

Classifying Two-Dimensional Figures - Lesson 5

Teacher Guide

Duration: 20 minutes

Standards for Mathematics

TEKS.5.5.A.ii

Classify two-dimensional figures in a hierarchy of sets and subsets using graphic organizers based on their properties.

Focus Strategies

Think Aloud: The teacher models a process of thinking by speaking aloud what is thought. As an example, 'I think I need more color here in my drawing.' This strategy models for students the type of thinking they can use in an upcoming activity.

Think-Pair-Share: Students are prompted to think about an idea on their own. Students then share their idea with a partner and have a quick discussion. Selected students are asked to share their ideas with the whole group.

Materials

whiteboard, markers, printed examples and non-examples of two-dimensional figures, graphic organizer templates for classification

Key Vocabulary

shape, triangle, rectangle, square, circle, properties

Warm-Up

Begin with a quick review of two-dimensional shapes. Ask students to name as many shapes as they can in one minute. Write their responses on the board.

Introduction

Explain to students that today they will learn how to classify shapes based on their properties. Introduce the concept of examples and non-examples, explaining that understanding what a shape is and what it is not will help them classify shapes better.

Exploration & Whole Class Discussion

Present the first pair of examples and non-examples: a triangle (example) and a circle (non-example). Ask students, 'What do you notice about these shapes? What makes the triangle a triangle and the circle not a triangle?' Allow students to discuss in pairs for a few minutes. Then, bring the class back together and have selected pairs share their thoughts. Guide the discussion to highlight the properties that define a triangle.

Application & Reflection

Have students work in pairs to classify a new set of shapes using a graphic organizer. They should identify which shapes belong to the category of 'quadrilaterals' and which do not. After completing the organizer, ask students to reflect on what they learned about the properties of quadrilaterals and share their reflections with their partner.

Assessment

Observe students during the pair discussions and their completion of the graphic organizer. Collect the organizers to assess their understanding of the classification of shapes. Additionally, ask a few students to share their definitions of quadrilaterals with the class to gauge their understanding.

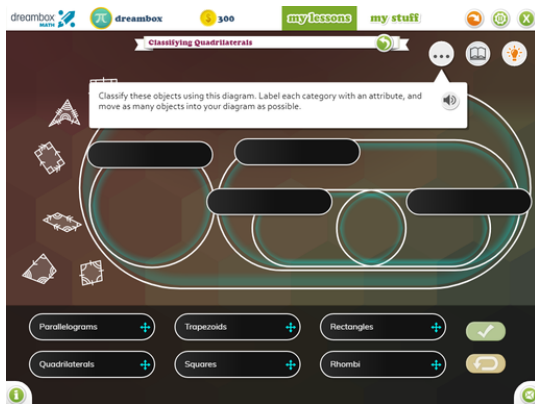
Strategies to Support Emergent Bilingual Students

To support emergent bilingual students, we recommend the following:

1. Provide independent think time after asking questions or posing prompts.
2. Have students pair up with a partner to generate responses together.
3. Have students restate each other's reasoning in classroom discussions.
4. Create a public record of classroom discussions.
5. Use color and annotation to help learners make connections for concepts.
6. Introduce academic vocabulary as needed.
7. Use iconic and semantic gestures to help students understand.

Additional Support Resources

If your students need additional support, you can click on one of the lessons below and present it to your whole class. You can use the interactive manipulatives and built in feedback to support students in a whole class discussion. Good questions to ask are 'What do you see?', 'What do you think?' 'What do you wonder?'



Classifying Quadrilaterals in a Hierarchy



Classifying Figures: Quadrilateral Attributes

Sample Lesson Flow

- TEACHER SAY** *Welcome, everyone! Today we are going to dive into the world of shapes. Can anyone tell me some two-dimensional shapes they know?*
- STUDENTS DO** Raise hands and share names of shapes like squares, triangles, rectangles, and circles.
- TEACHER DO** Write the names of the shapes on the whiteboard as students share.
- TEACHER SAY** *Great job! Now, let's talk about how we can classify these shapes based on their properties. We will look at examples and non-examples to help us understand.*
- TEACHER DO** Display a triangle and a circle on the board.
- TEACHER SAY** *Here we have a triangle and a circle. What do you notice about these shapes? What makes the triangle a triangle and the circle not a triangle?*
- STUDENTS DO** Turn to their shoulder partner and discuss their observations.
- TEACHER DO** After a few minutes, call the class back together.
- TEACHER SAY** *Who would like to share their thoughts on the triangle and circle?*
- STUDENTS DO** Raise hands to share their observations.
- TEACHER SAY** *Excellent! So, what properties define a triangle? Let's list them on the board.*
- TEACHER DO** Record properties such as 'three sides' and 'three angles' on the board.
- TEACHER SAY** *Now, let's explore another set of shapes. I want you to work in pairs to classify these shapes using a graphic organizer. You will identify which shapes belong to the category of 'quadrilaterals' and which do not.*
- STUDENTS DO** Receive printed shapes and graphic organizer templates. They work in pairs to classify the shapes.
- TEACHER DO** Walk around the room, observing students as they work and providing support where needed.
- TEACHER SAY** *Once you finish, take a moment to reflect on what you learned about the properties of quadrilaterals. Share your reflections with your partner.*
- STUDENTS DO** Discuss their reflections with their partner.
- TEACHER DO** Collect the graphic organizers to assess understanding.
- TEACHER SAY** *Before we wrap up, I would like a few volunteers to share their definitions of quadrilaterals with the class.*
- STUDENTS DO** Raise hands to volunteer and share their definitions.
- TEACHER SAY** *Fantastic work today! You all did an amazing job classifying shapes and understanding their properties.*