



SCIENCE

Science Techbook Elementary

Available in
Spanish and English

SCIENCE

MATH

SOCIAL STUDIES

STEM

CODING

PROFESSIONAL
LEARNING

Delivered through our dynamic
K-12 learning platform

EXPERIENCE



Keeping You Connected To Curiosity

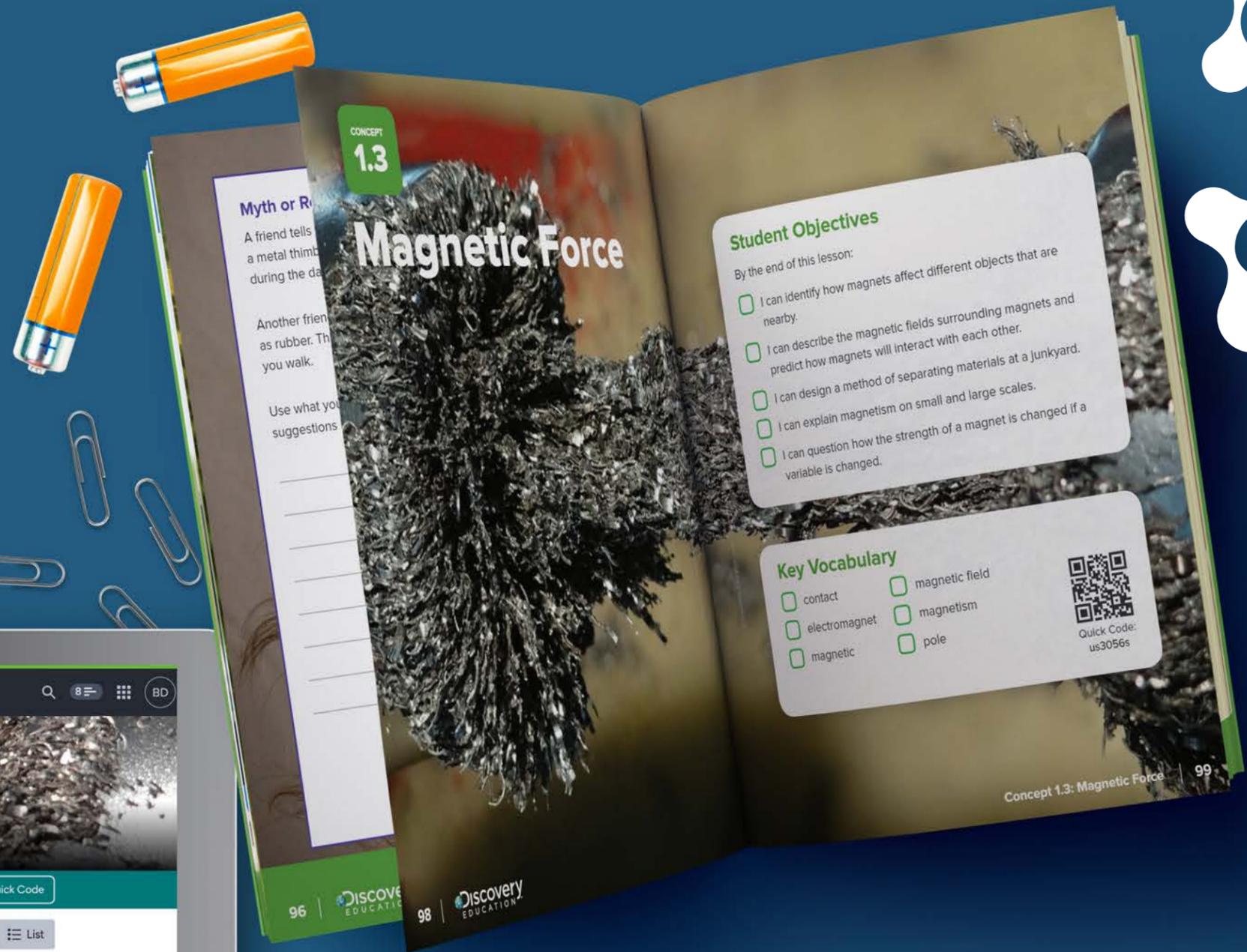
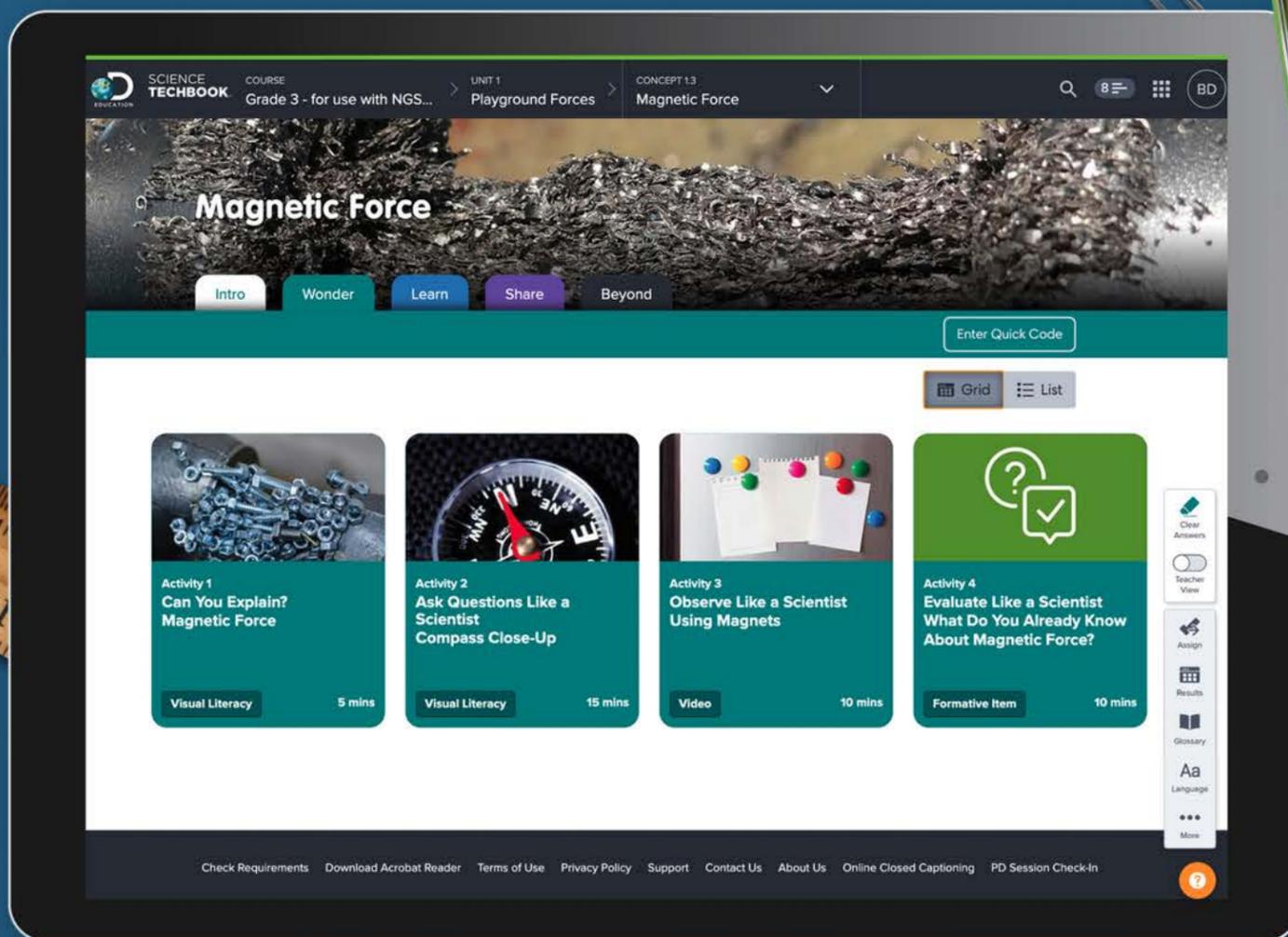
Curiosity. An instinct to explore and make sense of the world around us. A drive from within to investigate wonders, unlock mysteries, and reimagine the future.

