STEMscopes™ TEXAS
MATH
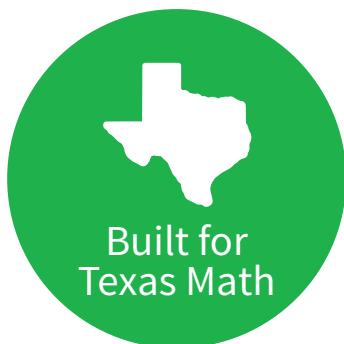POWERED BY ACCELERATE LEARNING

Grade 5

Lesson Sample

Content Review

Built for
Texas Math

AccelerateLEARNING
THE LEADER in STEM EDUCATION

Table of Contents

A Math Program for Texas Educators

GUIDED LESSON TOUR

AccelerateLEARNING
THE LEADER in STEM EDUCATION

Welcome to Your Lesson Sample

The following pages feature resources that mirror what teachers and students can access digitally. Each section includes clear navigation steps that seamlessly guide you through the content online, ensuring quick and easy access. Look for red circle callouts in the top left corner, which correspond directly to the titles of online documents.

Our lessons are also referred to as Scopes online. Scopes are built on a solid foundation of proven educational strategies, featuring a wealth of resources and materials fully aligned to the TEKS.

From our online platform, you can:

- Personalize your experience by bookmarking your favorite elements, crafting lesson plans, and effortlessly managing your students and classes.

- Access detailed preparation instructions, facilitation prompts, discussion questions, and sample student answers, providing everything you need for successful hands-on learning.

- Preview assignments from the student's view.

- Assign activities and assignments to students digitally, grade submissions, and provide feedback seamlessly within our user-friendly interface.

- Download and print files for added flexibility!

Explore the STEMscopes Texas Math Program Guide for a deeper dive into our lesson design and comprehensive program details.
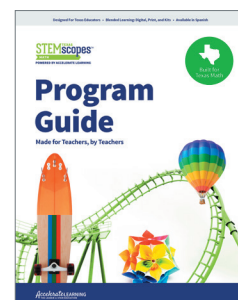
Log In and Review!

The entire STEMscopes Texas Math curriculum is online.

Use the **navigation steps** to follow along online and explore all that STEMscopes Texas Math offers educators and students.

Access our full curriculum online in two easy ways:

