to BACK UP AND REREAD. I figured out...</th>
</tr>
</thead>
</table>

  - A third idea for rereading is to use the AEIOU strategy each time students read a passage. Have them work with a partner and read a passage three times, charting their AEIOU each time. Have them reflect on the changes in their responses when they reread.

- **Ask and Answer Questions:** There are interesting images and videos in this concept that can engage students in creating different question and answer dialogues. Using the SOS They Said What?, students can select an image or screenshot a portion of a video. Then, use speech bubbles to have students generate a question that another student will answer in a speech bubble. It works best if there are two characters in the pic, but it doesn’t have to be this way. There are examples from videos on the Resource Board.

- **Theme:** There are 6 reading passages in the Beyond section. Return to the WIN strategy from Literacy Connections Card #12. The WIN strategy is as follows:

  **What or Who:** Figure out the what or who of the passage.

  **Information:** What is the most important information about the who or what

  **Number of words:** Write the central idea using the fewest number of words possible
Save instructional time with Literacy Connection Strategies

Discovery Education Science Techbook Experience makes it easy to integrate literacy connections

Incorporate science instruction into your literacy courses or make valuable connections to literacy standards within your science classrooms. So much more than ELA Correlations, these Literacy Connections directly align the Wonders program to Science Techbook. This allows you to seamlessly incorporate Science Techbook right when it matters most, connecting by THEME, SKILL, STRATEGY, and WRITING. Whether your students are learning to read or reading to learn, Science Techbook has a solution for you!

Wonders California

UNIT 6: PAST, PRESENT AND FUTURE

CCSS ELA STANDARDS

READING: LITERATURE
RL 4.1
RL 4.2
RL 4.3
RL 4.4

READING: INFORMATIONAL
RI 4.1
RI 4.2
RI 4.3
RI 4.7
RI 4.5

WRITING
W 4.1 a, b
W 4.2 d
W 4.9 a, b
W 4.3 a, d
W 4.7
W 4.8
W 4.10
W 4.6

SPEAKING & LISTENING
SL 4.1 b-d
SL 4.2
SL 4.3

WEEKLY TOPIC

WEEK 1: OLD AND NEW
Essential Question: How do traditions connect people?
  • Strategy: Reread
  • Skill: Theme
  • Writing: Narrative

WEEK 2: NOTES FROM THE PAST
Essential Question: Why is it important to keep a record of the past?
  • Strategy: Reread
  • Skill: Theme
  • Writing: Narrative

WEEK 3: RESOURCES
Essential Question: How have our energy resources changed over the years?
  • Strategy: Ask and Answer Questions
  • Skill: Main Idea and Key Details
  • Text Features: Sidebars
  • Writing: Opinion

WEEK 4: MONEY MATTERS
Essential Question: What has been the role of money over time?
  • Ask and Answer Questions
  • Skill: Main Idea and Key Details
  • Text Features: Headings, Glossary
  • Writing: Informative

WEEK 5: FINDING MY PLACE
Essential Question: What shapes a person’s identity?
  • Reread
  • Skill: Theme
  • Writing: Opinion

LITERATURE

Read Aloud: “Reading the Sky” [Historical Fiction]
R/W Workshop: “A Surprise Reunion” [Historical Fiction]
Anthology:
  The Game of Silence [Historical Fiction]
  “Native Americans: Yesterday and Today” [Expository]

Read Aloud: “Waiting for the Battle Orders” [Historical Fiction]
R/W Workshop: “Freedom at Fort Mose” [Historical Fiction]
Anthology:
  Valley of the Moon [Historical Fiction]
  “One Nation, Many Cultures” [Expository]

Read Aloud: “Light Through the Ages” [Narrative Nonfiction]
R/W Workshop: “The Great Energy Debate” [Narrative Nonfiction]
Anthology:
  Energy Island [Narrative Nonfiction]
  “The Gift of Fire” [Prometheus]; “Water vs. Wisdom” [Poseidon and Athena] [Myths]

Read Aloud: “All About Money” [Expository]
R/W Workshop: “The History of Money” [Expository]
Anthology:
  The Big Picture of Economics [Expository]
  “The Miller’s Good Luck” [Folktales Fiction]

Read Aloud: “Papa’s Pastry Shop,” “One Day” [Poetry]
R/W Workshop: “Climbing Blue Hill,” “My Name is Ivy,” “Collage” [Poetry]
Anthology:
  “The Drum,” “Birdfoot’s Grampa,” “My Chinatown” [Poetry]
  “Growing Up,” “My People” [Poetry]
UNIT 5: SENSES AND SURVIVAL
Concept: Light and Sound

NGSS PERFORMANCE EXPECTATIONS

4-PS3-2
Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric currents.

4-LS1-1
Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.

4-LS1-2
Use a model to describe that animals receive different types of information through their senses, process the information in their brain, and respond to the information in different ways.

4-PS4-2
Develop a model to describe that light reflecting from objects and entering the eye allows objects to be seen.

Lesson Questions:
- What is light?
- What happens when light strikes matter?
- How do we see objects?

LITERATURE CONNECTIONS

Since there is a lot of content in grade 4, the pacing of Wonders and Discovery Science units does not match up evenly. Therefore, in order to provide flexibility, all of the Literature Connections for Science Unit 4 will be listed on the Literacy Connections Cards that go with the concepts.

Old and New: There are many resources in Discovery Education Experience that focus on traditions. Several of these resources are available on the Resource Board. There is also an informative writing prompt that can be assigned to students. This is a good opportunity to have students work in small teams to learn about various traditions using the Jigsaw SOS. Since the skill of theme is a focus, one of the guiding questions that students can explore is “what is the theme of [the specific tradition]?

Notes from the Past: Discovery Education Experience contains numerous resources for students on the past. There is an interesting video clip on the Resource Board entitled “Historical Events Define a Culture” which can be used to kickoff the Wonders topic. There’s also an historical events calendar in the service that allows students to know what happened on a particular day in different categories, i.e. humanities, biography, health, etc. Assign this calendar to students and have them report out on different events, determining how these historical events have contributed to our present and future.

Resources: The Light and Sound science unit aligns to the Wonders unit. If pacing works, it would be ideal to have these two topics paired together. There are also numerous reading passages in the Beyond section that can be used in small group instruction, paired with a Wonders text. Additionally, there are some interesting resources on the Resource Board that focus students on energy in the future. Since asking and answering questions is the Wonders strategy, have students work in small groups to watch the video and generate questions. Then, use the Puppet Pictures SOS to have students ask the questions in the video. Remember that most of the videos are editable, meaning that sounds can be removed. Students can use their puppet to retell portions of the video and ask questions.

Money Matters: In Discovery Education Experience there is a Channel on financial literacy. This Channel has funny video resources and accompanying lesson plans. Consider selecting a lesson from the earn, save, and spend categories. The main idea and key details skill can be incorporated into all of these topics.

Finding My Place: Allow students to create their own videos that explain who they are. Use the XO Let’s Go SOS as students read different pieces and also watch some of the video segments on the Resource Board. Have all students watch the “I am Adjectives” video and create different videos to mashup into a class video. You can use a green screen set-up for this as well and students can place themselves in an image. If you need tips on how to use a green screen, go to the Discovery Educator Network and search this topic.

HANDS-ON ACTIVITY CONNECTIONS

- HOA: Light Observations
- HOA: Reflection
- HOA: Optical Illusions

There are no direct or specific connections to the literacy skills and strategies, however, these HOAs include a great deal of writing and drawing. Using the digital resource with the point-of-use dashboard to examine different writing responses can serve as a shared and guided writing minilesson. Use the Hide the Names feature and select different responses to review as a group. Highlight different informative writing traits such as strong conclusions or sensory word choice in the writing responses. The 4Cs SOS can provide a structure for giving feedback.

LITERACY CONNECTIONS

Ask and Answer Questions: There are interesting images and videos in this concept that can engage students in creating different question and answer dialogues. Using the SOS They Said What?! students can select an image or screenshot a portion of a video. Then, use speech bubbles to have students generate a question that another student will answer in a speech bubble. It works best if there are two characters in the pic, but it doesn’t have to be this way. There are examples from videos on the Resource Board.

Main Idea and Key Details: The passages that are included in this concept can be used to have students identify the main idea and key details. In Activity 2, have students read the transcript prior to watching the video and identify the main idea and key details; have them discuss if their thinking changed after watching the video. In Activity 5, change the directions on the page and have students sketch the main idea for each paragraph. In Activity 11, have students highlight in different colors the main ideas and the key details.

Text Features - Sidebars, Headings, Glossary: One of the text features that is generally not evident in the science resources is the sidebar. However, given that there are many photos in the concepts, have students post-it notes to write a sidebar. Have them work with a partner to explore the concept and determine where the best place for a sidebar would be and why. Then, write the sidebar and attach it to the SE. Take photos of these and create an anchor chart or a collage of sidebar exemplars.

Writing - Opinion: The Can You Explain question is always a good time to bring in the Wonders opinion writing traits. However, in this concept, there is also a career focus. Have students write a piece that includes why being an optometrist would be a good career choice for them or not.
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Wonders California

UNIT 6: PAST, PRESENT AND FUTURE

CCSS ELA STANDARDS

READING: LITERATURE
RL 4.1
RL 4.2
RL 4.3
RL 4.4

READING: INFORMATIONAL
RI 4.1
RI 4.2
RI 4.3
RI 4.4
RI 4.5
RI 4.7

WRITING
W 4.1 a, b
W 4.2 d
W 4.3 a, d
W 4.4
W 4.6
W 4.7
W 4.8
W 4.9 a, b
W 4.10

SPEAKING & LISTENING
SL 4.1 b-d
SL 4.2
SL 4.3

WEEKLY TOPIC

WEEK 1: OLD AND NEW
Essential Question: How do traditions connect people?
- Strategy: Reread
- Skill: Theme
- Writing: Narrative

WEEK 2: NOTES FROM THE PAST
Essential Question: Why is it important to keep a record of the past?
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- Skill: Theme
- Writing: Narrative

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Essential Question: How have our energy resources changed over the years?
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- Writing: Opinion

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- Skill: Main Idea and Key Details
- Text Features: Headings, Glossary
- Writing: Informative

WEEK 5: FINDING MY PLACE
Essential Question: What shapes a person's identity?
- Reread
- Skill: Theme
- Writing: Opinion

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## Science Techbook Concept

### UNIT 5: SENSES AND SURVIVAL

**Concept: Communication and Information Transfer**

### NGSS PERFORMANCE EXPECTATIONS

| 4-PS3-2 | Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric currents. |
| 4-LS1-1 | Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction. |
| 4-PS4-3 | Generate and compare multiple solutions that use patterns to transfer information. |
| 4-LS1-2 | Use a model to describe that animals receive different types of information through their senses, process the information in their brain, and respond to the information in different ways. |
| 4-PS4-2 | Develop a model to describe that light reflecting from objects and entering the eye allows objects to be seen. |

### Lesson Questions:

- How do we transfer information?
- How can we communicate over long distances?
- What is the difference between an analog and digital signal?
- What are communication systems, and how do we use them?

### LITERATURE CONNECTIONS

Since there is a lot of content in grade 4, the pacing of Wonders and Discovery Science units does not match up evenly. Therefore, in order to provide flexibility, all of the Literature Connections for Science Unit 4 will be listed on the Literacy Connections Cards that go with the concepts.

### Old and New:
There are many resources in Discovery Education Experience that focus on traditions. Several of these resources are available on the Resource Board. There is also an informative writing prompt that can be assigned to students. This is a good opportunity to have students work in small teams to learn about various traditions using the Jigsaw SOS. Since the skill of theme is a focus, one of the guiding questions that students can explore is “what is the theme of [the specific tradition]?”

### Notes from the Past:
Discovery Education Experience contains numerous resources for students on the past. There is an interesting video clip on the Resource Board entitled “Historical Events Define a Culture” which can be used to kickoff the Wonders topic. There’s also an historical events calendar in the service that allows students to know what happened on a particular day in different categories, i.e. humanities, biography, health, etc. Assign this calendar to students and have them report out on different events, determining how these historical events have contributed to our present and future.

### Resources:
The Light and Sound science unit aligns to the Wonders unit. If pacing works, it would be ideal to have these two topics paired together. There are also numerous reading passages in the Beyond section that can be used in small group instruction, paired with a Wonders text. Additionally, there are some interesting resources on the Resource Board that focus students on energy in the future. Since asking and answering questions is the Wonders strategy, students work in small groups to watch the video and generate questions. Then, use the Puppet Pictures SOS to have students ask the questions in the video. Remember that most of the videos are editable, meaning that sounds can be removed. Students can use their puppet to retell portions of the video and ask questions.

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In Discovery Education Experience there is a Channel on financial literacy. This Channel has funny video resources and accompanying lesson plans. Consider selecting a lesson from the earn, save, and spend categories. The main idea and key details skill can be incorporated into all of these topics.

### Finding My Place:
Allow students to create their own videos that explain who they are. Use the XO Let’s Go SOS as students read different pieces and also watch some of the video segments on the Resource Board. Have all students watch the “I am Adjectives” video and create different videos to mashup into a class video. You can use a green screen set-up for this as well and students can place themselves in an image. If you need tips on how to use a green screen, go to the Discovery Educator Network and search the topic.

### HANDS-ON ACTIVITY CONNECTIONS

- HOA: Inventing a Code
- HOA: Going Digital

There are no direct or specific connections with these HOAs and the literacy strategies. Both of them require students to answer questions. As in Literacy Connections Card #18, consider using the digital resource with the point-of-use dashboard to examine different student writing responses.