At Discovery Education, we know how important it is to keep all students and teachers connected to curiosity. That's why we offer a range of resources and experiences that provide endless opportunities to investigate real-world problems, uncover understanding, inspire innovation, and pursue unlimited possibilities.

Because when we're curious, amazing things happen.

Explore Science from Anywhere in the World

Powerful and adaptable resources and activities support the delivery of impactful, blended instruction in person or at a distance.



- Flexible, research-backed **digital curriculum**
- Engaging **hands-on** and **virtual investigations**
- Premier **multimedia** and **instructional resources**
- Optional hands-on **classroom kits**

Discovery Education *Science Techbook* is a phenomena-driven learning program that puts elementary school students at the center of each three-dimensional storyline, leading exhilarating investigations that uncover the mysteries of the universe.

- **Relevant unit storylines** offer **intentional sequencing of activities** to help students take ownership of their learning.
- **Phenomena-driven, research-backed science curriculum** cultivates three-dimensional learning experiences.
- **Active investigation** of phenomena prompts students to **ask questions, build models, and develop explanations** to generate **evidence of sensemaking**.
- **Lesson planning, differentiation, progress monitoring, and professional growth opportunities** provide teachers with time-saving support.
- **Exclusive, original** and highly **engaging multimedia content** makes science exciting and relevant for all students.