1. Log in using your district's unique review URL and credentials.

2. Sign up at *acceleratelearning.com/math/tx*.

All student digital and print resources are available in English and Spanish
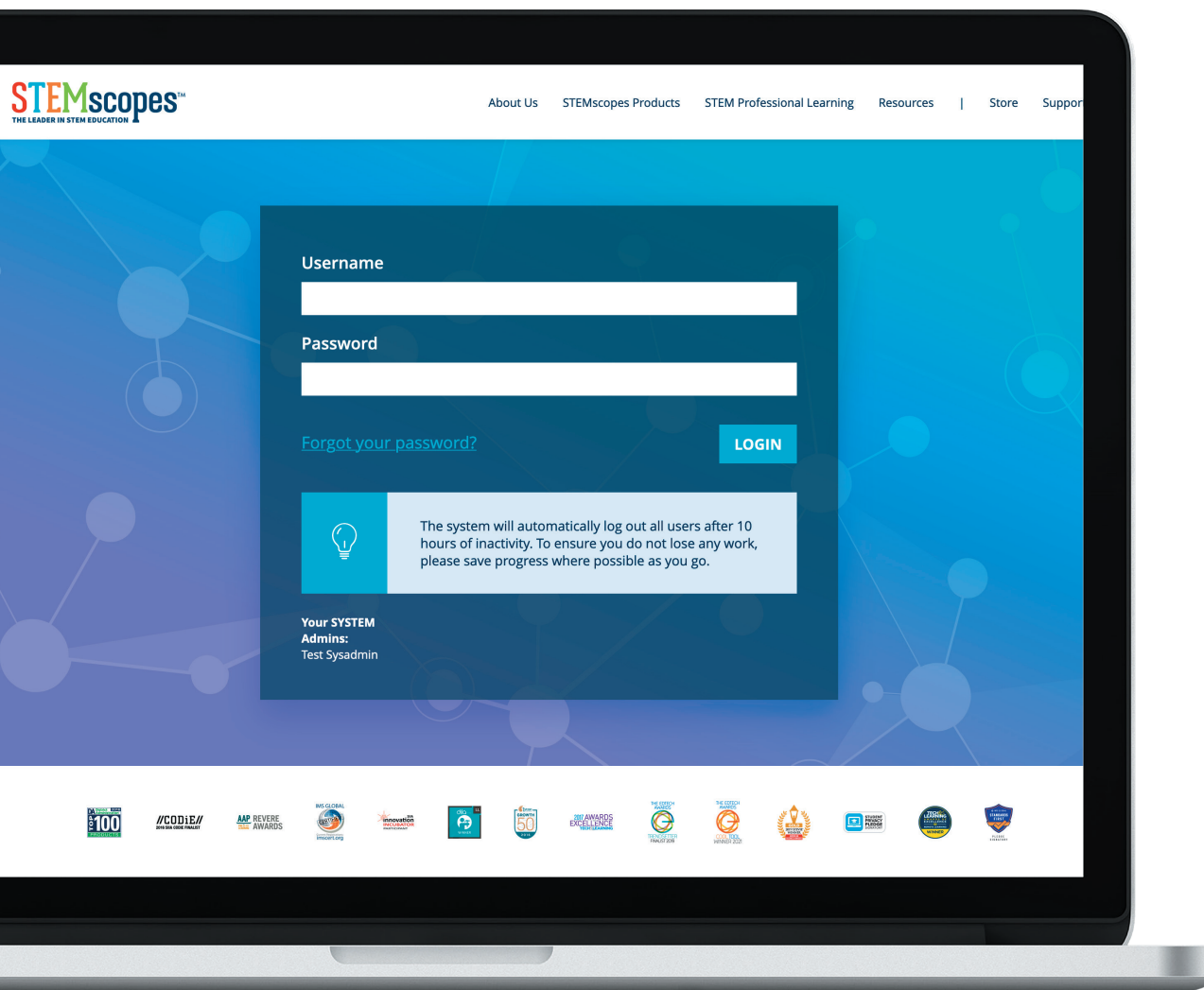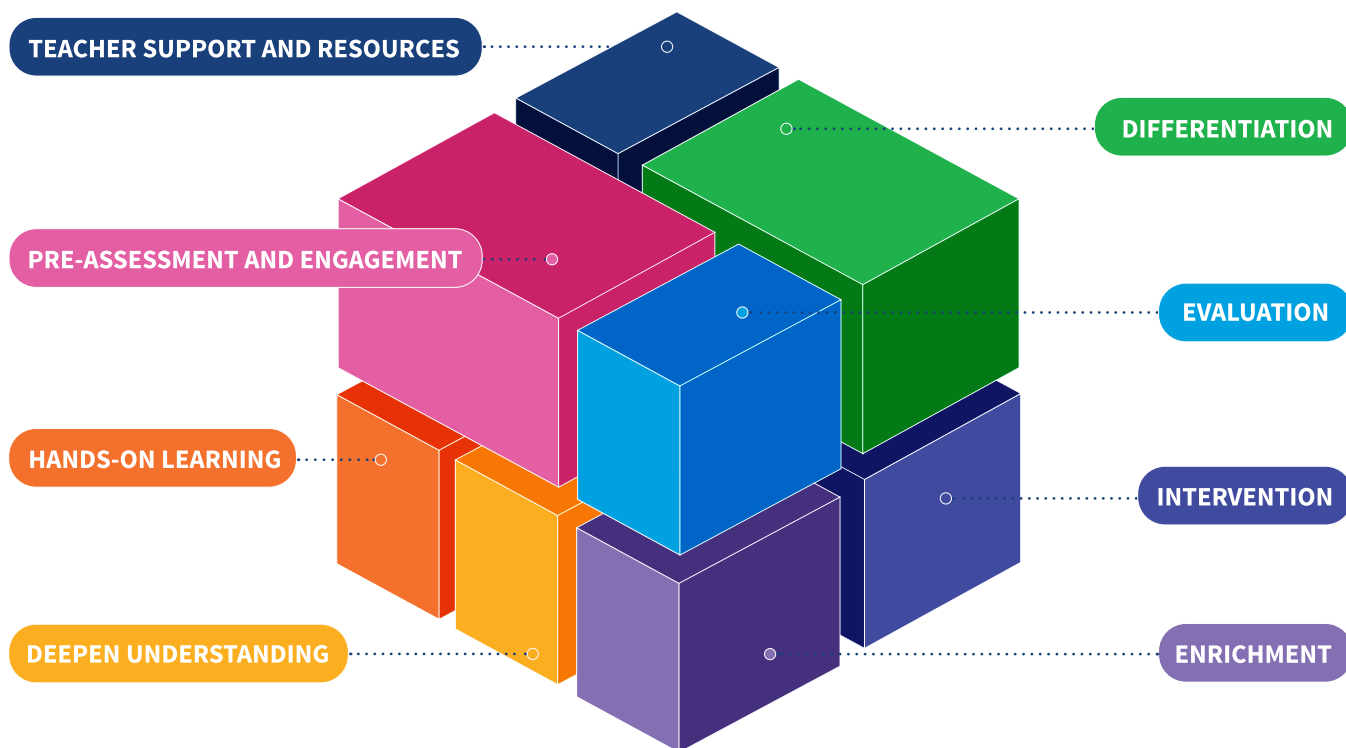
Lesson Design

A Comprehensive Math Solution

Each lesson is intentionally designed to provide teachers and students with everything they need for engaging and meaningful math instruction and learning.

Everything You Need, All In One Place

TEACHER SUPPORT AND RESOURCES

DIFFERENTIATION

PRE-ASSESSMENT AND ENGAGEMENT

EVALUATION

HANDS-ON LEARNING

INTERVENTION

DEEPEN UNDERSTANDING

ENRICHMENT

100% Aligned with the TEKS!

Grade 5 Lessons

LESSON	TEKS
Multiplication and Division Algorithms	5.3B, 5.3C
Problem Solve with the Four Operations	5.3A, 5.4B
Represent and Compare Decimals	5.2A, 5.2B
Add and Subtract Decimals	5.2C, 5.3A, 5.3K
Multiply Decimals	5.3A, 5.3D, 5.3E
Divide Decimals	5.3A, 5.3F, 5.3G
Add and Subtract Fractions	5.4A, 5.3A, 5.3H, 5.3K
Multiply Fractions	5.3A, 5.3I
Divide Fractions	5.3A, 5.3J, 5.3L
Numerical Expressions	5.4E, 5.4F
Classify Two-Dimensional Figures	**5.5A**
Perimeter, Area, and Volume	5.4G, 5.4H, 5.6A, 5.6B
Unit Conversions	5.7A
Graph in the First Quadrant	5.8A, 5.8B, 5.8C, 5.4C, 5.4D
Represent and Interpret Data	5.9A, 5.9B, 5.9C
Income, Taxes, and Payment Methods	5.10A, 5.10B, 5.10C
Balance a Budget	5.10D, 5.10E, 5.10F