### LITERACY CONNECTIONS

Since this is the last science concept, this is an opportunity to have students showcase some of the literacy strategies and skills they have applied throughout all the units. On the Resource Board, there is a Studio Scavenger Showcase that has been created for students to integrate some of the Wonders skills and strategies into science through digital tasks. It’s set up like a scavenger hunt. Students receive points for each of the tasks and they work on teams to complete their Studio Board. These tasks include content from this science topic. Students have to integrate the different skills and strategies into the content with some type of creation that gets loaded onto their Studio Board. The Studio Scavenger Showcase will include the following Wonders skills and strategies:

- Strategy: Ask and Answer Questions
- Strategy: Make, Confirm or Revise Predictions
- Strategy: Visualize
- Strategy: Summarize
- Skill: Main Idea and Key Details
- Writing: Opinion
- Writing: Narrative
The Discovery Education Literacy Connections Cards are designed to save teachers valuable planning time by bringing literacy into science and science into literacy. By aligning the Discovery Education Science units and concepts to the Wonders K-6 Literacy Curriculum, teachers can integrate reading and writing skills into science and also, use robust, digital content to make their literacy instruction differentiated and multimodal.

Where are the Literacy Connections Cards?
Find the cards in the digital Science Techbook under the Intro tab, among the Teacher Planning Resources.

How do you use the Literacy Connections Cards?
The Literacy Connections Cards were developed by aligning the pacing of Wonders to the pacing of the Discovery Education Science program. The left side of the card delineates the Wonders unit, standards, literature, and matching skills and standards. The right side of the card delineates the Science unit and concept that matches Wonders, according to pacing.

Each of the Literacy Connections Cards has a corresponding Studio Board that can be accessed by scanning the QR code or typing the Quick Code in the digital Techbook. The code will take teachers to all the resources that are referenced on the Literacy Connections card.

The Literature Connections
The Literature Connections identify resources from Discovery Education Experience, and, if aligned, the science content, to the Wonders literature. Many of the resources will provide minilesson, small group or centers opportunities, complete with the content as well as an instructional strategy called SOS. These resources can be utilized during the literacy block to provide multimodal experiences for students as they grow their reading, writing, speaking and listening skills.

HOA’s and Literacy Connections
The Hands-On Activity and Literacy Connections sections bring the Wonders skills and strategies into science. There are specific suggestions for not only how to integrate the teaching of reading and writing into science, but also where in the science concept these skills and strategies will have the most impact. Teachers will also find ideas on how to bring literacy into each of the science lessons using engaging SOS and other literacy activities like sentence frames or the creation of flipbooks.
UNIT 1: EUREKA! I’VE GOT IT!

CCSS ELA STANDARDS

<table>
<thead>
<tr>
<th>READING: LITERATURE</th>
<th>READING: INFORMATIONAL</th>
<th>WRITING</th>
<th>SPEAKING &amp; LISTENING</th>
</tr>
</thead>
<tbody>
<tr>
<td>RL 5.1</td>
<td>RI 5.1</td>
<td>W 5.1b</td>
<td>SL 5.1b,d</td>
</tr>
<tr>
<td>RL 5.3</td>
<td>RI 5.2</td>
<td>W 5.2a,c</td>
<td>SL 5.2</td>
</tr>
<tr>
<td>RL 5.4</td>
<td>RI 5.3</td>
<td>W 5.3b,d</td>
<td>SL 5.3</td>
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<td>W 5.9a,b</td>
<td></td>
</tr>
<tr>
<td>RL 5.10</td>
<td></td>
<td>W 5.10</td>
<td></td>
</tr>
</tbody>
</table>

LITERATURE

Read Aloud: “Finding a Way” [Realistic Fiction]
R/W Workshop: “A Fresh Idea” [Realistic Fiction]
Anthology: One Hen [Realistic Fiction]
“Banks: Their Business and Yours” [Expository Text]

Read Aloud: “Shelter in a Storm” [Realistic Fiction, Adventure]
R/W Workshop: “Whitewater Adventure” [Realistic Fiction, Adventure]
Anthology: Second Day, First Impressions [Realistic Fiction, Adventure]
“Lost in the Museum Wings” [Realistic Fiction]

Read Aloud: “Capturing the Natural World” [Narrative Fiction]
R/W Workshop: “A Life in the Woods” [Narrative Fiction]
Anthology: Camping with the President [Narrative Nonfiction]
“A Walk with Teddy” [Autobiography]

HANDS-ON ACTIVITY CONNECTIONS

HOA: Exploring Properties of Matter
HOA: Temperature Rising: In Wonders Week, 3 Cause and Effect as a skill is a focus. Consider utilizing this HOA and help students make connections to cause and effect in the physical world.
HOA: Measuring Properties

LITERACY CONNECTIONS

Reread: Here are several examples of how to connect rereading to the science content:
- On pages 17-18 of the SE, students are introduced to the concept of matter and are asked to highlight evidence to respond to a prompt. This would be an ideal time to have students read and re-read with a second focus on text structure (How is the text organized to help me learn?) and text features (How do the headings, images, etc. help me to gain deeper understanding?) and how they might support the evidence. Additionally, have students have students go back and re-read the text with a focus on the question “What facts about matter is the author sharing?”
- In the Learn section, students are introduced to the properties of matter. After an initial read, have students re-read the text and develop a brainstorm or running list of properties of matter focused on the question “How can we use the qualities of matter to describe it?”
- On pages 28-29 of the SE, students are introduced to the concept of Properties of Matter and are asked to circle properties not measured in Activity 9.

Have students read and re-read with a second focus on text structure (How is the text organized to help me learn?) and text features (How do the headings, images, etc. help me to gain deeper understanding?) and how they might support their responses. The STEM in ACTION (and p. 43-45 in the SE) asks students to read about Careers and Measuring Matter. After students have read the text, ask them to re-read and utilize similar markings of the text strategies from earlier in the unit (circle, underline, question marks, etc.) For example: students circle key vocabulary words, underline words they are unfamiliar with, star important concepts or ideas, and place question marks where they are confused.

Ask and Answer Questions: There are several opportunities for students to ask and answer questions in science.
- SE, page 5 asks students to ask and answer questions about the problem for the Unit. Students will then return to those questions to answer them as they investigate throughout the unit.
- SE, page 11 (Activity 2) asks students to Ask Questions Like Scientists.

Consider using the SOS Strategy “The Question Is…” where the teacher provides an answer and students develop as many questions as they can to support the answer provided.
Reading: Literature

LITERATURE

Read Aloud: “A Pioneer of Photography” [Biography]
R/W Workshop: “Fantasy Becomes Fact” [Biography]
Anthology: The Boy Who Invented TV [Biography]
“Time to Invent” [Realistic Fiction]

Read Aloud: Electronic Books: A New Way to Read [Persuasive Article]
R/W Workshop: Are Electronic Devices Good for Us? [Persuasive Article]
Anthology: The Future of Transportation [Persuasive Article]
Getting from Here to There [Technical Text]

WEEKLY TOPIC

WEEK 4: INVENTIONS
Essential Question: How does technology lead to creative ideas?
- Strategy: Ask and Answer Questions
- Skill: Text Structure: Sequence
- Text Features: Illustrations and Photographs
- Writing: Informative Text

WEEK 5: NEW TECHNOLOGY
Essential Question: What are the positive and negative effects of new technology?
- Strategy: Reread
- Skill: Author’s Point of View
- Text Features: Headings and Graphs
- Writing: Opinion

WEEK 6: REVIEW AND ASSESS

HANDS-ON ACTIVITY CONNECTIONS

Each of the HOAs can be used to teach the sequence text structure. Use several examples of sequential texts that students write to answer the question “How will you investigate the question” on the editable activity sheet of each HOA as mentor texts. Display several students’ example of this question and revise together as a class, incorporating different elements of a sequential text structure: order, steps, signal words, etc.

LITERACY CONNECTIONS

Ask and Answer Questions: During the Wonder section, students are asked what they already know about the states of matter. This might be a good opportunity to do a more formal K-W-L (What do I know? What do I want to know? What have I learned?) to extend student thinking. This would support the literacy skill of asking and answering questions. Additionally, there is a connection to the skill of “Cause and Effect.” Ask students to share what causes matter to change its form and what the effect of various factors lead to those changes.

Reread: During Learn, this would be an ideal time to have students read and reread with a second focus on text Structure (How is the text organized to help me learn?) and text features (How do the headings, images, etc. help me to gain deeper understanding?) and how they might support their responses.

This is especially helpful to focus on during the “How are Different Mixtures Formed” section where students can utilize illustrations and photographs as a part of the text to deepen their understanding. This aligns to SE pages 63-65.

Use the additional reading “No Loss, No Gain” from the Beyond section to have students practice rereading. This text is written at a lower grade level and will allow students to practice the rereading strategy with confidence. Teach students to Pause-Think-Reread to practice rereading: Pause after each paragraph. Think about the key idea and details. Reread what you read in order to see how much you understood. If there is no or little recall, then reread.

Opinion Writing: The STEM in Action section focuses on a career as a chef. Use shared writing instruction to generate three ideas on why a career as a chef is an interesting one. Use one of the ideas to write one paragraph together and model what a good opinion paragraph should look and sound like.
UNIT 2: TAKING THE NEXT STEPS

CCSS ELA STANDARDS

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UNIT 1: WHAT IS MATTER MADE OF?

Concept: A Model of Matter

5-PS1-1
Develop a model to describe that matter is made of particles too small to be seen.

Lesson Questions:
- How can we model the particles that make up matter?
- How can we describe the size of the particles that make up matter?
- How does temperature affect the particles that make up matter?
- What is the relationship between changing states and particle motion?
- How can the particle model of matter explain everyday phenomena?

LITERATURE CONNECTIONS

- **Wonders California Science Techbook Concept**
  - **CCSS ELA STANDARDS**
    - RI 5.9
    - RI 5.8
    - RI 5.7
    - RI 5.6
    - RI 5.5
    - RI 5.4
    - RI 5.3
    - RI 5.2
    - RI 5.1
  - **LITERATURE**
    - **Read Aloud:** The Mayflower Compact [Expository Text]
    - **R/W Workshop:** “Creating a Nation” [Expository Text]
    - **Anthology**
      - Who Wrote the U.S. Constitution? [Expository Text]
      - “Parchment and Ink” [Expository Text]
    - **Read Aloud:** Jack and the King’s Rainbow Fish [Fairy Tale]
    - **R/W Workshop:** “A Modern Cinderella” [Fairy Tale]
    - **Anthology**
      - Where the Mountain Meets the Moon [Fairy Tale]
      - “The Princess and the Pea” [Fairy Tale]
    - **Read Aloud:** Thomas Moran, Landscape Painter [Biography]
    - **R/W Workshop:** “Growing in Place: The Story of E. Lucy Braun” [Biography]
    - **Anthology**
      - The Boy Who Drew Birds [Biography]
      - “Daedalus and Icarus” [Myth]
    - **Read Aloud:** “Lost Lake and the Golden Cup” [Folk Tale]
    - **R/W Workshop:** “The Magical Lost Brocade” [Folk Tale]
    - **Anthology**
      - Blancaflor [Folk Tale]
      - “From Tale to Table” [Expository Text]

WEEKLY TOPIC

WEEK 2: SEEKING THE ANSWER

Essential Question: What can you do to get the information you need?
- **Strategy:** Make, Confirm, and Revise Predictions
- **Skill:** Character, Setting, Plot: Compare and Contrast Events
- **Writing:** Narrative

WEEK 3: INVESTIGATIONS

Essential Question: How do we investigate questions about nature?
- **Strategy:** Reread
- **Skill:** Text Structure: Sequence
- **Text Features:** Illustrations and Photographs
- **Writing:** Informative

WEEK 4: A PLAN OF ACTION

Essential Question: When has a plan helped you accomplish a task?
- **Strategy:** Make, Confirm, and Revise Predictions
- **Skill:** Theme
- **Writing:** Narrative

HANDS-ON ACTIVITY CONNECTIONS

- **HOA:** Modeling the Water Cycle
- **HOA:** Thermal Energy Transfer
- **HOA:** Modeling Atoms
- **HOA:** Modeling States of Matter

The Hands-On Activity: Thermal Energy Transfer can be used to highlight Making, Confirming, and Revising Predictions which aligns to weeks 2 and 3 of Wonders.

Additionally, the other Hands-On Activities can be utilized to highlight one of the ways in which scientists conduct investigations through the creation and testing of models. This aligns to week 3 of Wonders.

LITERACY CONNECTIONS

- **HOA:** Modeling the Water Cycle
- **HOA:** Thermal Energy Transfer
- **HOA:** Modeling Atoms
- **HOA:** Modeling States of Matter

**Reread:** The digital Beyond section reading passages, “Atoms and Molecules” and “Building Blocks,” both of which are below grade level, can be utilized to offer students multiple reads to deepen understanding. First reads can focus on text features such as headings, vocabulary, and interpreting images. Rereads can focus on specific details or misconceptions students might have about such topics.

Practice this strategy with these passages and be sure to have students reflect on their rereading.