"We've carefully crafted each unit storyline to help teachers more easily provide an authentic three-dimensional learning experience for all students."

Ted Willard - Discovery Education Science Author

Nationally recognized NGSS and three-dimensional learning authority, serving for years as the in-house standards expert for the National Science Teaching Association (NSTA).





Students will engage in an action-packed journey to make sense of phenomena in a way that aligns with their natural curiosities. Our units are organized around the storyline learning model, launching with real-world **anchor phenomena** to hook students and inspire them to ask important questions as they investigate and collaborate to explain, make predictions, and solve problems.

Unit Storylines Provide a 3D Learning Framework

- Launch concepts with **real-world investigative phenomena** and related “Can You Explain?” questions directly tied to the **Anchor Phenomenon** for each unit.
- Encourage **student questioning** to drive the learning pathway.
- Provide multiple pathways for students to demonstrate their sensemaking through the development of models and scientific explanations in the **claim, evidence, reasoning** format.
- Explore **STEM career connections**.
- Guide students to **solve problems** related to the anchor phenomena through a culminating **Unit Project**.

Action-Packed, Real-World Storylines

Relevant unit storylines offer intentional sequencing of activities to help students take ownership of their learning.



Unit 1 | Playground Forces

Unit Outline

Anchor Phenomenon: Get Started

360 Swing
Students will connect how forces cause an object to move such as the 360 swing depicted in the anchor phenomenon video for the unit. Students should begin to ask questions about different experiences they have had on a playground related to how and why things move.

Unit Project Preview

Better Swing
Students will begin to think about how they may design a swing using magnetic force. Students will return to the project at the end of the unit.

Concepts

1.1 Moving Objects
Students will learn how forces act on objects, how forces can be combined, and how force relates to movement.

1.2 Static Force
Students will learn how positive and negative charges can interact with each other and objects.

1.3 Magnetic Force
Students will learn how magnets and magnetic fields can apply force on objects without contact.

Unit Project

Better Swing
Students are presented with an image of a standard swing set. Students must design a swing that uses magnets to push and pull the rider.

Unit Performance-Based Assessment

A Train from the Future
In this activity, students are presented with text and images about the technology behind the Maglev transportation system. Students analyze and identify the different types of forces acting on a Maglev train, their interactions, and their features, and apply the information obtained to design their own Maglev train.

Unit Storyline

In this unit, students think about the forces that can act on a swing set. Students begin by considering mechanical forces and how balanced and unbalanced forces change the motion of objects. They then explore electrical charges and how like and unlike charges exert forces on each other. Finally, students focus on magnetic forces and magnetic fields. While considering electric and magnetic forces, students examine forces that do not require objects to be in contact and that vary in magnitude as a function of the distance between objects. To summarize their learning, students design a better swing set that takes advantage of the different forces that they have studied.

Attention-Grabbing Adventures

Phenomena-driven, research-backed science curriculum cultivates three-dimensional learning experiences.

Instructional units are designed to support student sensemaking anchored in phenomena that strategically integrate the DCIs, CCCs, and SEPs.

Discovery Education *Science Techbook* uses the **Wonder-Learn-Share** teaching sequence, a simplified version of the 5E Instructional Model, to guide instruction and help elementary school students experience 3D learning.



Wonder

Ignite natural curiosity with exciting content that inspires students to ask the questions they want to explore—about the inner workings of the world around us.



Learn

Activate their inner explorer with immersive hands-on activities and rich interactive resources that will get students thinking and acting like scientists.