Grade 5, Classify Two-Dimensional Figures

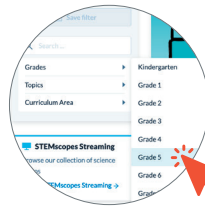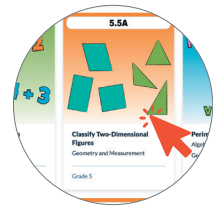## Log In
Use Your Credentials
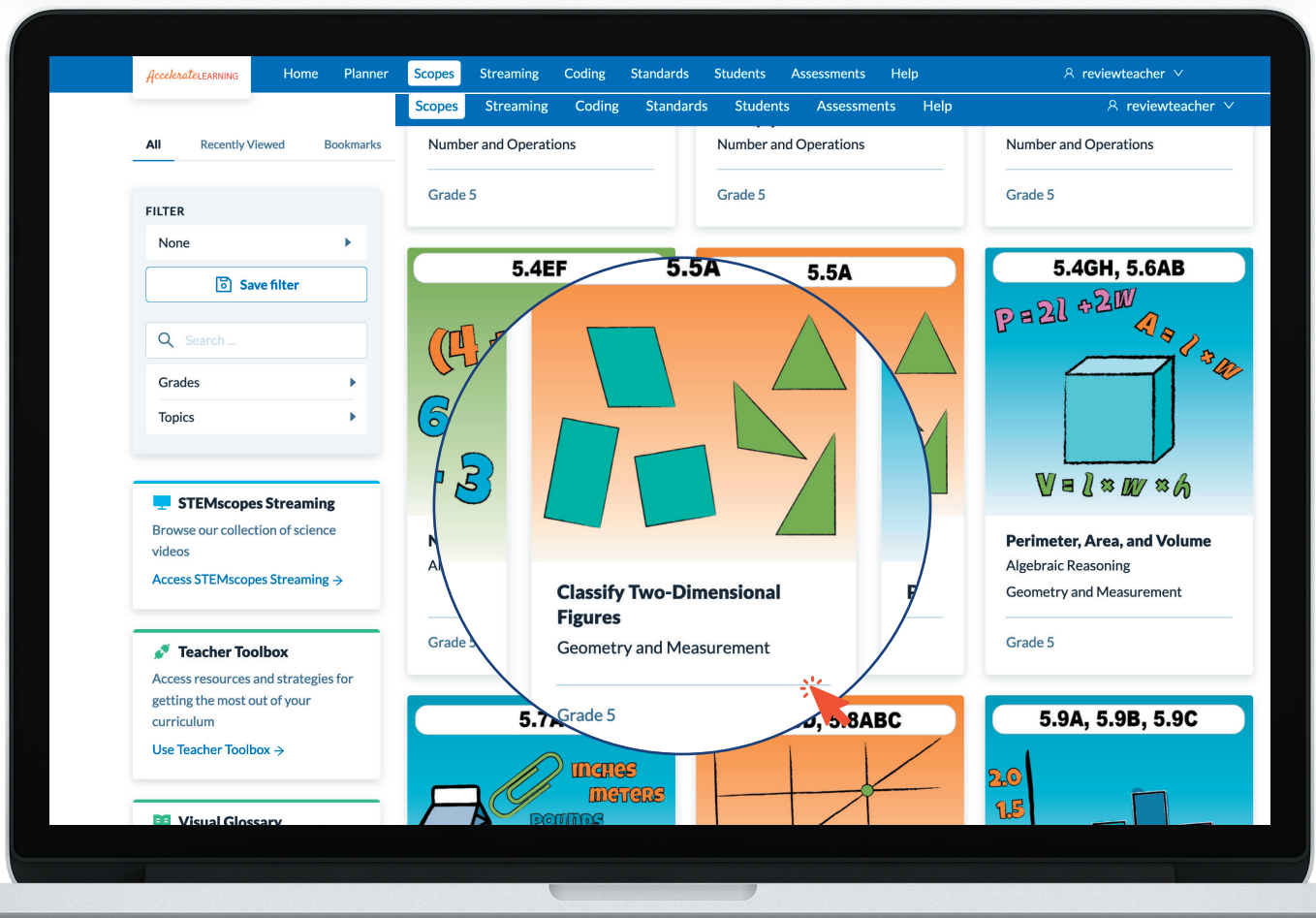
Click Scopes
Click on Scopes in the Blue Navigation Bar

Filter
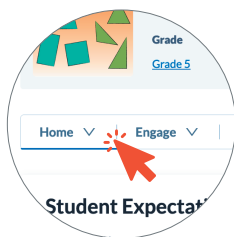Filter to 5th Grade on the Left-Hand Side

Select Tile
Select and Click on the Classify Two-Dimensional Figures Scope Tile

| Home | Engage | Explore | Explain | Elaborate | Evaluate | Intervention | Acceleration |

Home

NAVIGATION STEPS

Click Home

Click on Home in the White Menu Bar
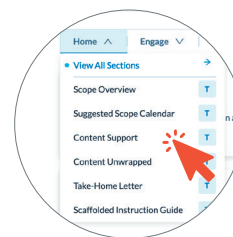
Review Content

Use the Dropdown to Review Teacher Support and Resources

Our program is built by practicing and former teachers, so we know what you need to teach and that your curriculum should provide it all.

Each lesson starts with a tailored **Home** section with planning essentials, including a daily lesson calendar, comprehensive standards analysis, and letters for communicating with families.

SCOPE OVERVIEW

The Scope Overview provides a comprehensive insight into the key components that enable teachers to deliver a well-rounded and effective learning experience. It includes a Progression of Learning, which details the essential elements for mastering the standards and offers Supplemental Activities that present various options for assessment, intervention, and enrichment of the core content.

Progression of Learning

ENGAGE

Hook
Use this activity to motivate students and set the stage for learning.