- **Make, Confirm, and Revise Predictions:** Activity 2 (Ask Questions Like a Scientist) is an ideal time to help students make connections from predictions in literature to predictions in the scientific world. The activities that follow (Observe Like a Scientist and Evaluate Like a Scientist) draw parallels to the strategy of Making, Confirming, and Revising Predictions. Throughout Learn, students can make predictions, apply them, confirm them, and then revise them through the science pathway of Observe Like a Scientist, Analyze Like a Scientist, and Evaluate Like a Scientist.

**Text Structure - Sequence, Problem and Solution:** There are several videos in the Wonder section that cover how to sequence, “Atoms and Molecules” and “Building Blocks,” both of which are below grade level, can be utilized to offer students multiple reads to deepen understanding. First reads can focus on text features such as headings, vocabulary, and interpreting images. Rereads can focus on specific details or misconceptions students might have about such topics.

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Practice this strategy with these passages and be sure to have students reflect on their rereading.
UNIT 2: FROM MATTER TO ORGANISMS
Concept: Plant Needs

NGSS PERFORMANCE EXPECTATIONS

5-LS1-1
Support an argument that plants get the materials they need for growth chiefly from air and water.

Lesson Questions:
• How does a plant get the materials it needs to survive and grow?
• How does a plant use materials from air and water to grow?

LITERATURE CONNECTIONS

There are several resources in Discovery Education Experience that align to setting goals, week 5 Wonders content. These resources can be used as centers or small group activities with a focus on summarizing the content. Use the SOS Tabletop Texting and Tweet, Tweet as ways to have students practice summarization. Two Studio Boards with the video content and the two SOS are available to be assigned to students. Consider also copying the Studio Boards and adding the other videos.

There is also a Virtual Field Trip focused on “All About Your Happy.” It’s a good way to integrate social-emotional learning into the topic of goal setting.

There are also a number of resources to support the cultures content. There is a culture Channel; these resources can be paired with the texts, particularly since the texts are mostly realistic fiction. Use the Get Venn-y With It SOS to have students compare and contrast what they learn in the texts and in the video. This SOS will also connect with some of the Venn Diagrams that students will complete in the print SE, i.e. page 14.

HANDS-ON ACTIVITY CONNECTIONS

All three of these HOAs will require students to summarize using the claim-evidence-reasoning format. Be sure to bring the Wonders summarization teaching points into their scientific writing. For example, on pages 25 and 32 of the print SE, students will need to use summarization to answer the questions. In many of these responses, teach students to use the “first, then, finally” structure to answer.

LITERACY CONNECTIONS

Summarization: During the Wonder section, Activity 3: Plant Needs or Activity 4: Water in the Desert, have students summarize their findings after completing the graphic organizer. In some of the activities, summarization is already incorporated. In the print SE, pages 27-28, students will use summary frames.

The reading passages in the Beyond section can provide additional practice of summarization, particularly since two of the passages are below grade level. It is easier for students to practice a strategy with below grade level informational texts before applying the strategy to on-grade level text. Use the passage “The Oldest Living Tree on Earth” and “Could Plants Grow on the Moon?” to practice the strategy. Then, use “Water Flows Up” as an assessment since it is grade level text. There is also a summarizing Channel with several strategies to use with these passages. Three effective strategies that students haven’t used through the Literacy Connections Cards include: Fakebook [this would bring in narrative writing skills]; Let’s Roll [use summary starters – see Resource Board]; That Sums It Up.

Reread: Since rereading has been a focus of a previous unit [Literacy Card 2 and 3], it is not new to students. Therefore, give them 4-5 post-it notes that they keep on their desk. As they reread something in their print, SE, have them tab the page and write on the post-it note why they reread. At the end of each week, have students share their reasons for rereading. For additional practice, use the three Beyond passages. In addition, several of the texts in the print SE, pages 26, 36 and 43-44 could be used as well.

Narrative Writing: With the Investigations found in the Learn section, students could transfer their narrative writing skills into a perspective of the sun, rain, and/or the plant themselves, telling the story of how each of those elements impact the growth of the plant. The Magic School Bus Gets Planted could serve as a narrative writing starter.
UNIT 3: GETTING FROM HERE TO THERE

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UNIT 2: FROM MATTER TO ORGANISMS

NGSS PERFORMANCE EXPECTATIONS

5-LS2-1
Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.

Lesson Questions:
• How do food webs show the relationships between organisms?
• Why are decomposers important in an ecosystem?
• How do living things depend on nonliving things to survive in an ecosystem?

LITERATURE CONNECTIONS

There are several videos that can align to the literature from each of the three Wonders unit concepts. These videos are on the Resource Board. The videos below are from the nonfiction genre:
• Breaking Trail - Hummingbird
• Shapes and Patterns
• Mission Possible: Women of the Hubble Space Telescope
• How Oil Spills Affect Birds

Consider using the SOS Strategy “Visual Walkabout.” Students explore a gallery walk of images around the classroom and develop questions about each of the images. This can be used as a preview of upcoming topics or as a way to develop deeper student led inquiries on the topics.

HANDS-ON ACTIVITY CONNECTIONS

All of the HOAs in this concept align to the strategies in Wonders. Additionally, all of these HOAs have direct applications to students’ lives and can provide the opportunity to have them make connections. Use a modified SOS Connect the Dots to have students make connections to their lives as well as to each HOA. In this process, students can also summarize their findings, connecting to the Wonders strategy. Students can bring their personal touch into designing their connect the dots graphic.

LITERACY CONNECTIONS

Ask and Answer Questions: In Wonder, Activity 2 and Activity 3, during the “Analyze Like a Scientist” segment, students will ask and answer questions. Make connections between reading and science.

Main Ideas and Key Details: Using the “Food is Energy” Activity, have students read and identify both Main Ideas and Key Details. There are also several passages in the Beyond section. Use an SOS Conga Line strategy. Have students identify main ideas and details in a passage. Share their thinking with the person across from them. After sharing, move a few students in the line and share again. After sharing multiple times, share as a whole group.

Text Features - Diagrams: In the activities “Food Chain” (SE p 75) and “Comparing Needs” (SE p 92-3) students use diagrams. In the Food Chain Activity students will explore a diagram of the food chain. In the Comparing Needs Activity, students will complete a Venn Diagram. Be sure to discuss these types of diagrams with students and how to read them.

Text Features - Photographs and Captions: Use the following activities to have students analyze photos and captions: Activity 2, 3, 4, 7, 10, 15. Have students use a photo analysis process with the following questions:
#1: Ask students to look deeply at the picture for a good long time. Have them observe shapes, colors, textures, the position of people and/or objects, etc.
#2: Have students write down what they see without making any interpretation about what the picture is trying to say.
#3: Ask students: What questions do you have about this picture that you would need to have answered before you can begin to interpret it? What information does the caption provide? Ask as many questions as you have.
#4: Have students discuss their questions with two other students in the class to try to find some answers.
#5: Have students discuss their interpretations with the class and have them support their views by referring to specific elements of the image and what they know about the context of the image.

Writing - Opinion: In Activity 22 “Analyze Like a Scientist” (SE 98-101), students gather information about backyard habitats and designing solutions. As an extension to this activity, have students develop an opinion writing piece convincing teachers, principals, school board, etc. to engage in designing habitats around the school based on their new learning.
**Science Techbook Concept**

**UNIT 2: WHAT IS MATTER TO ORGANISMS**

Concept: Matter is Matter in Ecosystems

**NGSS PERFORMANCE EXPECTATIONS**

5-PS3-1

Use models to describe that energy in animals’ food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun.

**Lesson Questions:**

- How does energy from the sun flow through an ecosystem?
- How do animals obtain the energy they need for body repair, growth, motion, and to maintain body warmth?

**LITERATURE CONNECTIONS**

There are several videos and resources that align to the literature from each of the three Wonders unit concepts.

- Stonehenge video resources
- Five: Machu Picchu
- Folktales: Paul Bunyan (while this is a different folk tale from John Henry, it will provide another opportunity to explore the purposes of folktales in United States history.)

Consider using the SOS Strategy 25 Things You Didn’t Know. This strategy asks students to filter out and identify new information from various media resources and share the information in order to create a collaborative list of facts. This strategy also aligns to having students use summarization.

**HANDS-ON ACTIVITY CONNECTIONS**

- HOA: Energy Flow
- HOA: Modeling the Flow of Energy and Matter in an Ecosystem

An informational summary can be integrated into both of these HOAs. Use the Wonders writing focus on sentence fluency through transitions to have students include words like first, then, next in their summary.

**LITERACY CONNECTIONS**

**Summarize:** The SOS 25 Things You Didn’t Know referenced in the Literature Connections section is an engaging way to activate summarization strategies for students. There are also several passages in the Beyond section that can be used for summarization.

**Text Feature - Diagrams:** In Activity 3, What Do You Already Know About Energy, students will engage with diagrams and food webs. In Activity 6, students will read a diagram in the context of forms of energy. Since students will need to create a diagram in the Unit Project, you may also want to have them create a diagram in this concept, particularly since they are focusing on it in Wonders. There is also a video segment on the importance of using diagrams on the Resource Board.

**Visualization:** This is the first time that visualization is introduced in Wonders in grade 5. It’s important to connect this strategy to science and how it can help students understand science content. Explain that sometimes visualization in science is more difficult because of vocabulary. Therefore, readers may need a different type of visualization strategy. Introduce students to the SOS Concept Circles. Use this SOS with the videos or the reading passages.

**Point of View:** Use one of the short video clips in the Beyond section to create a Mash-Up. In a Mash-Up, students mash up a writing piece with a video. Have students watch one of the video clips, write a short informative piece from the point of view of one of the items in the video. For example, on the Living Things video clip, students might write a short piece about living things from the alligator’s point of view. Once the piece is written, students record themselves reading it. Then, it gets edited into the video clip at a point that makes sense to the student.

**Informative Writing:** There are many opportunities and connections to informative writing in this concept. Have students write an informative writing piece explaining food chains, and food webs, and or energy flow in a particular ecosystem, and/or series of ecosystems. These pieces can be shared on a Studio Board, so students can view others’ pieces on the topic.

---

**LITERATURE**

**Read Aloud:**

- “Stonehenge: Puzzle from the Past” [Persuasive Article]
- “What Was the Purpose of the Inca’s Strange Strings?” [Persuasive Article]
- Machu Picchu: Ancient City [Persuasive Article]
- “Dig This Technology!” [Expository Text]
- Anthology: Machu Picchu
- “How Mighty Kate Stopped the Train” [Tall Tale]
- “The Legend of John Henry” [Tall Tale]
- “What Was the Purpose of the Inca’s Strange Strings?” [Persuasive Article]
- “Stonehenge: Puzzle from the Past” [Persuasive Article]

**ANTHROPOLOGY**

- Machu Picchu: Ancient City [Persuasive Article]
- “Dig This Technology!” [Expository Text]

**WEEKLY TOPIC**

**WEEK 2: INTO THE PAST**

Essential Question: How do we explain what happened in the past?

- Strategy: Summarize
- Skill: Author’s Point of View
- Text Feature: Diagram
- Writing: Informative

**WEEK 6: REVIEW AND ASSESS**

**WEEK 1: SHARING STORIES**

Essential Question: What kinds of stories do we tell? Why do we tell them?

- Strategy: Visualize
- Skill: Point of View
- Writing: Narrative
UNIT 4: IT’S UP TO YOU

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LITERATURE

Read Aloud: “The Mystery Riddle” [Mystery Play]
R/W Workshop:
“Where’s Brownie?” [Drama]
Anthology:
A Window Into History: The Mystery of the Cellar Window [Drama]
“A Second Chance for Chip: The Case of the Curious Canine” [Realistic Fiction]

Read Aloud: “Fighting for Change” [Biography]
R/W Workshop:
“Frederick Douglass: Freedom’s Voice” [Biography]
Anthology:
Rosa [Biography]
“Our Voices, Our Votes” [Expository Text]

Read Aloud: “Minerals” [Expository Text]
R/W Workshop:
“Power from Nature” [Expository Text]
Anthology:
One Well [Expository Text]
“The Dirt on Dirt” [Expository Text]

WEEKLY TOPIC

WEEK 2: DISCOVERIES

Essential Question: What can you discover when you give things a second look?
- Strategy: Visualize
- Skill: Point of View
- Writing: Narrative

WEEK 3: TAKE ACTION

Essential Question: What can people do to bring about a positive change?
- Strategy: Summarize
- Skill: Author’s Point of View
- Text Feature: Photographs, Captions
- Writing: Informative

WEEK 4: CONSIDER OUR RESOURCES

Essential Question: Why are natural resources valuable?
- Strategy: Summarize
- Skill: Author’s Point of View
- Text Feature: Chart
- Writing: Opinion

Science Techbook Concept

UNIT 3: INTERACTING EARTH SYSTEMS

Concept: Hydrosphere and Biosphere

NGSS PERFORMANCE EXPECTATIONS

5-ESS2.1
Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.

Lesson Questions:
- How do Earth’s biosphere and hydrosphere interact with each other?
- How do water ecosystems exemplify interactions between the biosphere and hydrosphere?

LITERATURE CONNECTIONS

There are several videos that can align to the literature from each of the three Wonders unit concepts. The videos below can support developing additional background knowledge. Additionally, there are numerous photographs on the Resource Board to engage your students in writing captions or writing narratives based on the photos.

HANDS-ON ACTIVITY CONNECTIONS

- HOA: What’s in our Schoolyard?
- HOA: Developing Wetlands

Both of these HOAs provide the opportunity to integrate the text features of photos and captions into the scientific investigations. Have students take photos of what’s in the schoolyard, then write informative captions for their photos. Since the HOAs are editable, the HOA on the Resource Board has this text feature component integrated into the activity to provide an example.