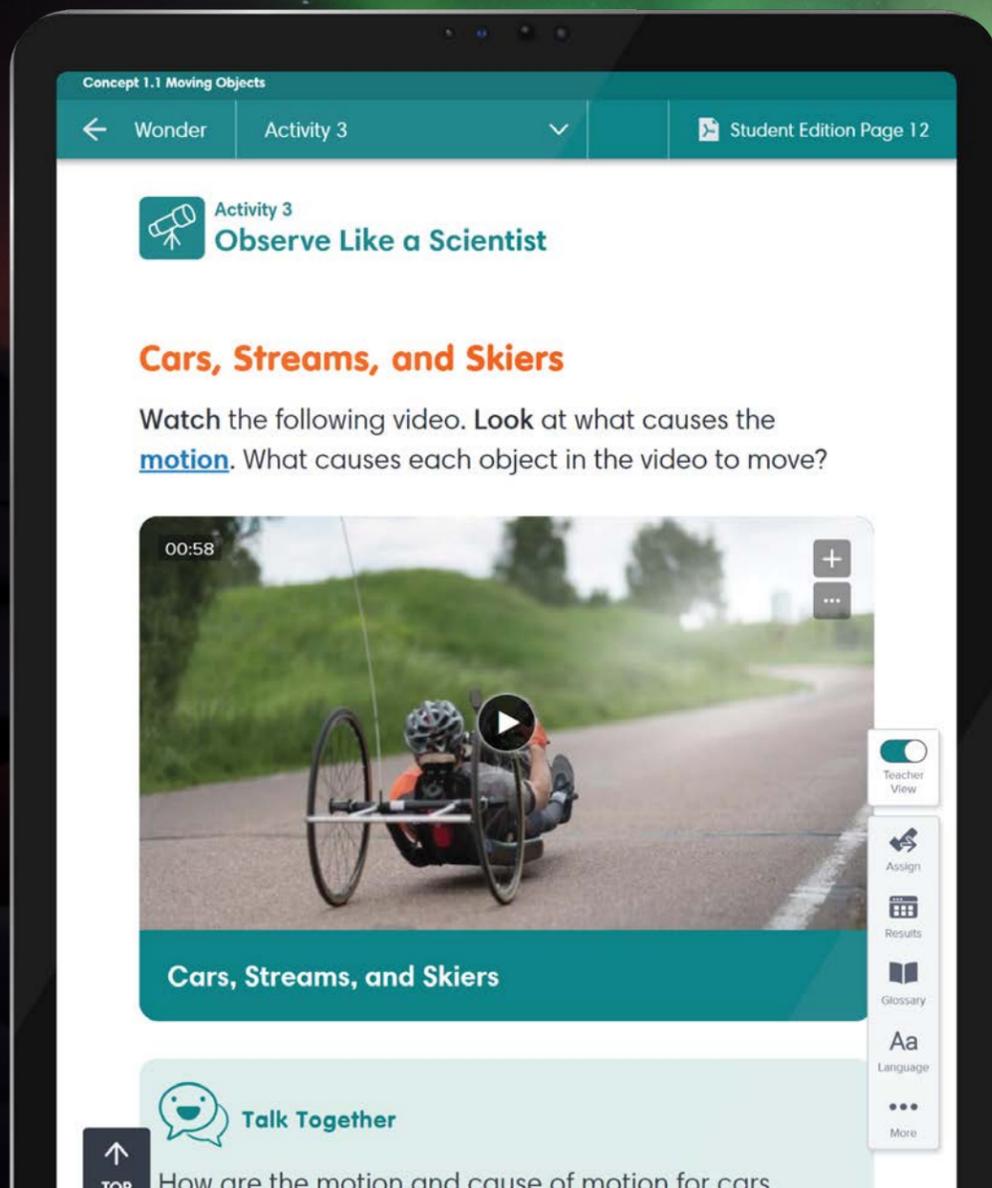


Share

Construct scientific explanations to questions related to the investigative phenomena or to their own curiosity.

Strengthen science and engineering practices as students develop solutions to real-world challenges.

Build skills that will allow students to navigate the planet and their futures more successfully.



Students as Lead Investigators

Active investigation of phenomena prompts students to ask questions, collect evidence, and develop explanations to generate evidence of sensemaking.




Concept 3.3 Environmental Changes

Share Extension 2

STEM

Project: Hazards at Home

How can household hazardous waste affect ecosystems?

Dangers for ecosystems may be lurking in your household trash. In this Hands-On Lab, you will investigate the effects