EXPLORE AND EXPLAIN

1: Classify Polygons
Skill Basics: How to Identify Congruent Sides and Angles
Skill Basics: How to Distinguish Parallel and Perpendicular Sides
Explore and Exit Ticket
Show What You Know

2: Classify Quadrilaterals
Explore and Exit Ticket
Show What You Know

Supplemental Activities

Supports for Concept Development

Skill Basics (Explore)
A lesson that prepares students for the Explore activities
Note: This is not in every scope.
Anchor Chart (Explain)
A guide to facilitating the creation of a chart that summarizes the concepts within the scope
Interactive Notebook (Explain)
An activity that allows students to process what they have learned and that can be added to a student notebook for future reference
Picture Vocabulary (Explain)
A presentation of important terms with pictures and definitions
Language Connections (Explain)
An opportunity to use linguistic and cultural background knowledge to support connections to new skills, vocabulary, and concepts at different proficiency levels

Workstations and Additional Practice

Fluency Builder (Elaborate)
A game that provides students with an engaging way to practice new concepts
My Math Thoughts (Explain)
An activity containing journal prompts designed to allow students to explain their thinking and reflect

ow students to

CONTENT SUPPORT

Content Support is a comprehensive unit overview that provides the background content knowledge and academic vocabulary necessary to effectively teach the concepts in the unit.

5.5A Classify two-dimensional figures in a hierarchy of sets and subsets using graphic organizers based on their attributes and properties.

Background Knowledge

In kindergarten, students begin to develop geometric concepts and spatial reasoning as they identify, classify, and sort two-dimensional and three-dimensional shapes by their similarities, differences, and number of sides and vertices. In first grade and second grade, students reason about shapes in relation to their attributes, and they begin to build and draw these shapes based on their attributes. Students compose and decompose specific types of shapes, such as quadrilaterals and triangles, as well as three-dimensional shapes, including rectangular prisms and cones. In third grade, students make generalizations about properties that are shared between categories of shapes, such as parallel line segments, perpendicular line segments, right angles, and lines of symmetry. Third-grade students mainly focus on identifying quadrilaterals and subcategories of quadrilaterals, but they also classify, compare, and contrast various polygons and three-dimensional figures. In fourth grade, students more precisely name two-dimensional shapes by classifying them based on line types, angle types, and side lengths.

Classify Polygons

Students use the properties of sides and angles to identify specific polygons. Polygons are two-dimensional figures with at least three straight sides. Students should practice classifying polygons in multiple ways. Polygons can be organized based on a variety of attributes, such as parallel sides, perpendicular sides, types of angles, number of sides, number of congruent sides, and lines of symmetry.

Example: Examine the collection of polygons below.

Answer each riddle by identifying the specific shape shown below by letter.

- I am a regular polygon with all right angles. Which shape(s) am I? B
- I am a quadrilateral. I have 2 acute angles and 2 obtuse angles. Which shape(s) am I? D, E
- I am a quadrilateral. I have exactly one set of parallel sides. Which shape(s) am I? D, F
- I am not a polygon. I have an infinite number of lines of symmetry. Which shape(s) am I? A
- I am a quadrilateral with opposite congruent sides. I have 4 right angles. Which shape(s) am I? B, C

CONTENT UNWRAPPED

Content Unwrapped breaks down the TEKS by identifying the nouns and verbs within the standards, includes a list of instructional implications, and provides a vertical alignment.

Standards

5.5A Classify two-dimensional figures in a hierarchy of sets and subsets using graphic organizers based on their attributes and properties.

Dissecting the Standard

Breakouts

5.5A

(i) Classify two-dimensional figures in a hierarchy of sets and subsets using graphic organizers based on their attributes.

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

Verbs: What should students be doing?

- *classify*: to put things with shared attributes together into groups

Nouns: What concrete words should students know?

- *attribute*: a characteristic used to describe something, also known as property

- *hierarchy*: an order or arrangement of objects based on the relationships among their characteristics

- *property*: a characteristic or quality that something has (like shape, number of sides, length of sides, etc.)

- *set*: a group

- *two-dimensional*: flat; having only length and width

Implications for Instruction

- In previous grade levels, students identified both regular and irregular two-dimensional shapes with up to 12 sides based on attributes. An attribute is a characteristic or component of a geometric figure, and the attributes combine to form the properties of the figure. It is important that students understand that identifying essential attributes is key to classifying figures within a hierarchy of sets and subsets. For example, all rectangles have the property that opposite sides are parallel and, therefore, every rectangle is a parallelogram.