LITERACY CONNECTIONS

Visualize: Visualization was introduced on Literacy Connection Card #6 with the following suggestion: Explain that sometimes visualization in science is more difficult because of vocabulary. Therefore, readers may need a different type of visualization strategy. Introduce students to the SOS Concept Circles. Use this SOS with the videos or the reading passages. Continue this SOS with this concept.

Summarize: Return to the Let’s Roll SOS from Literacy Connection Card #4. Some of the summary sentence starters on the Resource Board are the same from the previous Let’s Roll SOS, however, numbers 4, 5 and 6 are different. Introduce these starters to students and discuss why they are good summary sentence starters. In Activity 7, students will read about the Earth’s Systems. Consider having students summarize the reading with the SOS summary sentence starters using the variety of academic vocabulary highlighted in the text.

Text Feature - Chart: Students use and create charts in the HOAs for this concept. Be sure to talk about how to read the different types of charts they create. They also make a chart in Activity 8, 10, and 13. As students create these charts, have them reflect on how they should read them.

Writing - Narrative: Have students write a first-person narrative from the perspective of a raindrop interacting with the hydrosphere and biosphere. A first-person perspective could also reinforce the Skill: Point of View. Students should be encouraged to utilize academic vocabulary throughout their narrative.

Writing - Opinion: Students can use the piece in the Beyond section entitled “Water Resources” to research the topics of conservation and pollution. There are several resources in Discovery Education Experience that students can use. Have them generate a question about conversation or pollution and write a short opinion piece. Use the PaperSlide SOS to have students share their research.
**UNIT 3: INTERACTING EARTH SYSTEMS**

**Concept:** Water as a Valuable Natural Resource

### NGSS PERFORMANCE EXPECTATIONS

- 5-ESS2-2
  - Describe and graph the amounts and percentages of water and fresh water in various reservoirs to provide evidence about the distribution of water on Earth.

### LESSON QUESTIONS:

- How is Earth’s water distributed?
- Why is freshwater important and where do humans get it?
- Why is it important to conserve freshwater?

### LITERATURE CONNECTIONS

**Read Aloud:** “I’m a Swimmer” [Free Verse Poem]

**R/W Workshop:**
- “How Do I Hold the Summer?” “Catching a Fly,” When I Dance” [Poetry]

**Anthology**
- Words Free as Confetti, Dreams [Poetry]
- “A Story of How a Wall Stands” [Poetry]

**Read Aloud:** “A Change of Heart” [Realistic Fiction]

**R/W Workshop:**
- “Miguel in the Middle” [Realistic Fiction]

**Anthology**
- Ida B., and Her Plans to Maximize Fun, Avoid Disaster… [Realistic Fiction]
- “A Dusty Ride” [Realistic Fiction]

### WEEKLY TOPIC

**WEEK 5: EXPRESS YOURSELF**

**Essential Question:** How do you express that something is important to you?

- Strategy: Visualize
- Skill: Theme
- Writing: Opinion

**WEEK 6: REVIEW AND ASSESS**

**WEEK 1: NEW PERSPECTIVES**

**Essential Question:** What experiences can change the way you see yourself and the world around you?

- Strategy: Make, Confirm, and Revise Predictions
- Skill - Character, Setting, Plot: Compare and Contrast Characters
- Writing: Opinion

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**CCSS ELA STANDARDS**

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UNIT 5: NEW PERSPECTIVES

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LITERATURE

Read Aloud: “Starting Over” [Historical Fiction]
R/W Workshop: “The Day the Rollets Got Their Moxie Back” [Historical Fiction]
Anthology: Bud, Not Buddy [Historical Fiction]
“Musical Impressions of the Great Depression” [Historical Fiction]

Read Aloud: “Changing Climate, Changing Lives” [Expository Text]
R/W Workshop: “Forests of Fire” [Expository Text]
Anthology: Global Warming [Expository Text]
“When Volcanoes Erupt” [Expository Text]

Read Aloud: “The Sun: Our Star” [Expository Nonfiction]
R/W Workshop: “Changing Views of Earth” [Expository Text]
Anthology: When Is a Planet Not a Planet? [Expository Text]
“New Moon” [Science Fiction]

WEEKLY TOPIC

WEEK 2: BETTER TOGETHER

Essential Question: How do shared experiences help people adapt to change?
- Strategy: Make, Confirm, and Revise Predictions
- Skill - Character, Setting, Plot: Compare and Contrast Characters
- Writing: Narrative

WEEK 3: OUR CHANGING EARTH

Essential Question: What changes in the environment affect living things?
- Strategy: Ask and Answer Questions
- Skill - Text Structure: Compare and Contrast
- Text Features: Photographs, Graphs
- Writing: Informative

WEEK 4: NOW WE KNOW

Essential Question: How can scientific knowledge change over time?
- Strategy: Ask and Answer Questions
- Skill - Text Structure: Cause and Effect
- Text Features: Diagrams
- Writing: Informative

LITERACY CONNECTIONS

Make, Confirm, and Revise Predictions: There are several video and reading passages throughout this concept. The 3-2-1 pyramid strategy from the Literature Connections above can also be used with the resources in this concept. The Studio Board is on the Resource Board.

Ask and Answer Questions: Students ask and answer questions often during this concept as part of the science investigation process and alignment to the Science and Engineering Practices. Beginning with Activity 2 (SE 74-75), students will generate their own questions and predict outcomes about the disposal of common household items after use. In Activity 13, students need to generate questions and predict outcomes as they consider how to protect the Earth’s resources. Use these opportunities to connect literacy practices and science practices.

Skill - Text Structure: Compare and Contrast/Cause and Effect: The reading passages in this concept and in the Beyond section can be analyzed to determine if they are compare and contrast or cause and effect text structures. Have students work in small teams to read and analyze the texts, creating anchor charts to show examples.

Text Features - Photographs, Graphs, Diagrams: Photographs, graphs and diagrams are utilized throughout this concept. Use the Collage SOS to have students collect these text features, curate them and design a collage that provides information on how to use and read these types of text features.

Writing - Informative: As a culminating assessment, have students develop an informative writing piece highlighting the local efforts to protect the Earth’s resources as well as highlighting other ways everyone could do his/her part. Consider having students use their writing piece to create an SOS Pechakucha.
CALIFORNIA SCIENCE TECHBOOK: LITERACY CARDS - GRADE 5 CARD 10

CCSS ELA STANDARDS

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LITERATURE

Read Aloud: “Dams: Harnessing the Power of Water” [Persuasive Article]
R/W Workshop: “Should Plants and Animals from Other Places Live Here?” [Persuasive Article]
Anthology: The Case of the Missing Bees [Persuasive Article]
“Busy, Beneficial Bees” [Expository Text]

Read Aloud: “Hope for the Troops” [Historical Fiction]
R/W Workshop: “Shipped Out” [Historical Fiction]
Anthology: The Unbreakable Code [Historical Fiction]
“Allies in Action” [Expository Text]

WEEKLY TOPIC

WEEK 5: SCIENTIFIC VIEWPOINTS

Essential Question: How do natural events and human activities affect the environment?
- Strategy: Ask and Answer Questions
- Skill: Author’s Point of View
- Text Features: Chart Headings
- Writing: Opinion

WEEK 6: REVIEW AND ASSESS

WEEK 1: NEW PERSPECTIVES

Essential Question: How do different groups contribute to a cause?
- Strategy: Summarize
- Skill: Theme
- Writing: Narrative

WEEK 4: PATTERNS IN THE NIGHT SKY

Concept: Effects of Gravity

NGSS PERFORMANCE EXPECTATIONS

5-PS2-1
Support an argument that the gravitational force exerted by Earth on objects is directed down.

3-5-ETS1-1
Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.

3-5-ETS1-2
Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.

Lesson Questions:
- What types of forces are there?
- How does gravity affect things on or near Earth?
- What are some examples of gravity at work?

LITERATURE CONNECTIONS

There are several videos that can align to the literature from each of the three Wonders unit concepts. The videos below can support developing additional background knowledge:
- Dams
- Hydroelectric
- The Bees (The Fixies)
- Who Took the Bees?

There is also a new Virtual Field Trip that focuses on Social-Emotional Learning. The week 1 Wonders content on New Perspectives is a good time to bring this type of content into the classroom in a meaningful way. Integrate the summarize strategy and the narrative writing component from Wonders into this video series. Have students write summaries of the video segment and then, turn the summary into a narrative about the topic. This is an opportunity to have students bring different types of writing into one piece.

HANDS-ON ACTIVITY CONNECTIONS

- HOA: What Does Down Mean?
- HOA: Universal Gravity

Both of these HOAs use the ask and answer question strategy throughout the investigation. A reflection question on this strategy: “How did you use the ask and answer questions strategy in this investigation? How did it help you with this activity?” was added to the editable activity. This activity sheet is on the Resource Board.

LITERACY CONNECTIONS

Ask and Answer Questions: The ask and answer questions strategy was integrated into the hands-on activities. Students will also use this strategy with Activity 15 (SE 36-37) and Activity 18 (SE 41-45). Since there are numerous questions throughout this concept, one way to make the ask-answer question activity different is to use the SOS Paper Chat.

Author’s Point of View: The “Down With Gravity” reading passage in the Beyond section is written from the point of view of Newton’s apple. This is different from author’s point of view. Have students compare and contrast this piece with the “Stephen Hawking” piece. Use these questions to have students analyze the pieces:
1. What does the author think is most important?
2. How does the author feel about…….?  
3. What sentence from the passage best supports the author’s point of view?
4. Which point of view is the most effective? Why?

There are also two author’s point of view assignments on the Resource Board that could serve as a center, small group activity or additional practice for students.

Text Features - Chart Headings: Activities 10 and 12 use a T-Chart. Have students analyze the headings. Are they effective? Why or why not?

Summarize: In Activity 3 (SE 12), students can summarize the text on Forces. Also, during Activity 12, Pull and Gravity Around Us (SE 29-30), students can practice developing summaries from video. In Activity 14, students will complete a main idea web to summarize their learning. Activity 15 (SE 36-37) also has appropriate readings for students to summarize. During Share Activity 20 (SE 48-51), students obtain information about Sir Isaac Newton and his work, and then summarize their reading. Use the SOS Six Word Story as a way to help students develop a concise summary.

Writing - Opinion: In Activity 17, students will develop an argument to support an opinion about Earth’s gravitational forces. Incorporate the Wonders writing trait focus on writing strong conclusions into this piece.
Wonders California

UNIT 6: LINKED IN

NGSS PERFORMANCE EXPECTATIONS

5-ESS1-2
Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky.

Lesson Questions:
- How does Earth's rotation affect the cycle of day and night?
- How does Earth's rotation affect the way we view the planets, the sun, and the stars around us?
- How does the change in the direction and length of a shadow provide evidence for Earth's rotation?
- Why are different constellations visible at different seasons of the year?

UNIT 4: PATTERNS IN THE NIGHT SKY
Concept: Patterns of Motion in the Sky

LITERATURE CONNECTIONS

There are several videos that can align to the literature from each of the three Wonders unit concepts. The videos on the Resource Board can support developing additional background knowledge. In addition, there are several anti-bullying series that can be used along with the Wonders texts. Use the ABC Summary SOS to have students summarize what they learned from these videos.

The same SOS strategy can be used with the Bacteria and Decomposer resources. There is also a DE Animation on both bacteria and evergreens. Students can write and record the text for the animations, tapping into their informative writing skills and knowledge.

HANDS-ON ACTIVITY CONNECTIONS

- HOA: What Can Shadows Tell Us?
- HOA: When Does the Sun Rise or Set?
- HOA: Shedding Light on Sundials

The Shadows HOA in Activity 10 uses a number of reading strategies and text features. Have students identify them with post-it notes, labeling how they use them in science. The Sundials HOA also provides opportunities for asking and answering questions, summarizing and also cause and effect.

LITERACY CONNECTIONS

Summarize: The ABC Summary SOS identified in the Literature Connections above will help students summarize passages that they read or videos that they watch.

- Writing - Opinion: Use Discovery Education Experience to have students research a constellation and present their opinion on which constellation is the best. Students can create a powerpoint presentation and share in small groups, utilizing students’ speaking and listening skills.

- Ask and Answer Questions: During Wonder Activity 2 (SE 58-59), students view a video and then ask questions that will inform their investigation. This investigation will also support an understanding of cause and effect.

- Text Structure - Cause and Effect and Problem and Solution: There are several texts and videos in this section that use a cause and effect or problem and solution structure. Have students work in teams to highlight each of these structures in different colors, i.e. cause is pink, effect is green… Just a reminder that the videos have transcripts that students could cut, paste and analyze. For example, the video in Beyond entitled “Planetary Rotation and Revolution” has a transcript and could be copied and pasted. There are numerous cause and effect sentences in this segment. Then, have students reflect on the structures and how they support science writing.

- Text Features - Maps: Use the song “How to Read a Map” to have students become familiar with map legends and reading strategies and provide guided practice in reading maps.

- Text Feature - Illustrations: Share the illustrations on the Resource Board with students. Have them read the illustrations. Use an SOS like Paper Chat to gather different ideas from students.