Clear Answers
Teacher View
Assign
Results
Glossary
Aa Language



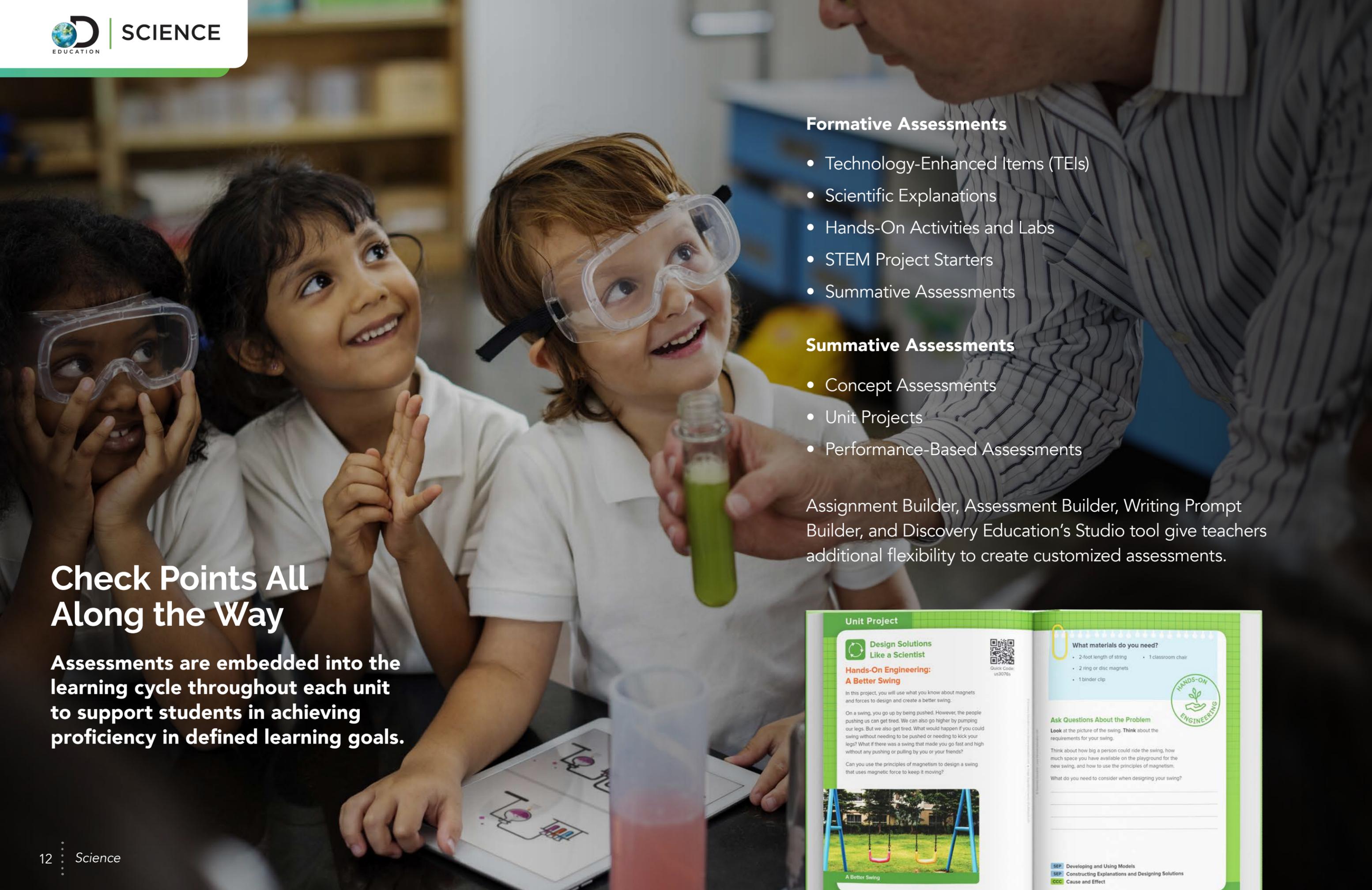
Hands-On Investigations and Labs provide immersive opportunities for students to demonstrate science and engineering practices and analyze data to look for evidence of crosscutting concepts.

Optional Hands-On Classroom Kits with pre-packaged supplies make it easy to promote an active learning environment, while teachers save time with instructional Hands-On Activity Videos.

Studio, our in-product authoring tool, lets educators easily create, assign, and track progress while students use it to design, share, and build confidence with digital content.

Virtual Labs and online models allow students to quickly manipulate variables to test out their ideas in an online environment.

STEM Project Starters connect math, technology, and engineering to students' understanding of science concepts in order to produce creative solutions to real-world problems.



Check Points All Along the Way

Assessments are embedded into the learning cycle throughout each unit to support students in achieving proficiency in defined learning goals.

Formative Assessments

- Technology-Enhanced Items (TEIs)
- Scientific Explanations
- Hands-On Activities and Labs
- STEM Project Starters
- Summative Assessments

Summative Assessments

- Concept Assessments
- Unit Projects
- Performance-Based Assessments

Assignment Builder, Assessment Builder, Writing Prompt Builder, and Discovery Education’s Studio tool give teachers additional flexibility to create customized assessments.

Unit Project

Design Solutions Like a Scientist

Hands-On Engineering: A Better Swing

In this project, you will use what you know about magnets and forces to design and create a better swing.

On a swing, you go up by being pushed. However, the people pushing us can get tired. We can also go higher by pumping our legs. But we also get tired. What would happen if you could swing without needing to be pushed or needing to kick your legs? What if there was a swing that made you go fast and high without any pushing or pulling by you or your friends?

Can you use the principles of magnetism to design a swing that uses magnetic force to keep it moving?

What materials do you need?

- 2-foot length of string
- 2 ring or disc magnets
- 1 binder clip
- 1 classroom chair

Ask Questions About the Problem

Look at the picture of the swing. Think about the requirements for your swing.