- Students should continue to identify shapes based on their attributes, not just by sight. Often, students develop a misconception that specific shapes all look the same. For example, some students believe that all trapezoids look the same. Once students understand that shapes are defined by their attributes and classified by their properties, students will better understand the hierarchy of two-dimensional figures.
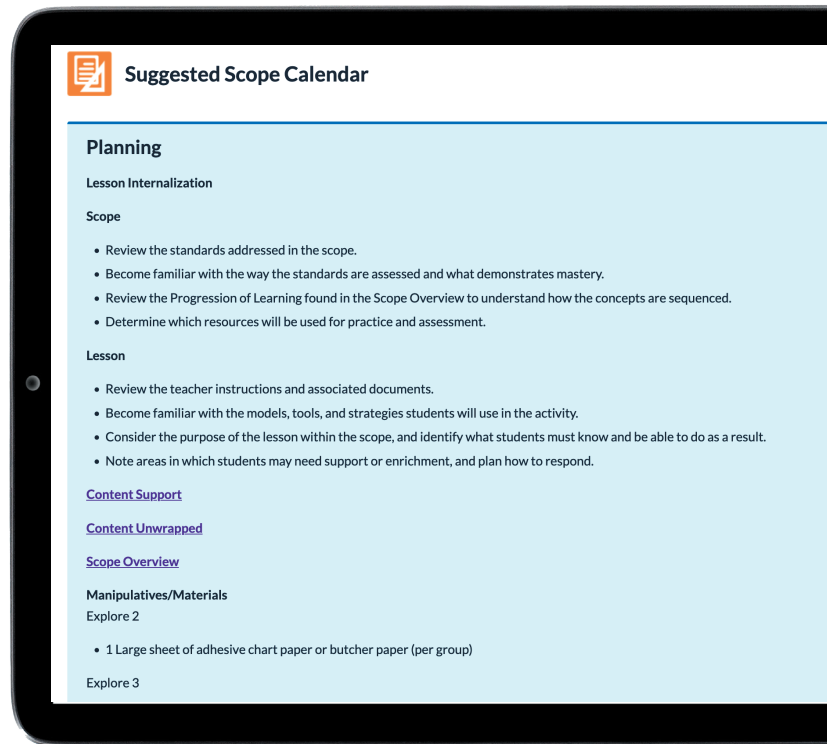
Vertical Alignment

STANDARD
K.6E Classify and sort a variety of regular and irregular two- and three-dimensional figures regardless of orientation or size.
1.6A Classify and sort regular and irregular two-dimensional shapes based on attributes using informal geometric language.
2.8B Classify and sort three-dimensional solids, including spheres, cones, cylinders, rectangular prisms (including cubes as special rectangular prisms), and triangular prisms, based on attributes using formal geometric language.
2.8C Classify and sort polygons with 12 or fewer sides according to attributes, including identifying the number of sides and number of vertices.
3.6A Classify and sort two- and three-dimensional figures, including cones, cylinders, spheres, triangular and rectangular prisms, and cubes, based on attributes using formal geometric language.
4.6D Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines or the presence or absence of angles of a specified size.
5.5A Classify two-dimensional figures in a hierarchy of sets and subsets using graphic organizers based on their attributes and properties.

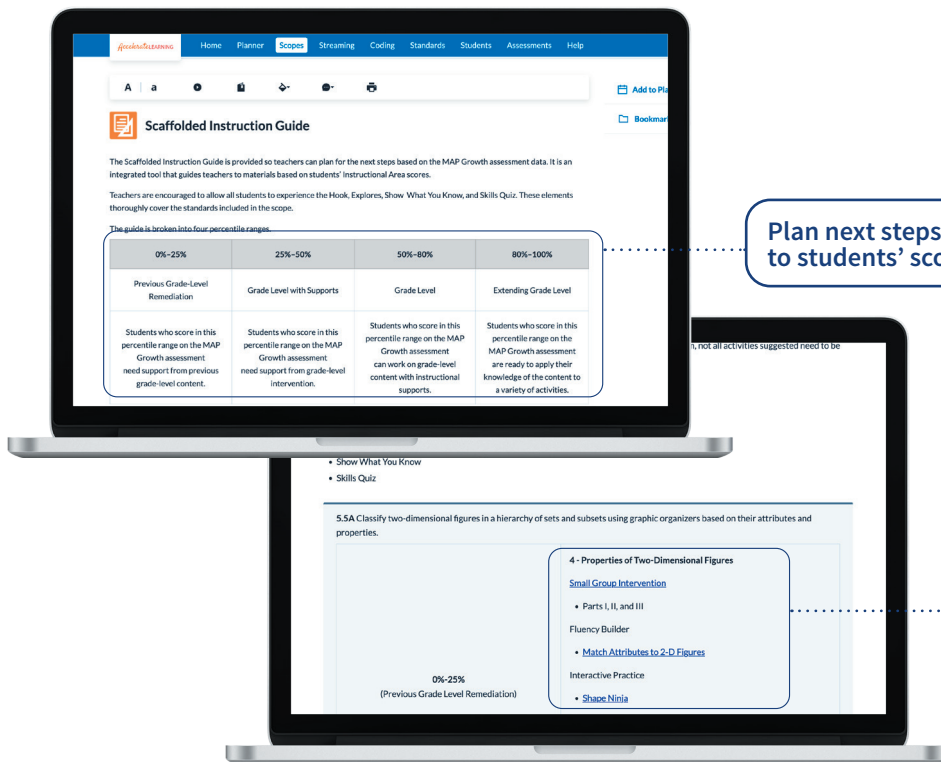*Accelerate***LEARNING**
THE LEADER in STEM EDUCATION

SUGGESTED SCOPE CALENDAR

Dive deep into comprehensive, structured unit and lesson plans that detail daily objectives, questions, tasks, materials, instructional assessments, and suggested timing.

Suggested Scope Calendar

Planning

Lesson Internalization

Scope

- Review the standards addressed in the scope.
- Become familiar with the way the standards are assessed and what demonstrates mastery.
- Review the Progression of Learning found in the Scope Overview to understand how the concepts are sequenced.
- Determine which resources will be used for practice and assessment.

Lesson

- Review the teacher instructions and associated documents.
- Become familiar with the models, tools, and strategies students will use in the activity.
- Consider the purpose of the lesson within the scope, and identify what students must know and be able to do as a result.
- Note areas in which students may need support or enrichment, and plan how to respond.

Content Support

Content Unwrapped

Scope Overview

Manipulatives/Materials
Explore 2

- 1 Large sheet of adhesive chart paper or butcher paper (per group)

Explore 3

SCAFFOLDED INSTRUCTION GUIDE

Scaffolded Instruction Guide

The Scaffolded Instruction Guide is provided so teachers can plan for the next steps based on the MAP Growth assessment data. It is an integrated tool that guides teachers to materials based on students' Instructional Area scores.