- Writing - Informative: The Wonders informative writing trait focus in this unit is sentence fluency, specifically, varying the sentence structure.
UNIT 6: LINKED IN

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LITERATURE

Read Aloud: “Science Makes a Difference!” [Biography]
R/W Workshop:
“Words to Save the World: The Work of Rachel Carson” [Biography]
Anthology
Planting the Trees of Kenya [Biography]
“The Park Project” [Expository Text]

Read Aloud: “The Beat” [Poem]
R/W Workshop:
“To Travel,” “Wild Blossoms” [Poetry]
Anthology
You Are My Music, You and I [Poetry]
“A Time to Talk” [Poetry]

WEEKLY TOPIC

WEEK 4: MAKING A DIFFERENCE
[con’t from Literacy Connections Card #11]
Essential Question: What impact do our actions have on our world?
• Strategy: Ask and Answer Questions
• Skill - Text Structure: Problem and Solution
• Text Feature: Illustrations
• Writing: Opinion

WEEK 5: OUT IN THE WORLD
Essential Question: What can our connections to the world teach us?
• Strategy: Visualize
• Skill: Point of View
• Text Feature: Illustrations
• Writing: Narrative

WEEK 6: REVIEW AND ASSESS

UNIT 4: PATTERNS IN THE NIGHT SKY
Concept: Sun and Star Brightness

NGSS PERFORMANCE EXPECTATIONS

3-5-ETS1-1
Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.

5-ESS1-1
Support an argument that differences in the apparent brightness of the sun compared to other stars is due to their relative distances from Earth.

3-5-ETS1-2
Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.

Lesson Questions:
• What are stars, and how do we study them?
• Why does the sun appear larger and brighter than other stars?

LITERATURE CONNECTIONS

Some of the resources for the Week 4 Wonders literature is a repeat from Literature Connections Card #11. However, some of the Rachel Carson reading passages are different. There is also a Virtual Field Trip on Girls and STEM that focuses on how the work of a scientist can also support good citizenship. There is a lesson designed specifically for grade 4-5 students. All of these resources are on the Resource Board.

All of the week 5 literature is poetry. This is a good opportunity to bring in nonfiction and informational texts to pair with the poetry, aligning to the essential question “What can our connections to the world teach us?” Use the resources in the News and Events Channel. Have each student review a news piece and make a connection to the essential question. Have students use their speaking and listening skills to present this information to the class.

HANDS-ON ACTIVITY CONNECTIONS

• HOA: Brightness and Distance of Stars
In this HOA, students will make, confirm and revise predictions, and also ask and answer questions.

LITERACY CONNECTIONS

Since this is the last science concept, this is an opportunity to have students showcase some of the literacy strategies and skills they have applied throughout all the units. On the Resource Board, there is a Studio Scavenger Showcase that has been created for students to integrate some of the Wonders skills and strategies into science through digital tasks. It’s set up like a scavenger hunt. Students receive points for each of the tasks and they work on teams to complete their Studio Board. These tasks include content from this science topic. Students have to integrate the different skills and strategies into the content with some type of creation that gets loaded onto their Studio Board. The Studio Scavenger Showcase will include the following Wonders skills and strategies:
• Strategy: Ask and Answer Questions
• Strategy: Make, Confirm and Revise Predictions
• Text Structure: Problem and Solution
• Text Features: Illustrations
• Strategy: Visualize
• Point of View
• Writing: Opinion
• Writing: Narrative

Follow the directions on the Studio Board for the Studio Scavenger Showcase.
The Discovery Education Literacy Connections Cards are designed to save teachers valuable planning time by bringing literacy into science and science into literacy. By aligning the Discovery Education Science units and concepts to the Wonders K-6 Literacy Curriculum, teachers can integrate reading and writing skills into science and also, use robust, digital content to make their literacy instruction differentiated and multimodal.

Where are the Literacy Connections Cards?
Find the cards in the digital Science Techbook under the Intro tab, among the Teacher Planning Resources.

How do you use the Literacy Connections Cards?
The Literacy Connections Cards were developed by aligning the pacing of Wonders to the pacing of the Discovery Education Science program. The left side of the card delineates the Wonders unit, standards, literature, and matching skills and standards. The right side of the card delineates the Science unit and concept that matches Wonders, according to pacing.

Each of the Literacy Connections Cards has a corresponding Studio Board that can be accessed by scanning the QR code or typing the Quick Code in the digital Techbook. The code will take teachers to all the resources that are referenced on the Literacy Connections card.

The Literature Connections
The Literature Connections identify resources from Discovery Education Experience, and, if aligned, the science content, to the Wonders literature. Many of the resources will provide minilesson, small group or centers opportunities, complete with the content as well as an instructional strategy called SOS. These resources can be utilized during the literacy block to provide multimodal experiences for students as they grow their reading, writing, speaking and listening skills.

HOA’s and Literacy Connections
The Hands-On Activity and Literacy Connections sections bring the Wonders skills and strategies into science. There are specific suggestions for not only how to integrate the teaching of reading and writing into science, but also where in the science concept these skills and strategies will have the most impact. Teachers will also find ideas on how to bring literacy into each of the science lessons using engaging SOS and other literacy activities like sentence frames or the creation of flipbooks.
**LITERATURE**

**Read Aloud:** “Crossing the Creek” [Realistic Fiction]
**R/W Workshop:** “Cow Music” [Realistic Fiction]

**Anthology:** 
“Little Blog on the Prairie” [Realistic Fiction]
“The Writing on the Wall” [Personal Narrative]

**Read Aloud:** “The Drummer Boy” [Historical Fiction]
**R/W Workshop:** “Drumbeat of Freedom” [Historical Fiction]

**Anthology:**
“The Mostly True Adventures of Homer P. Figg” [Historical Fiction]
“Enough!” [Poetry]

**Read Aloud:** “Plants in Different Environments” [Expository Text]
**R/W Workshop:** “The Secret World of Caves” [Expository Text]

**Anthology:**
“Journey into the Deep” [Expository Text]
“Extreme Exploration: An Interview with Dr. Eva Ramirez-Llodra!” [Interview]

**WEEKLY TOPIC**

**WEEK 1: PERSPECTIVES**

Essential Question: How do new experiences offer new perspectives?
- Strategy: Visualize
- Skill: Character, Setting, Plot: Compare and Contrast
- Writing: Narrative
- Writing: Informative

**WEEK 2: ALLIANCES**

Essential Question: Why do people form alliances?
- Strategy: Visualize
- Skill: Character, Setting, Plot: Sequence
- Writing: Argument

**WEEK 3: ENVIRONMENTS**

Essential Question: How do life forms vary in different environments?
- Strategy: Read
- Skill: Main Idea and Key Details
- Test Features: Headings, Photographs and Captions, Diagrams
- Writing: Informative

**NGSS PERFORMANCE EXPECTATIONS**

**MS-LS1-1:** Conduct an investigation to provide evidence that living things are made of cells, either one cell or many different numbers and types of cells.
**MS-LS1-3:** Use argument supported by evidence for how the body is a system of interacting subsystems composed of groups of cells.
**MS-LS1-8:** Gather and synthesize information that sensory receptors respond to stimuli by sending messages to the brain for immediate behavior or storage as memories.
**MS-ETS1-1:** Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.
**MS-ETS1-2:** Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem.

**Lesson Questions:**
- How does the body sense and respond to the environment?
- How does the body react to stress?
- How does the body transport materials?
- How does the body get fuel?
- How does the body use oxygen?
- How does the body move?

**LITERATURE CONNECTIONS**

Connect the Wonders essential question “How do new experiences offer new perspectives?” to the following videos from the Discovery Education Experience to help students develop a new perspective on how people can avoid bad stress and thrive from good stressors. Have students complete a graphic organizer labeled (My current understanding of stress/Now my understanding of stress) prior to viewing and then after viewing.

Have students discuss if their perspective on stress has changed. Use the Read All About SOS Strategy. This strategy will build background knowledge about stress as well as help students develop a better understanding of how a main idea is supported with details.

**HANDS-ON ACTIVITY CONNECTIONS**

The specific HOA listed below may be connected to activities that are part of Environments.
- HOA: You are Getting on My Nerves

**LITERACY CONNECTIONS**

Visualize: Using one of the following audio clips: The Wind Story or Boat Storm/Storm at Sea. While listening to the audio clip, have students sketch what they visualize is happening. Have students share their sketches.

Compare and Contrast: Using a Venn Diagram, have students compare and contrast two body systems to provide evidence that interactions among body systems contribute to the overall function of the body. Students should have had a lot of experience with Venn Diagrams, so this should be an independent activity.

Sequence: Use readings throughout the digital text and have students identify the primary text structure supported with evidence from the text. For example, in the Beyond section, the “Chemical & Physical Changes in Digestion” is a good text to use for this. Also, use the two readings, “Getting to Know: Digestive” and “Getting to Know: Circulatory” to discuss sequential texts. Have students identify which parts of the text are sequential and discuss why this type of writing is important for this content.

Text Features: Embedded in the digital science textbook are multiple opportunities for students to identify and use text features. As students are interacting with the texts listed in the sequence section, have them also identify text features in these pieces. Have students discuss text features that could be added to help enhance their comprehension, SE topics and pages. Getting Fuel [p. 42-43], Mighty Muscles [p. 53], and Follow Your Food [p. 45].
Wonders California

UNIT 1: CHANGES

CCSS ELA STANDARDS

READING: LITERATURE
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RI 6.2
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SPEAKING & LISTENING
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UNIT 1: SYSTEMS ON EARTH

Concept: The Cell as a System

MS-LS1-2: Develop and use a model to describe the function of a cell as a whole and ways parts of the cells contribute to the function.

MS-LS1-3: Use argument supported by evidence for how the body is a system of interacting subsystems composed of groups of cells.

MS-LS1-1: Conduct an investigation to provide evidence that living things are made of cells, either one cell or many different numbers and types of cells.

Lesson Questions:
- What are cells and why are they important?
- How can cells be considered a system?

LITERATURE CONNECTIONS

Use the Table-top Texting Strategy as students watch the video segment: “The Characteristics of Living Things.” Use this strategy to help them identify characteristics common to all living things. After viewing the video, tie it back to the Wonders Essential Question “How do natural forces affect Earth?” by asking students how natural forces affect living things.

HANDS-ON ACTIVITY CONNECTIONS

HOA: Cell Theory Evidence: Connect the reading passage in the Explore More Resources section entitled “Discovery of Cells and Cell Theory” with this HOA.

LITERACY CONNECTIONS

Reread: Use the following print passages to practice the rereading strategy.
- In the print SE, pages 90-91, have students complete a first read of “A Fight to Death,” paragraphs 1-3. Then have students reread to answer the following questions: How do cancer cells behave? How is cancer treated? How can cells be considered a system?
- In the print SE, page 104 as well as the digital text, have students complete a first read of “Why is it Alive? Living or Not Living.” Then have them reread to underline all the sentences that use evidence incorrectly to support the claim.

Main Idea and Key Details:
- In the print SE, pages 98-99: The students are instructed to read the text and examine the images and record the tenets of cell theory in the Main Idea Web.
- In the print SE, pages 130-131: Have students read “Career: Cancer Researcher” and complete one of the main idea graphic organizers. Idea graphic organizer.
- Using the videos that are in the digital Science Techbook, use the Video Four Square Board to have students identify components to generate a main idea.

Text Features: Embedded in both the print and digital student editions, there are multiple opportunities for students to use, identify and create text features.
- In the print SE, pages 114 and/or page 118: Have students identify the type of text features presented and explain how the text features help them understand the difference between plant and animal cells.
- In the print SE, pages 124, have students create drawings with labels to illustrate Cell City models for both healthy cells and cancerous cells.
- Embedded in the digital text in the Beyond section: Have students read the passage “Viruses.” After they have read and discussed the main idea of the passage, have them identify the type of text features used in the passage and how it enhanced their comprehension.

Author’s Point of View: Have students read “Time to CELEbrate” by Kathy De Antonis. Using evidence from the text, have students identify the author’s point of view and purpose for writing the article.

Writing: Informative: When reading “Getting to Know: Characteristics of Living Things” that is embedded in the digital text, have students complete a main idea graphic organizer. Using the completed graphic organizer, have students write an informative paragraph about the characteristics of living things.

Writing: Argument: Using the digital text, Scientific Explanation: The Cell as a System, students need to select the best way to communicate their explanation to “What happens to the body when someone gets cancer?” Students need to include in their explanation a claim, evidence, and reason for connecting the evidence to the claim. After students have presented their scientific explanations, select several and have students identify and evaluate the effectiveness of the claim, evidence, and reason for connecting the evidence to the claim.

LITERACY CONNECTIONS

WEEK 4: DYNAMIC EARTH

Essential Question: How do natural forces affect Earth?
- Strategy: Reread
- Skill: Main Idea and Key Details
- Text Features: Maps, Model
- Writing: Informative

WEEK 4: USING MONEY

Essential Question: What factors influence how people use money?
- Strategy: Reread
- Skill: Author’s Point of View
- Text Features: Graphs, Sidebars
- Writing: Argument

WEEK 6: REVIEW AND ASSESS

Embedded in both the print and digital student editions, there are multiple opportunities for students to use, identify and create text features.
- In the print SE, pages 114 and/or page 118: Have students identify the type of text features presented and explain how the text features help them understand the difference between plant and animal cells.
- In the print SE, pages 124, have students create drawings with labels to illustrate Cell City models for both healthy cells and cancerous cells.
- Embedded in the digital text in the Beyond section: Have students read the passage “Viruses.” After they have read and discussed the main idea of the passage, have them identify the type of text features used in the passage and how it enhanced their comprehension.