Think about how big a person could ride the swing, how much space you have available on the playground for the new swing, and how to use the principles of magnetism.

What do you need to consider when designing your swing?

SEP Developing and Using Models
SEP Constructing Explanations and Designing Solutions
CCC Cause and Effect

Navigating 3D Instruction

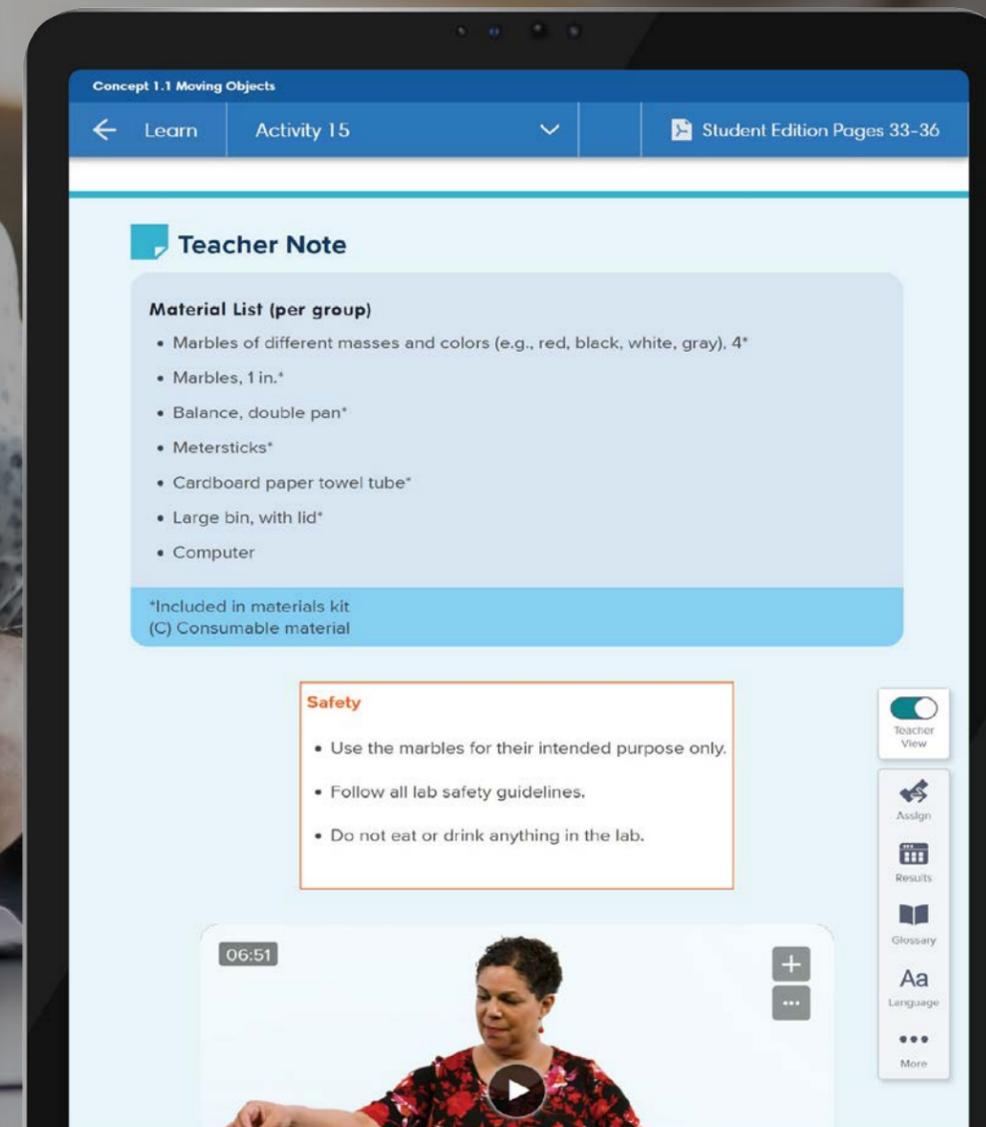
Lesson planning, differentiation, progress monitoring, and professional growth opportunities provide teachers with time-saving support.

Lesson Planning

Resources such as Teacher Notes, Concept-at-a-Glance, Concept Pacing Options, Content Background, Literacy Connections, Hands-On Activity videos and Studio Slideshows help save teachers time.

Literacy

A variety of texts at different Lexile levels and formats and writing opportunities, combined with literacy-supported lessons, build students' scientific knowledge while developing and strengthening their literacy skills.



Guiding All Students to Success

Flexible instructional tools allow teachers to effectively ensure all students master three-dimensional learning goals.