Teachers are encouraged to allow all students to experience the Hook, Explores, Show What You Know, and Skills Quiz. These elements thoroughly cover the standards included in the scope.

The guide is broken into four percentile ranges.

0%–25%	25%–50%	50%–80%	80%–100%
Previous Grade-Level Remediation	Grade Level with Supports	Grade Level	Extending Grade Level
Students who score in this percentile range on the MAP Growth assessment need support from previous grade-level content.	Students who score in this percentile range on the MAP Growth assessment need support from grade-level intervention.	Students who score in this percentile range on the MAP Growth assessment can work on grade-level content with instructional supports.	Students who score in this percentile range on the MAP Growth assessment are ready to apply their knowledge of the content to a variety of activities.

Plan next steps with activities tailored to students' scores.

- Show What You Know
- Skills Quiz

5.5A Classify two-dimensional figures in a hierarchy of sets and subsets using graphic organizers based on their attributes and properties.

4 - Properties of Two-Dimensional Figures

Small Group Intervention

- Parts I, II, and III

Fluency Builder

- Match Attributes to 2-D Figures

Interactive Practice

- Shape Ninja

0%–25%
(Previous Grade Level Remediation)

Access activities through direct links and then print or digitally assign.

TAKE-HOME LETTER
Procedure and Facilitation Points

1. As you prepare for each scope, send a Take-Home Letter with students the week before to explain planned concepts and ways to help at home.

2. Have students return a signed copy of the Tic-Tac-Toe: Try This at Home page when completed to share with the class.

3. Be prepared to explain activities as questions arise. Some letters include resources that should be cut out and used with students.

Intentar en casa: Tatetí

buscan figuras!
artel de «¡Se busca!»
gono de su elección. Sea
gúrese de que el cartel

Emparejar	Arte de figuras
1. Dibuja un cuadrado, un rectángulo, un rombo, un paralelogramo, un trapecio, un triángulo recto, un triángulo obtuso y un ... n blanco	1. Recorte una variedad de múltiples copias de figuras bidimensionales que encuentre en línea, en revistas, etc. 2. Explore cómo organizarlos en diferentes patrones. Forme una representación de un objeto del mundo real o cree una obra de arte abstracta. 3. Una vez que encuentre un diseño que le guste, pegue las piezas y móntelas en cartulina. Colóquele un nombre a su obra de arte. 4. Dé un paseo por la galería y comente las obras de arte de los demás, utilice tantas palabras de vocabulario matemático como pueda imaginar.

de vocabulario pueden ser útiles en su
s son términos que alentarán a su
nuestras conversaciones de matemáticas,
d.

la que cada ángulo es menor de 90

también conocida como propiedad.

maño.

Siempre, a veces o nunca
1. Etiqueta tres secciones de una
habitación con carteles que digan

Quinto grado. Clasificar figuras bidimensionales

Su estudiante está por explorar el clasificar figuras bidimensionales. Para dominar esta habilidad, desarrollarán su conocimiento de figuras bidimensionales del cuarto grado. En cuarto grado, su estudiante aprendió a identificar a crear figuras bidimensionales basadas en atributos de las figuras, como vértices, lados y ángulos. A medida que su estudiante amplíe su conocimiento de este tema durante el quinto grado, aprenderán los siguientes conceptos:

- clasificar polígonos según sus atributos y propiedades y utilizar el conocimiento de las propiedades para identificar subconjuntos de cuadriláteros y triángulos.
  Por ejemplo: Analiza el organizador gráfico de cada enunciado a continuación. Determina si cada enunciado es verdadero o falso y explica tu razonamiento.

  A. Todos los paralelogramos tienen ángulos rectos.
  B. Todos los cuadrados son rectángulos.
  C. Todos los rombos son cuadrados.
  D. Todos los trapecios tienen un conjunto de lados paralelos.

Tic-Tac-Toe: Try This at Home

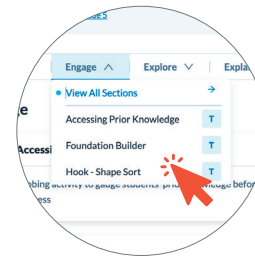| hapes Wanted!	Matching	Shape Art
"Wanted!" poster about a our choosing. Be creative, re the poster includes the	1. Draw a square, rectangle, rhombus, parallelogram, trapezoid, right triangle, obtuse triangle, and acute ... cards. ... on a ... them ... 2 cards at ... e to its ..., keep the ... cards back ... es have	1. Cut out an assortment of multiple copies of two-dimensional shapes that you find online, in magazines, etc. 2. Explore arranging them in different patterns. Form a representation of a real-world object, or create an abstract work of art. 3. Once you find a design you like, glue the pieces together, and mount them onto construction paper. Title your work of art. 4. Take a gallery walk, and comment on one another's artwork, using as many math vocabulary words as you can think of.
		Always, Sometimes, or Never 1. Label three sections of a room with signs reading "Always," "Sometimes," and "Never." You could also label areas outside using sidewalk chalk! 2. Take turns making statements about polygons. The other players race to stand at the right spot based on whether the statement is always true, sometimes true, or never true. **Example:** Squares have right angles. The winner would be the person to get to the "Always" spot first.
		Scavenger Hunt 1. Gather a camera or a pencil and piece of paper. Go on a scavenger hunt inside or outside the house, and take or draw pictures of quadrilaterals, triangles, and other polygons. 2. Create a hierarchy using categories and subcategories based on the attributes and properties of the two-dimensional shapes you found.