Author’s Point of View: Have students read “Time to CELEbrate” by Kathy De Antonis. Using evidence from the text, have students identify the author’s point of view and purpose for writing the article.

Writing: Informative: When reading “Getting to Know: Characteristics of Living Things” that is embedded in the digital text, have students complete a main idea graphic organizer. Using the completed graphic organizer, have students write an informative paragraph about the characteristics of living things.

Writing: Argument: Using the digital text, Scientific Explanation: The Cell as a System, students need to select the best way to communicate their explanation to “What happens to the body when someone gets cancer?” Students need to include in their explanation a claim, evidence, and reason for connecting the evidence to the claim. After students have presented their scientific explanations, select several and have students identify and evaluate the effectiveness of the claim, evidence, and reason for connecting the evidence to the claim.
UNIT 2: EXCURSIONS ACROSS TIME

CCSS ELA STANDARDS

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LITERATURE

- **Read Aloud:** “The Builders of Ancient Egypt” [Expository Text]
- **R/W Workshop:** “Empire of the Sea” [Expository Text]
- **Anthology:** The Technology of Mesopotamia [Expository Text]
- **Anthology:** Gilgamesh Lost and Found [Expository Text]

- **Read Aloud:** “The Road to Democracy” [Expository Text]
- **R/W Workshop:** “The Democracy Debate” [Expository Text]
- **Anthology:** Who Created Democracy? [Expository Text]
- **Anthology:** “How Ideas Become Laws” [Narrative Nonfiction]

- **Read Aloud:** “The Special Guest” [Historical Fiction]
- **R/W Workshop:** “Yaskul’s Mighty Trade” [Historical Fiction]
- **Anthology:** Roman Diary [Historical Fiction]
- **Anthology:** The Genius of Roman Aqueducts [Expository Text]

WEEKLY TOPIC

**WEEK 1: CONTRIBUTIONS**

**Essential Question:** What contributions were made by early civilizations?
- **Strategy:** Ask and Answer Questions
- **Skill:** Text Structure: Problem and Solution
- **Text Features:** Timelines, Maps
- **Writing:** Informative

**WEEK 2: DEMOCRACY**

**Essential Question:** How did democracy develop?
- **Strategy:** Ask and Answer Questions
- **Skill:** Text Structure: Compare and Contrast
- **Text Features:** Charts, Diagrams
- **Writing:** Argument

**WEEK 3: ANCIENT SOCIETIES**

**Essential Question:** What factors influence how people use money?
- **Strategy:** Make, Confirm, Revise Predictions
- **Skill:** Point of View
- **Writing:** Narrative

**SCIENCE TECHBOOK: LITERACY CARDS - GRADE 6 CARD 3**

**WEEK 3: ANCIENT SOCIETIES**

**Essential Question:** What factors influence how people use money?

- **R/W Workshop:** 
- **Read Aloud:**
  - Who Created Democracy? [Expository Text]
  - Gilgamesh Lost and Found [Expository Text]

**UNIT 1: SYSTEMS ON EARTH**

**Concept:** Earth’s Interacting Systems

- **MS-ESS2-4:** Develop a model to describe the cycling of water through Earth’s systems driven by energy from the sun and the force of gravity.
- **MS-L1.2:** Develop and use a model to describe the function of a cell as a whole and ways parts of cells contribute to the function.

**Lesson Questions:**
- What can cause sea levels to rise?
- How does sea level rising impact coastal aquifers?
- What impact does saltwater have on plants?

**LITERATURE CONNECTIONS**

There is a wealth of content in Discovery Education Experience that aligns to the Wonders content. Pairing texts with videos will provide students with opportunities to practice the skills and strategies in Wonders. There is a Government, an American Democracy and an Ancient Civilizations Channel that includes videos, images and even songs.

In the Instructional Inspiration Channel, there are ready-made, turnkey assignments on Studio Boards that can be copied and assigned to students on Ancient Egypt and Ancient Greece.

Consider using the SOS The Question Is, Twenty Questions and especially Snowball Fight (which your students will love) to generate questions that can be asked and answered with these resources.

**HANDS-ON ACTIVITY CONNECTIONS**

- **HOA: Melting Ice, Rising Sea**
- **HOA: Plants in Saltwater**

Both of the HOAs require students to predict prior to the investigation. Use this as an opportunity to bring the strategy Make, Confirm and Revise predictions from Wonders into the HOAs.

**LITERACY CONNECTIONS**

- **Ask and Answer Questions:** The ask and answer questions strategy is an important one for scientists. With the questions in the digital Techbook and the print SE, help students to identify the types of questions they are answering. Using a QAR [Question, Answer, Response] type of structure, have students identify if a question is right there, think and search, author and you. Students code the questions in the SE. The reason this strategy is important in science is it helps students identify what they need to do to answer the question and how they are going to answer it. Throughout the coding process, reflect on the types of questions that are prevalent in science.

- **Make, Confirm, Revise Predictions:** In addition to using prediction with the HOAs, students will also use prediction as well as the confirmation and revision of their prediction in Activity 9. This is a good opportunity to use the point-of-use dashboard to show examples of how students predict, and then revise and confirm their predictions.

**Text Structure: Problem and Solution: Compare and Contrast:** In the print SE, there are opportunities for students to compose texts that follow the problem and solution or compare and contrast text structure. On page 150-151 the problem is outlined, students respond and can write the solution. There are also several texts for students to analyze and determine their text structure: Activities 5, 9, 16, and 18. Have students identify if these structures are problem and solution or compare and contrast. Once students determine the structure, discuss how they should read the passage. Have students write key "reading pointers" on the pages for each text in the SE.

**Text Features: Timelines, Maps, Charts, Diagrams:** Use the SOS Feature Find to build a scavenger hunt that has students find these different text features throughout the concept. An example of this type of scavenger hunt is included in the SOS description.

**Point of View:** Some of the topics in this unit lend themselves to discussing point of view with students. Use the Multiple Perspectives SOS and have students examine different points of view. For example, with the Water Solutions: Groundwater video in the Beyond section, students could examine the problem from several viewpoints. The STEM in Action text on Protecting Marshes can also be examined from multiple perspectives.

**Writing: Informative, Argument, Narrative:** There are several opportunities to write in different modes in this unit. Bring the Wonders writing focus areas into the pieces that students write in this concept. The specific modes list in Wonders with their accompanying writing trait and the coordinating Science writing pieces are as follows:
- **Informative:** Ideas: Supporting Details – Activity 1, Activity 2, Activity 4, Activity 6
- **Argument:** Develop a Topic – Activity 5, Activity 7
- **Narrative:** Organization; Strong Conclusions – Activity 20 [have students develop this into a narrative story]
**NGSS PERFORMANCE EXPECTATIONS**

**UNIT 2: CAUSES OF WEATHER**

Concept: Energy Transfer in the Water Cycle

| MS-ESS2-4: | Develop a model to describe the cycling of water through Earth’s systems driven by energy from the sun and the force of gravity. |
| MS-PS3-4: | Apply scientific principles to design, construct, and test a device that either minimizes or maximizes thermal energy transfer. |
| MS-PS3-5: | Plan an investigation to determine the relationships among the energy transferred, the type of matter, the mass, and the change in the average kinetic energy of the particles as measured by the temperature of the sample. |

**Lesson Questions:**
- How does water change state?
- How do solar energy and gravity drive the processes of the water cycle?

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**LITERATURE CONNECTIONS**

There is a wealth of content in Discovery Education Experience that aligns to the Wonders content. Pairing texts with videos will provide students with opportunities to practice the skills and strategies in Wonders. There is a Place and Regions Channel which includes videos, images and text that addresses the Wonders essential question “What influences the development of culture?”

Consider using the SOS Step Inside; this teaching strategy encourages students to consider content from multiple perspectives.

There are also several History video series, History Kids, The Beanbody Histories, that can be paired with the week 5 content. Because the strategy that week is visualization, use the Surround Sound SOS a little differently with the content. Play the sounds of the video and have students answer the questions that are part of the strategy as a way to practice visualizing.

During the Common Ground week, the STEM Connect unit called “What a Waste” will use some of the concepts from the science unit and it will also have students work together to design a solution.

**HANDS-ON ACTIVITY CONNECTIONS**

HOA: Activity 7 - A Watched Pot Never Boils
HOA: Activity 13 - Observing Evaporation and Condensation

These HOAs tie to the literacy strategy Make, Confirm, Revise Predictions. Students are asked to predict throughout the HOAs. At the completion of the investigation, have students reread their predictions and have them confirm or revise their predictions.

**LITERACY CONNECTIONS**

Make, Confirm, Revise Predictions: This strategy is embedded in the HOAs. Students will also use prediction in Activity 19: Making a Cloud In a Jar. In this activity, have students write their predictions in the digital Techbook and use the point-of-use dashboard to select some pieces to critique. The short video segment called “Question and Hypothesis” is a good reinforcement of the importance of predicting in science.

Visualize: Have students read the Passage: “Water-Drop Odyssey.” While reading the passage, have students “Sketch to Stretch” (draw) key ideas and details they visualize under each heading in the passage. You can also use the SOS Fold Draw Learn with different vocabulary words in the concept that students can visualize. There is also a video segment on visualizing that can be used as a minilesson.

Point of View: Have students read the Passage: “Water-Drop Odyssey.” Have students identify the point of view and discuss the effectiveness of it. Did it help them to better understand the water cycle? Why or Why not? Consider the SOS Multiple Perspectives that was used on Literacy Card #3 to support point of view. This strategy can be used again.

Writing - Narrative: Have students write a narrative story about the water cycle through a water drop’s perspective. Also, there are several editable video segments in the Beyond section. Students can write a narrative story to go with a segment of the video and rerecord the sound.
LITERATURE

Read Aloud: “On the Mountain” [Realistic Fiction]
R/W Workshop: “Facing the Storm” [Realistic Fiction]
Anthology: Lizzie Bright and the Buckminster Boy [Realistic Fiction]
“Confronting a Challenge” [Personal Narrative]

Read Aloud: “A Spur-of-the-Moment Speech” [Narrative Nonfiction]
R/W Workshop: “Jewels from the Sea” [Narrative Nonfiction]
Anthology: The Pot that Juan Built [Narrative Nonfiction]
“A Box of Ideas” [Drama]

Read Aloud: “Benjamin Reifel and the IRA” [Biography]
R/W Workshop: “Marian Anderson: Struggles and Triumphs” [Biography]
Anthology: Major Taylor [Biography]
“Margaret Bourke-White: Fearless Photographer” [Biography]

WEEKLY TOPIC

WEEK 2: TRANSFORMATIONS
Essential Question: What kinds of challenges transform people?
• Strategy: Make, Confirm, Revise Predictions
• Skill: Theme
• Writing: Narrative

WEEK 3: INSPIRATION
Essential Question: What can people accomplish by working together?
• Strategy: Summarize
• Skill - Text Structure: Sequence
• Text Feature: Author’s Voice/Tone
• Writing: Informative

WEEK 4: MILESTONES
Essential Question: How can one person affect the opinions of others?
• Strategy: Summarize
• Skill: Text Structure: Cause and Effect
• Text Features: Fictionalized Elements; Suspense
• Writing: Informative

LITERATURE CONNECTIONS

HANDS-ON ACTIVITY CONNECTIONS
• HOA: Pollinators
• HOA: Traveling Seeds

These HOAs tie to the literacy strategy Make, Confirm, Revise Predictions. Students are asked to predict throughout the HOAs. At the completion of the investigation, have students reread their predictions and have them confirm or revise their predictions.

LITERACY CONNECTIONS

Make, Confirm, Revise Predictions: This strategy is embedded throughout the concept since making predictions is an important science strategy. In Activity 11, students determine if a statement is confirmed or busted. The SOS Myth Bustin’ is good to use as a way to get students to write statements that can be confirmed or revised.

Text Structure - Sequence: In the Beyond tab, there is a video segment entitled “Powerful Weather.” Have students view the video and identify the segments of the video that have a sequential structure.

Summarize: The SOS That Sums It Up is a good small group instruction passage. There is a graphic organizer on the Resource Board.

Writing - Informative: In Activity 11 (SE 324-327), students will use data and evidence they obtained throughout the concept to construct a scientific explanation for the Can You Explain? question or a question of their own. These questions are a good opportunity to incorporate the informative writing traits from Wonders.
UNIT 3: CAUSES AND EFFECTS OF REGIONAL CLIMATES
Concept: Creating Climate Regions

NGSS PERFORMANCE EXPECTATIONS

MS-ESS2-5
Collect data to provide evidence for how the motions and complex interactions of air masses results in changes in weather conditions.

MS-PS3-4
Plan an investigation to determine the relationships among the energy transferred, the type of matter, the mass, and the changes in the average kinetic energy of the particles as measured by the temperature of the sample.

MS-ESS2-6
Develop and use a model to describe how unequal heating and rotation of the Earth cause patterns of atmospheric and oceanic circulation that determine regional climates.

Lesson Questions:
• What is the relationship among Earth’s shape, latitude, and climate regions?
• What is the relationship among wind, energy transfer, and climate?
• What is the relationship among ocean currents, energy transfer, and climate?

LITERATURE CONNECTIONS

The Conservation Channel takes a look at the environmental threats and conservation efforts in six key areas: forests, oceans, freshwater, wildlife, climate, and food. There are also several World Wildlife Federation lessons included on this Channel. The ask and answer questions strategy and the main ideas and key details skill can easily be paired with these resources. Use an SOS like 20 Questions and Six Word Story to have students apply these strategies. There is a Studio Board template on the Resource Board that can be used with the Conservation resources. Remember that you can assign Boards or copy and revise them.