Differentiation

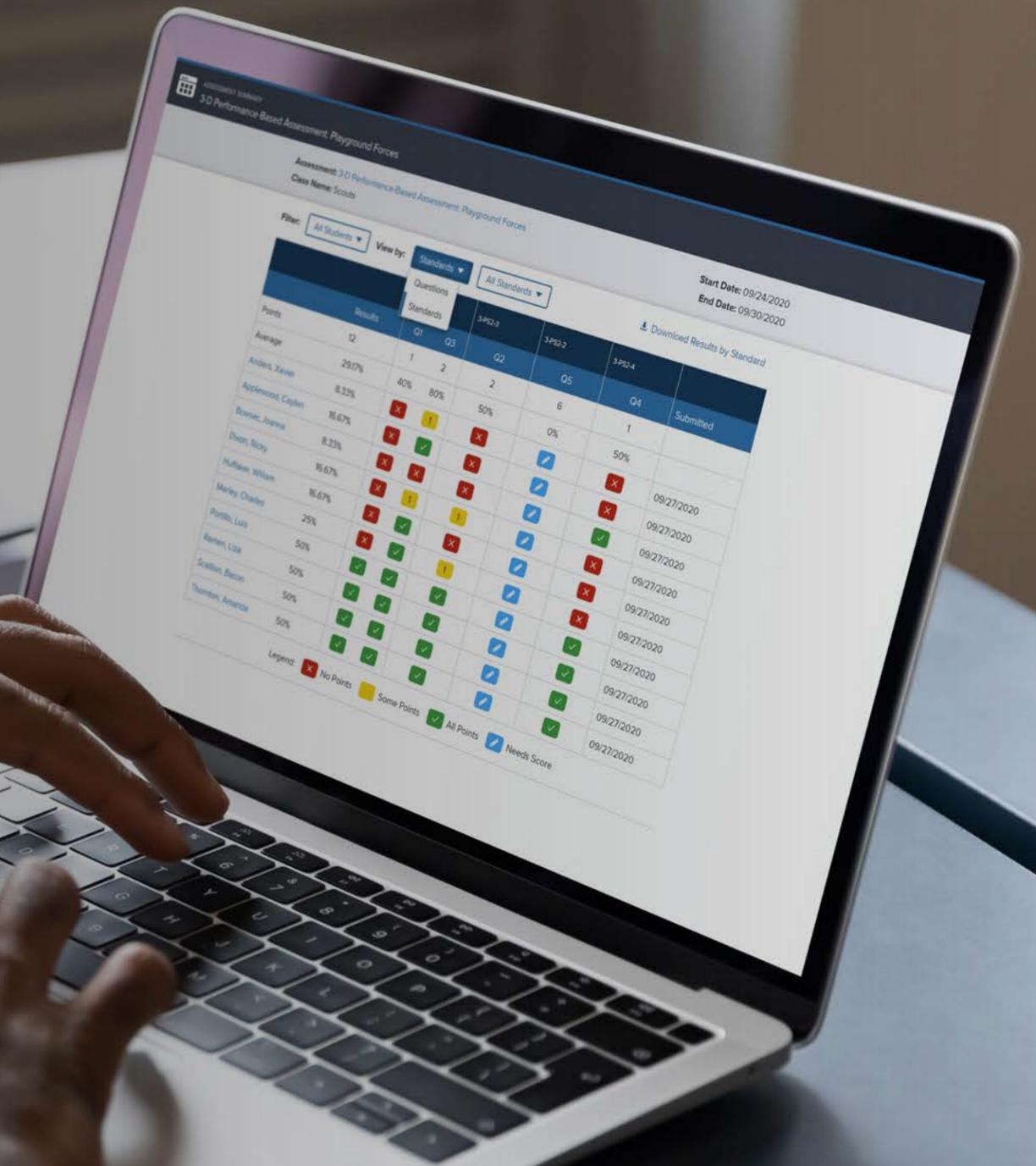
Multimodal learning resources, Spanish and English options, interactive glossaries, adjustable reading levels, read-aloud and note-taking tools, as well as extension and enrichment activities, address diverse learning needs and engage all students.

ELL tools at point of use, including speak-to-text, are constructed around the strategies for language acquisition standards.

Over 200,000 vetted and curated, differentiated learning resources is available for all levels through the *Experience* platform.

Progress Monitoring

The online Teacher Dashboard offers access to data in real time, allowing teachers to review student work, provide immediate feedback, and inform decisions about instruction, differentiation, and intervention.



Professional Learning & On-Demand Support

Maximize digital resources with step-by-step guides, interactive courses and live events, and if you want to go deeper, we'll work with you to coordinate more in-depth, tailored on-site and on-demand professional learning experiences.