Fifth Grade: Classify Two-Dimensional Figures

Your student is about to explore classifying two-dimensional figures. To master this skill, they will build on their knowledge of two-dimensional figures from fourth grade. In fourth grade, your student learned to identify and create two-dimensional shapes based on attributes of the figures, such as vertices, sides, and angles. As your student extends their knowledge of this concept throughout fifth grade, they will learn the following concepts:

- Classifying polygons based on their attributes and properties and using knowledge of properties to identify subsets of quadrilaterals and triangles
  Example: Analyze the graphic organizer for each statement below. Determine whether each statement is true or false, and explain your reasoning.

  A. All parallelograms have right angles.
  B. All squares are rectangles.
  C. All rhombuses are squares.
  D. All trapezoids have one set of parallel sides.

```
        Quadrilateral
          Polygon
    Interior angles = 360°
        Four sides
       /           \
  Parallelogram      Trapezoid
2 sets of parallel   One set of parallel sides
sides
Opposite sides
congruent
Opposite angles
congruent
    /       \
 Rhombus    Rectangle
All four     Four right
sides        angles
congruent
     \       /
       Square
```

A. **False.** Some parallelograms have right angles, but not all. A parallelogram is any quadrilateral with two sets of parallel sides.
B. **True.** Squares are a type of rectangle because they have 4 right angles and opposite sides parallel and congruent.

Accelerate LEARNING
THE LEADER in STEM EDUCATION

| Home | Engage | Explore | Explain | Elaborate | Evaluate | Intervention | Acceleration |

Engage

NAVIGATION STEPS

Click Engage

Click on Engage in the White Menu Bar

Review Content

Use the Dropdown to Review Engage Content

Our **Engage** activities kick off student learning by capturing students' attention and making math approachable! Use these elements to pinpoint knowledge gaps and inform your instructional approach.

ACCESSING PRIOR KNOWLEDGE   Formative

Accessing Prior Knowledge is a brief, teacher-led activity to gauge students' prior knowledge before engaging in the inquiry process. This diagnostic assessment is aligned with previously taught content standards. Students compare and contrast two-dimensional figures based on the presence or absence of parallel or perpendicular line segments and the presence or absence of angles of a specified size.

Preparation

- Plan to have students work in groups of 2 to 3 to complete this activity.

- Print a Student Handout for each group.

Procedure and Facilitation Points

1. Divide the class into groups of 2 to 3 students. Distribute a Student Handout to each group of students, and direct their attention to the first task box.

2. Challenge students to first find as many similarities and differences between the two figures as possible independently.

3. Allow time for students to share their similarities and differences with their groups.

4. Invite students to share their similarities and differences with the class. Encourage students to use the terms *parallel*, *perpendicular*, and *angles* in their explanations. Record their responses in a Venn diagram for the class.

5. Facilitate a class discussion about the similarities and differences between the figures. This provides an opportunity to gather an understanding of prior student knowledge before beginning the lessons. Encourage students to support their answers, and check for understanding and misconceptions. Sample student responses include the following:

   a. *Similarities: two sets of parallel sides, four sides, four angles, opposite sides are equal, and opposite angles are congruent*

   b. *Differences: rectangle—four right angles, sides are perpendicular, and all four angles are congruent; parallelogram—two acute angles, two obtuse angles*

6. Have students move on to the second task box and decide as a group what quadrilateral they will draw with the given angle attributes.

7. Allow time for groups to compare and contrast the angle attributes of their drawn quadrilaterals with the rectangle and parallelogram from the first task box.

8. Invite students to share their drawn quadrilaterals and the similarities and differences between the angles of the two figures in the first task box.

9. Facilitate a class discussion about the similarities and differences between the angles of the quadrilaterals. This provides an opportunity to gather an understanding of prior student knowledge before beginning the lessons. Encourage students to support their answers, and check for understanding and misconceptions. Sample student responses include the following:

    a. *The drawn quadrilateral is similar to the other quadrilaterals because it has four sides and four angles.*

    b. *The drawn quadrilateral is similar to the parallelogram because it has two obtuse and two acute angles.*

    c. *The drawn quadrilateral is different from the rectangle because it does not have any right angles.*

    d. *We drew a rhombus, and it is similar to the other quadrilaterals because its opposite angles are congruent.*

    e. *We drew a trapezoid, and it is different from the other quadrilaterals because its opposite angles are not congruent.*

10. If students are struggling to complete this task, do the Foundation Builder to fill the gap in prior knowledge before moving on to other parts of the scope.

Student Handout

Classify Two-Dimensional Figures

...cessing Prior Knowledge

Name: _____ Date: _____

Two-Dimensional Figures

Task: Look at the figures.

How are the two figures similar? Explain.
How are the two figures different? Explain.

Use the terms *parallel*, *perpendicular*, and *angles* in your reasoning.

Task: Draw a different quadrilateral with two obtuse and two acute angles.

What is the name of the shape you drew?

How is this quadrilateral similar to and different from the quadrilaterals in the first task?

Classify Two-Dimensional Figures

...Prior Knowledge

Name: _____ Date: _____

...guras bidimensionales

Tarea: Mira las figuras.

...ué se parecen las dos figuras? Explica.
...é se diferencian las dos figuras? Explica.

... los términos *paralelo*, *perpendicular* y *ángulos* en tu razonamiento.

...rea: Dibuja un cuadrilátero diferente ...n dos ángulos obtusos y dos agudos.

...ómo se llama la figura que dibujaste?

...ece y en qué se diferencia este cuadrilátero de los ...cuadriláteros de la primera tarea?

FOUNDATION BUILDER

This early intervention activity fills gaps in understanding before diving into new content. Students classify two-dimensional figures based on the presence or absence of parallel lines and right angles.

Preparation

- Plan to have students work independently to complete this activity.
- Print a Student Handout, single-sided, for each student.
- Gather a whiteboard, a dry-erase marker, scissors, and glue for each student.