HANDS-ON ACTIVITY CONNECTIONS
• HOA: Modeling the Sun’s Energy on Earth
• HOA: Density Currents

In both of these HOAs, students will answer questions. This is also an opportunity to engage students in asking questions as well. In addition, help students to analyze the types of questions that are asked in the HOAs and how they can learn from these kinds of questions to formulate those they ask when they read. Also, since Wonders is focusing students on reading flowcharts, have students create flowcharts for these investigations.

LITERACY CONNECTIONS

Ask and Answer Questions: Throughout this concept, students will ask and answer questions. Have students create an anchor chart with the different types of questions they will answer throughout the concept. Use these questions as models for helping them with generating reading questions. Also, in the Beyond tab, there is a reading passage entitled “Climate and Factors That Affect It: Dust.” Have students turn the headings into questions and read to answer the questions created.

Main Idea and Key Details: There are several pages in this concept where students can find the main idea and complete the main idea web on the Resource Board. Another more engaging way to get students to identify key details is through the 3 Truths and a Lie SOS. After reading passages in this concept, have students “test” each other by developing three truths and a lie.

Text Features - Flowcharts, Sidebars, Primary Sources: As students encounter text features, have them identify the type and discuss how it enhanced their comprehension. Have students read and identify the text features in the reading passage “It Takes All Kinds.” Also, there is a good primary and secondary source video on the Resource Board to help students identify their purpose and differences between them. There are also different examples of flowcharts on the Resource Board that students can practice reading or they can be used as a minilesson.

Reread: There are several passages in the Beyond section that can be used for small group instruction. Have students work in pairs to reread several paragraphs together. After one read, what was learned. After a second read, what new information was learned. Rereading is also a useful strategy to teach students to use with videos. The Silence is Golden SOS has students watch a video without the sound and then predict the key details. Draw parallels between rereading and this type of activity.

Author’s Point of View: As students get to unit 4 on climate change, author’s point of view is an important skill to bring into science. Consider using one of the Beyond pieces from unit 4 to integrate into this concept. Two examples are on the Resource Board.

Writing - Argument: In Activity 15 (SE 54-57), students will use a model to construct an argument with evidence that explains a cause-effect relationship between a region’s location and its climate. Integrate the Wonders focus traits of ideas and organization into this piece.

Wonders California

UNIT 3 & 4: ACCOMPLISHMENTS & CHALLENGES

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LITERATURE

Read Aloud: “Away with E-Waste!” [Informational Article]

R/W Workshop: “Is Your City Green?” [Informational Article]

Anthology:
Modern Transit for an Ancient City” [Persuasive Article]

Read Aloud: Accessing the Great Lakes [Expository Text]

R/W Workshop: “The Day the Dam Broke” [Expository Text]

Anthology:
Years of Dust [Expository Text]

“Erica Fernandez: Environmental Activist” [Biographical Sketch]

WEEKLY TOPIC

WEEK 5: A GREENER FUTURE

Essential Question: What steps can people take to promote a healthier environment?

• Strategy: Ask and Answer Questions
• Skill: Main Idea and Key Details
• Text Features: Flowcharts and Sidebars
• Writing: Argument

WEEK 6: REVIEW AND ASSESS

WEEK 1: CHANGING ENVIRONMENTS

Essential Question: How do people meet environmental challenges?

• Strategy: Reread
• Skill: Author’s Point of View
• Text Features: Primary Sources
• Writing: Argument
Wonders California

UNIT 3 & 4: ACCOMPLISHMENTS & CHALLENGES

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R/W Workshop: “The Day the Dam Broke” [Expository Text]
Anthology: Years of Dust [Expository Text]
“Erica Fernandez: Environmental Activist” [Biographical Sketch]

Read Aloud: “Going the Distance” [Biography]
R/W Workshop: “She Had to Walk Before She Could Run” [Biography]
Anthology: Seeing Things His Own Way [Biography]
“Get Fit for Fun!” [Expository Text]

Read Aloud: “Stage Fright” [Drama]
R/W Workshop: “Treasure in the Attic” [Drama]
Anthology: The Case of the Magic Marker Mischief Maker: A Mickey Rangel Mystery [Drama]
“Dramatic Decisions: Theater Through the Ages” [Expository Text]

WEEKLY TOPIC

WEEK 1: CHANGING ENVIRONMENTS [con’t from Literacy Connections Card #6]
Essential Question: How do people meet environmental challenges?

- Strategy: Reread
- Skill: Author’s Point of View
- Text Features: Primary Sources
- Writing: Argument

WEEK 2: OVERCOMING CHALLENGES
Essential Question: How do people meet environmental challenges?

- Strategy: Reread
- Skill: Author’s Point of View
- Text Features: Primary Sources
- Writing: Argument

WEEK 3: STANDING TALL
Essential Question: When are decisions hard to make?

- Strategy: Summarize
- Skill: Theme
- Writing: Narrative

UNIT 3: CAUSES AND EFFECTS OF REGIONAL CLIMATES
Concept: Environmental and Genetic Influences

NGSS PERFORMANCE EXPECTATIONS

The Conservation Channel provides images, videos, and text features that aligns to the Wonders essential question “How do people meet environmental challenges?” The Channel takes a look at the environmental threats and conservation efforts in six key areas: forests, oceans, freshwater, wildlife, climate and food. There are several resources on this Channel that can provide argumentation content.

There are several health and wellness personal challenge stories in Discovery Education Experience. There is also a ready-made assignment focused on Helen Keller. Introduce students to the SOS Inquiry Chart and have students work in groups to complete this table with the different overcoming challenges videos. This also aligns to the text feature of reading tables.

The SOS Inquiry Chart can also be used with the making choices resources. Since all the readings on this topic fall into the drama genre, consider pairing some informational resources. There are options on the Resource Board.

HANDS-ON ACTIVITY CONNECTIONS

- HOA: Characteristic for the Climate
- HOA: Growing Greens

These HOAs include reflections which can be written as summaries.

LITERATURE CONNECTIONS

Reread: There are several passages in the Beyond section that can be used for small group instruction, allowing students to practice a rereading strategy. Have students work in pairs to reread several paragraphs together. After one read, what was learned. After a second read, what new information is learned. Rereading is also a useful strategy to teach students to use with videos. The Silence is Golden SOS has students watch a video without the sound and then predict the key details. Draw parallels between rereading and this type of activity.

Author’s Point of View: Have students analyze the author’s point of view in Activity 17’s passage, “Rebuilding a Community with Plants.” Use the following questions to have students analyze this piece:

- What point of view does the author use?
- How objective and/or reliable is the author?
- How limited are his perceptions, and what contributes to these limitations?
- Why does the author choose certain language, report the details that she does, reveal information in the manner that he does, offer or not offer interpretive comments, and/or tell the passage in a certain order?

Text Features - Tables and Photographs: There are several photographs in this concept. Use the Eye Spy SOS to engage students in reading photographs.

Writing - Argument: Have students read the passage “Human Growth and Development” in the Beyond section. Select one of the Human Growth and Development factors, i.e. eating healthy, exercise, and write an argumentative piece on the topic. Use the claim, evidence, reasoning format for creating the argument.

Summarize: Introduce students to the UNRAVEL strategy to help them summarize, particularly since there are many questions that students need to answer after they read the passages. There are also several videos in the Beyond section where students can revise the UNRAVEL strategy to use with summaries of videos. The UNRAVEL strategy is explained on the Resource Board.

Point of View and Writing - Narrative: After completing Engage Activity 1, 2 and 3 (SE 66-72), have students write a narrative from the point of view of a caribou focused on his/her migration.
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### LITERATURE

**Read Aloud:** “Humor in Humiliation” [Realistic Fiction]
**R/W Workshop:** “My Visit to Arizona” [Realistic Fiction]
**Anthology:**
- Home of the Brave [Realistic Fiction]
- “Animata’s Tale” [Realistic Fiction]

**Read Aloud:** “Alejandro’s Music” [Poetry]
**R/W Workshop:** “Hey Nilda, Hi Rachael” [Poetry]
**Anthology:**
- This is Just to Say; to Mrs. Garcia, in the office; to Thomas [Poetry]
- “Primer Lesson, If I can stop one Heart from breaking” [Poetry]

### WEEKLY TOPIC

**WEEK 4: A GREENER FUTURE**

**Essential Question:** How do people uncover what they have in common?
- **Strategy:** Summarize
- **Skill:** Theme
- **Writing:** Narrative

**WEEK 5: TAKING RESPONSIBILITY**

**Essential Question:** How can we take responsibility?
- **Strategy:** Ask and Answer Questions
- **Skill:** Point of View
- **Writing:** Narrative

**WEEK 6: REVIEW AND ASSESS**

### LITERACY CONNECTIONS

**Summarize:** There are several opportunities to integrate summarization into the multiple passages in this concept. In some cases, summarization is already included. For example, in Activity 2 (SE 112-113), students will create a social media post to summarize their learning. In Activity 4, and 7, students will use a highlighting strategy to support summarization. In Activity 10, students will create a Six-Word story to summarize. There are also several reading passages at different Lexiles in the Beyond section. Use the Z Chart SOS to help students summarize.

**Ask and Answer Questions:** Beginning with Activity 2 (SE: 112-113), students will generate questions. Since there are several passages in this concept, use the quote and question activity. Students should create a two-column chart with quotes on the left side and questions on the right. Students can also create this structure on a Studio Board and work together in collaborative teams to collect their quotes and questions.

**Point of View:** STEM Activity 14 (SE 150-155) focuses on the topic of genetic engineering and agriculture. This is a good topic to analyze the point of view. Students can also analyze the images in this piece to determine the point of view.

**Writing - Narrative:** There are many topics in this concept that lend themselves to narrative writing. For example, in the Build a Better Pollinator (SE 142-145), students use information to design a hypothetical superior pollinator. Have students write a narrative about their superior pollinator from its point of view. There are also several of the images from this concept on the Resource Board. Students can use these images to generate a narrative that includes the Wonders traits: Ideas and Word Choice.
UNIT 5: DISCOVERIES

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LITERATURE

Read Aloud:
“The Flower of Lirolay” [Myth]

R/W Workshop:
“Thunder Helper” [Myth]

Anthology:
The Hero and the Minotaur [Myth]  
“The A-MAZE-ing tale of Theseus and the Minotaur [Parody]

Read Aloud:
“Lok and the Transcontinental Railroad” [Historical Fiction]

R/W Workshop:
“Journey to Freedom” [Historical Fiction]

Anthology:
Elijah of Buxton [Historical Fiction]  
“The People Could Fly” [Folktales]

WEEKLY TOPIC

WEEK 1: MYTHS

Essential Question: Why do people tell and retell myths?
- Strategy: Make, Confirm, Revise Predictions
- Skill - Character, Setting, Plot: Problem and Solution
- Writing: Narrative

WEEK 2: PERSONAL STRENGTH

Essential Question: How do people show inner strength?
- Strategy: Make, Confirm, Revise Predictions
- Skill - Character, Setting, Plot: Cause and Effect
- Writing: Narrative

HANDS-ON ACTIVITY CONNECTIONS

- HOA: Punnett: Live

LITERACY CONNECTIONS

Make, Confirm, Revise Predictions: Making, confirming and revising predictions is common throughout this concept. Be sure to point out how this strategy is used in science. A good example is in Activity 3 (SE 164-167). In this activity, students use a model to make predictions about a pattern of inheritance in rabbit offspring, supporting their argument with evidence.

There are several videos in the Beyond section. Use these videos to have students practice their make, confirm and revise predictions strategy with this concept. Use the SOS Pause and Play to have students generate a prediction, then confirm and revise.

Text Structure - Cause and Effect: Throughout this concept there are writing activities that focus on cause and effect relationships. After students have completed each activity, have them go into their written piece and highlight the elements that make their written piece's text structure cause and effect. Also, in Activity 4 (SE: 168), students analyze a model of a family tree and construct an explanation for the fact that siblings can inherit different traits from the same parents. In Activity 7 (SE 174-176), students gather information from text and media about alleles, dominant and recessive genes, and the Punnett square to support or refute claims about a cause-effect relationship between traits and how they are inherited. These are two examples where students can analyze cause and effect.

Writing - Narrative: On the Resource Board there is a complete lesson on genetics and sharks. The second part of this activity allows students to draw a picture of their shark offspring. Have students generate a story about their baby shark (hopefully, it won’t include an annoying song…doo, doo, doo, doo, doo…).
**UNIT 5: DISCOVERIES**

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### LITERATURE

**Read Aloud:** “Fishing Through the Ages” [Expository Text]

**R/W Workshop:** “The Science of Silk” [Expository Text]

**Anthology:**

- Before Columbus [Expository Text]
- “Looking Back to Move Forward” [Expository Text]

**Read Aloud:** “Seeing Inside the Body” [Expository Text]

**R/W Workshop:** “Light Detectives” [Expository Text]

**Anthology:**

- Planet Hunter [Expository Text]
- “Excursion to Mars” [Science Fiction]

### WEEKLY TOPIC

**WEEK 3: INNOVATIONS**

**Essential Question:** How do people benefit from innovation?

- **Strategy:** Reread
- **Skill:** Text Structure: Cause and Effect
- **Text Features:** Diagrams and Maps
- **Writing:** Informative

**WEEK 4: BREAKTHROUGHS**

**Essential Question:** How does technology lead to discoveries?

- **Strategy:** Reread
- **Skill:** Text Structure: Sequence
- **Text Features:** Diagrams and Models
- **Writing:** Informative

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**Science Techbook Concept**

**UNIT 4: OUR CHANGING CLIMATE**

**Concept:** Causes of Climate Change

### NGSS PERFORMANCE EXPECTATIONS

**MS-ESS3-5**

Ask questions to clarify evidence of the factors that have caused the rise in global temperatures over the past century.