Teacher Support

Find self-paced online courses to guide implementation, improve user confidence, and strengthen the effectiveness of digital resources.

Instructional Strategies

Explore grab-and-go lessons and toolkits that help teachers differentiate learning, and adapt content to specific student needs, such as ELL, SEL, and Special Education.

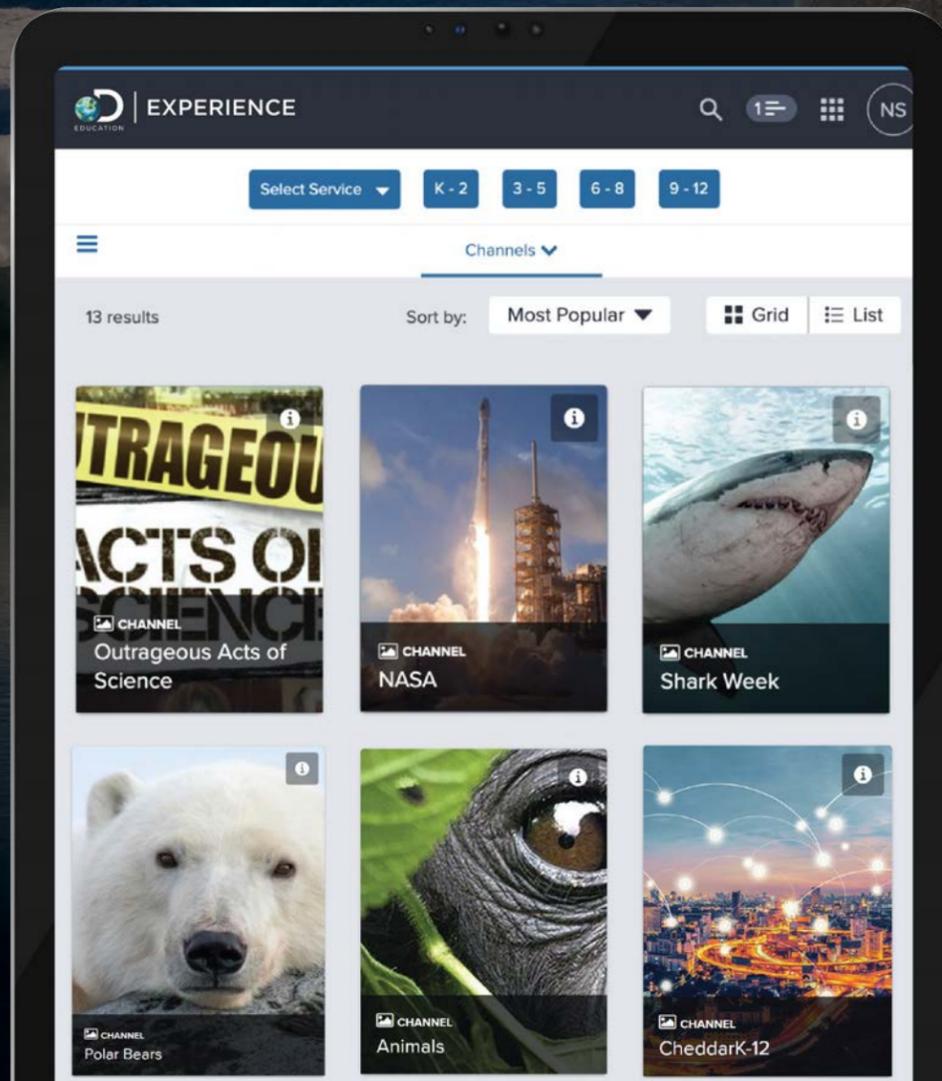
Discovery Education Network

Connect with educators, share best practices, attend learning events, and gain invaluable insights and tips from peers around the world.

Exciting Content That Inspires Curiosity

Exclusive, original, and highly-engaging multimedia content makes science exciting and relevant for all students.

Vetted by curriculum experts and differentiated by grade level, the phenomena and content used in *Science Techbook* mirrors the unique interests of students and helps them make relevant, lasting connections between science, the classroom, and their everyday lives.



First, we pair award-winning content from **Experience**, our dynamic K-12 learning platform, with carefully selected phenomena to develop students' 3D learning. This curation of content is designed to move students to successful demonstration of learning based on the Performance Expectations.

Next, we integrate additional key content from across our networks like **Outrageous Acts of Science**, **NASA**, **Shark Week**, **NBA**, **MLB**, **Animal Planet**, and **World Wildlife Fund** to every standard and Disciplinary Core Ideas in *Science Techbook*.

Students learn best in science when they are making sense of phenomena that are relevant to them.



Begin Your Exploration Today!

DiscoveryEducation.com/Science