**MS-ESS3-3**

Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.

**Lesson Questions:**

- How do natural processes affect global temperature changes?
- How does human activity affect global temperature change?
- What is the evidence for global warming?

### LITERATURE CONNECTIONS

The Inventors and Innovators Channel which includes videos, images and text aligns to the Wonders essential question, “How do people benefit from innovation?” The video “Greatest Inventions with Bill Nye: Communication” which retracts the innovations that allow us to contact almost anyone anywhere also addresses the essential question.

There is a wealth of content to support the breakthroughs topic, beginning with a virtual field trip. The Itron Virtual Field Trip takes your students on a tour of the Itron Innovation Center to explore how technology powers sustainable solutions to the challenges of modern life. It highlights a variety of interesting, highly-skilled careers related to technology, engineering, city planning, and sustainability. It also showcases how new technologies can solve real world problems, such as safety, disaster response, and protecting ecosystems and wildlife. There is an Educator Guide to go with this VFT; pay attention to the engage activity.

There is also a 4 Awesome Discoveries series that students will find very engaging. There are many videos from which to choose. Several examples are loaded on the Resource Board. Use the Pechakucha SOS to have students develop a min-presentation on one of the discoveries.

### HANDS-ON ACTIVITY CONNECTIONS

- **HOA:** Model a Meteorite Impact
- **HOA:** Observe the Greenhouse Effect [Beyond section]

Both of these HOAs include explanatory, informative writing. Integrate the focus on organization from Wonders, particularly since strong paragraphs is the specific trait. Additionally, the Observe the Greenhouse Effect HOA can pair with the passage, entitled “The Greenhouse Effect” also in the Beyond section. After students have completed the HOA and read the passage have them write an informational piece about the cause and effects of the Greenhouse Effect.

### LITERACY CONNECTIONS

**Reread:** This strategy is used often in Wonders. Find different ways to engage students in rereading. The Silence is Golden SOS has been used previously. Another SOS that can be used with rereading is A-E-I-O-U. Have students read and complete the SOS, then reread and complete it again.

**Text Features - Diagrams and Maps:** Embedded in concept there are multiple opportunities for students to use, identify and discuss how the text feature(s) enhanced their comprehension. The following activities have students using diagrams and maps as well as tables and graphs to gather information: Activity 7 (SE 233), Activity 10 (SE 240), Activity 14 (SE 251), Activity 15 (SE 253). Consider using the Think Aloud SOS and have students record their think aloud in reading different diagrams.

**Text Structure - Cause and Effect:** This whole concept is focused on causes of climate change. Have students analyze every reading passage to determine what the causes are and highlight them in one color. Determine effects and highlight them in a different color. Have students collect additional information like cause and effect words. Have students build a graphic organizer or a diagram on how to read cause and effect using examples from this concept.

**Text Structure - Sequence:** Several of the videos in the Beyond section use a sequence structure. Use the SOS Instagram to have students select three images from the videos that show a sequence. Students then need to write an informational sentence to explain their Instagram photo. Please note that students might need help with grabbing a screenshot from a video. Students can print their screenshots or they can use a Studio Board to post their photos. Be sure to help students use sequential language in their sentence.
Wonders California

UNITS 5 & 6: DISCOVERIES & TAKING ACTION

CCSS ELA STANDARDS

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LITERATURE

Read Aloud:
R/W Workshop:
“Tools of the Explorer’s Trade” [Informational Article – Expository]
Anthology:
Out of This World [Informational Article – Expository]
“Space Shuttles on the Move” [Informational Article]

Read Aloud:
“Technology in the Ground” [Expository Text]
R/W Workshop:
“The Fortunes of Fragrance” [Expository Text]
Anthology:
The Story of Salt [Expository Text]
“The Not-So-Golden Touch” [Myth]
“Excursion to Mars” [Science Fiction]

WEEKLY TOPIC

WEEK 5: EXPLORATION
Essential Question: How have tools used for exploration evolved over time?
• Strategy: Summarize
• Skill: Author’s Point of View
• Text Features: Sidebars and Graphs
• Writing: Argument

WEEK 6: REVIEW AND ASSESS

WEEK 1: RESOURCES
Essential Question: How have people used natural resources?
• Strategy: Ask and Answer Questions
• Skill: Main Idea and Details
• Text Features: Diagrams
• Writing: Informative

Science Techbook Concept

UNIT 4: OUR CHANGING CLIMATE
Concept: Climate Change Impacts Organisms

NGSS PERFORMANCE EXPECTATIONS

MS-LS1-5
Construct a scientific explanation based on evidence for how environmental and genetic factors influence the growth of organisms.

MS-LS1-4
Use argument based on empirical evidence and scientific reasoning to support an explanation for how characteristic animal behaviors and specialized plant structures affect the probability of successful reproduction of animals and plants respectively.

MS-ESS3-3
Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.

Lesson Questions:
• How might climate change affect habitats?
• How does climate change affect organism behavior?

LITERATURE CONNECTIONS

There are numerous resources to support and accompany the Wonders focus on Space Shuttles. Consider beginning with the Virtual Field Trip to the Johnson Space Center in Houston, TX. There are lesson plans that include literacy skills like compare and contrast. This VFT is conducted by Boeing, giving students a perspective from their point of view. Additionally, there is a Mars Exploration Virtual Field Trip conducted by Lockheed Martin. On the Resource Board, there are several images on space exploration. Use a modified version of the SOS Puppet Pictures with these images. While this is primarily a primary strategy, the objective is for students to place themselves in the image and then talk or write about it. Students can use their pictures or use an app that allows students to embed their picture in the image.

The Natural Resource Channel located in Discovery Education Experience addresses the essential question, “How have people used natural resources?” There are multiple resources on this Channel, including writing prompts, reading passages, even a podcast. Since the Wonders focus skill is main idea and key details, these resources can be used to help students practice that skill. One of the SOS that has not been utilized as of this grade 6 Literacy Connection Cards is the Blurt Out SOS. You can have students work in teams to watch a video, read a passage, even one of the Encyclopedia articles on a topic in the Channel and create their questions.

HANDS-ON ACTIVITY CONNECTIONS

• HOA: Habitat Destruction

This HOA includes a number of questions that students need to answer. Answering questions can combine both the summarization and the ask and answer questions strategy. Teach students the RACE strategy to answer these questions.

R: Restate the question
A: Answer the question
C: Cite evidence from the investigation
E: Explain the evidence from the investigation.

LITERACY CONNECTIONS

Summarize: In Activity 7 (SE 292-294), students can write a summary about how global warming and climate change are affecting animal migration and hibernation. Additionally, the RACE strategy can be used for various questions throughout this concept.

Author’s Point of View: In the Beyond tab, there is a video entitled, “The Effects of Climate Change.” Have students view the video. Using evidence from the video, have students identify the author’s point of view and purpose for creating the video.

Text Features - Sidebars, Graphs, and Diagrams: There are a variety of text features in this concept. Activity 11 (SE Page 300) includes a graph.

Writing - Argument: In Activity 15 (SE 310-313), students present a written argument supported by scientific reasoning. Incorporate the Wonders traits into this argument.

Ask and Answer Questions: In Activity 2 (SE 276-277), students gather, read, and synthesize information about monarch butterflies from multiple appropriate sources and communicate responses to questions in writing.

Main Idea and Details: In Activity 7 (SE 292-294), students critically read scientific text adapted for classroom use to obtain information to describe natural processes that can lead to habitat destruction. In Activity 12 (SE 302-304), students critically read text adapted for classroom use to determine the central ideas and obtain scientific information to describe how global warming and climate change are affecting animal migration and hibernation. Use the SOS Read My Mind with these passages. Select words that represent details of the passages. As a conclusion to the SOS, have students write a main idea.

Writing - Informative: In Activity 10 (SE 298-299), students write an explanation of why animals migrate or hibernate. In Activity 14 (SE 306-309), students communicate scientific information in written form.
Wonders California

UNIT 6: TAKING ACTION

CCSS ELA STANDARDS

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W 6.3a-d
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W 6.8
W 6.9a, b
W 6.10

SPARKING & LISTENING
SL 6.1b-d
SL 6.2
SL 6.3
SL 6.5

LITERATURE

Read Aloud: “Mystery of the Mummy” [Narrative Nonfiction]
R/W Workshop: “The Great Fire of London” [Narrative Nonfiction]
Anthology: The Great Fire [Narrative Nonfiction]
“Aftermath of a Fire” [Magazine Article]

Read Aloud: “Space Neighbor” [Expository Text]
R/W Workshop: “Researcher to the Rescue” [Expository Text]
Anthology: Extreme Scientists [Expository Text]
“Making the Scientific Method Work for You” [Expository Text]

Read Aloud: “Secrets Set in Stone” [Expository Text]
R/W Workshop: “Messages in Stone and Wood” [Expository Text]
Anthology: Pharaoh’s Boat [Expository Text]
“The Mystery of the Missing Sandals” [Mystery]

WEEKLY TOPIC

WEEK 2: WITNESSES

Essential Question: How do we learn about historical events?
- Strategy: Ask and Answer Questions
- Skill - Text Structure: Cause and Effect
- Text Features: Primary Sources
- Writing: Argument

WEEK 3: INVESTIGATIONS

Essential Question: How can a scientific investigation be an adventure?
- Strategy: Summarize
- Skill: Main Idea and Key Details
- Text Features: Technical Terms and Flowchart
- Writing: Informativetive

WEEK 4: EXTRAORDINARY FINDS

Essential Question: What can scientists reveal about ancient civilizations?
- Strategy: Summarize
- Skill - Text Structure: Sequence
- Text Features: Lists
- Writing: Informativetive

Science Techbook Concept

UNIT 4: OUR CHANGING CLIMATE
Concept: Reducing Human Impacts on the Environment

NGSS PERFORMANCE EXPECTATIONS

MS-ETS1-3
Analyze data from tests to determine similarities and differences among several design solutions to identify the best characteristics of each that can be combined into a new solution to better meet the criteria for success.

MS-ETS1-4
Develop a model to generate data for iterative testing and modification of a proposed object, tool, or process such that an optimal design can be achieved.

MS-ESS3-3
Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.

Lesson Questions:
- How do scientists monitor populations for signs of pollution, and why is this important?
- How can preventative measures be used to reduce land-use and environmental problems?
- How do different design solutions help solve and prevent land-use and environmental problems?

LITERATURE CONNECTIONS

For the Week 2 Wonders content, there are several resources that can be paired with the texts. There are several resources on Mummies, including a Studio Board that uses the SOS AEIOU that can be copied and revised and/or assigned to students as well as a podcast on mummies.

The Week 3 Wonders content on science aligns with the Science Techbook, however, The Nature of Science Investigation Channel also provides different resources. Since summarization and main ideas and details are the key strategy and skill, there are several SOS strategies that can be utilized with the resources in this Channel. The SOS QR Code Graffiti Walk is a different way to use these skills and strategies with the content.

There are several Channels on ancient civilizations: Ancient Greece, Ancient Rome, Ancient Egypt and one Channel on Ancient Civilizations.

HANDS-ON ACTIVITY CONNECTIONS

- HOA: Causes and Effects of Water Pollution

This particular HOA focuses on cause and effect. Tie this to the Wonders focus on cause and effect text structures. Pair this HOA with the reading passage in the Beyond section entitled “Garbage Crisis!” and have students analyze the text structure.

LITERACY CONNECTIONS

Ask and Answer Questions: In Activity 11 (SE 348-352), students locate three questions, then read to find the answers.

Text Structure - Cause and Effect: Throughout this concept there is a focus on cause and effect relationships. In Activity 4 (SE 326-33), have students use all the information they gather to write a cause and effect paragraph. Have students highlight the causes in one color and highlight the effects in another color.

Writing - Argument: In Activity 13 (SE 354), students present a written argument supported by scientific reasoning as evidence for changing their diet in order to reduce their impact on the environment. In Activity 13 (SE 360-363), students construct an argument supported by scientific reasoning to support a claim of cause or effect for a variety of environmental problems and solutions.

Summarize: In Activity 12 (SE 353), will summarize the purpose of green roofs and consider the criteria used to evaluate the success of green roofs by analyzing possible constraints. There are also several videos in the Beyond section that can serve as centers or small group activities where students summarize their learning. In the STEM Unit Project, students summarize their findings.

Main Idea and Key Details: In Elaborate with STEM, have students read the article “Sustainability in Major League Baseball’s Ballparks” and complete the main idea graphic organizer on the Resource Board.

Text Features - Technical Terms, Flowchart and Lists: To focus on these text features and how to read them, consider having students create them from the texts that are in the Beyond section. For technical terms, students can select terms in the passage and then create a glossary similar to Techbook. For example, they find a video, an animation and an image. Students can select one of the passages and create a flowchart or embed a list in the passages.

Writing - Informativetive: In the STEM Unit Project, students design a solution to reduce the environmental impact of methane from cows. They will complete explanatory and informative writing in this project. Integrate the Wonders writing traits into this piece.