Procedure and Facilitation Points

Part I

1. Distribute whiteboards and dry-erase markers to all students.
2. Explain to students that you will be giving them prompts with various attributes of two-dimensional figures.
3. Ask them to listen closely and draw the figure they think you are referring to.
4. After each prompt, ask students to hold up their boards to show their drawings.
   a. A figure with two sets of parallel sides and four right angles *Square or rectangle*
      - How can a square be classified as a rectangle but a rectangle is not necessarily a square? A square has four sides that are equal and four right angles. A rectangle has four right angles, but the four sides do not have to be equal.
   b. A figure with two sets of parallel sides and no right angles *Parallelogram or rhombus*
   c. A figure with at least two acute angles *Rhombus, trapezoid, triangle*
   d. A figure with at least two obtuse angles *Hexagon, rhombus, trapezoid, parallelogram*
5. Encourage students to collaborate with others and talk about the attributes of each figure, sharing their drawings and attributes with the class.

Part II

1. Distribute a Student Handout, scissors, and glue to each student.
2. Ask students to cut out the shapes and glue them into the appropriate places on the Venn diagram. If any shape does not fit in any part, they may set it outside the Venn diagram and provide a written explanation of why it does not fit any of the classifications.
3. Monitor and talk with students as needed to check for understanding by using the following guiding questions:
   a. What is one figure you classified as having at least one set of parallel sides? *Answers will vary. The rectangle has at least one set, and actually it has two sets of parallel sides.*
   b. Did you find any figures that did not fit any of the classifications? *Yes, the equilateral triangle and the pentagon did not fit. They have no parallel sides and no right angles.*
4. Note problem areas for further practice.
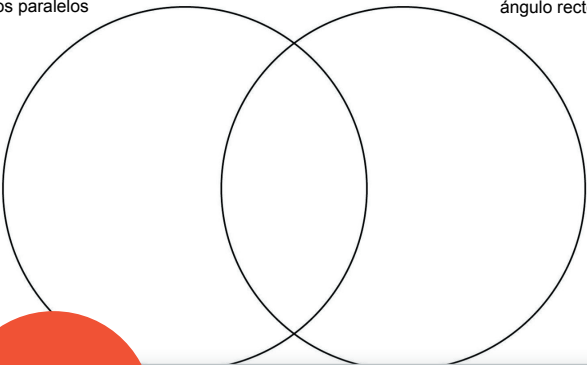
Foundation Builder

Classify Two-Dimensional Figures

Name: _____ Date: _____

Al menos UN par de
lados paralelos

Al menos UN
ángulo recto

© Acce...

Student Handout

Classify Two-Dimensional Figures

...ation Builder

Classify Two-Dimensional Figures

Name: _____ Date: _____

At Least ONE Set of Parallel
Sides

At Least ONE Right Angle

1

Classify Two-Dimensional Figures

2

HOOK - SHAPE SORT

Use the Hook to motivate students and start to connect their learning to real-world contexts. Students use a graphic organizer to classify two-dimensional figures in categories and subcategories based on their attributes and properties.

Preparation

- Plan to show the Phenomena.
- Plan to project the Student Handout for the class.
- Part II
  - Plan to have students work in pairs to complete this activity.
  - Print the Student Handout for each student.

Procedure and Facilitation Points

Part I: Pre-Explore

1. Introduce this activity toward the beginning of the scope. The class will revisit the activity and solve the original problem after students have completed the corresponding Explore activities.

2. Show the Phenomena. Ask students the following questions: *What do you notice? Where can you see math in this situation?* Allow students to share all ideas.

3. Explain the scenario to the class: *Your aunt is a math teacher who loves art. One day she takes you to a modern art museum. As she walks through the museum, she asks you to sketch two-dimensional shapes that you see. Then she asks you to look at the different shapes and think about how they might have similar and different properties. When you get home, she asks you to classify the shapes into categories and subcategories by using a graphic organizer. Can you do it?*

4. Allow the students to ask questions and clarify the context as needed. Encourage them to share their thoughts and experiences with the class using the following questions:
   a. Have you ever been to an art museum?
   b. What are some properties that shapes may have in common?

5. Project the Shapes page from the Student Handout for the class.

6. Discuss the following questions with the class:
   a. **DOK-1** What do you notice about the shapes of the art? *I see a lot of quadrilaterals and triangles.*
   b. **DOK-1** How are the shapes similar? How are they different? *They all have straight edges. Some have 4 sides, and some have 3 sides. Some have right angles, and others have acute or obtuse angles.*

7. Move on to complete the Explore activities.

Part II: Post-Explore

1. After students have completed the Explore activities for this topic, show the Phenomena again, and repeat the scenario.

2. Distribute a Student Handout to each student, and instruct them to turn to the Shapes page.

3. Discuss the following questions with the class:

    a. **DOK-1** What do you notice about the shapes of the art? *I see a lot of quadrilaterals and triangles.*

    b. **DOK-1** How are the shapes similar? How are they different? *They all have straight edges. Some have 4 sides, and some have 3 sides. Some have right angles, and others have acute or obtuse angles.*

4. Place students into pairs to complete this activity.

5. Explain to students they should look at each figure and its properties, think about how these properties relate to various categories of two-dimensional shapes, and discuss the following questions with their partners:Is it a quadrilateral?

    a. Is it a parallelogram, a trapezoid, or an irregular quadrilateral?

    b. Is it a rectangle and/or a rhombus?

6. Instruct students to evaluate each shape and record the number of each shape in the most specific category where it fits on the graphic organizer.

7. Allow students to identify the properties of each shape and classify where it belongs on the graphic organizer with their partner.

8. When students are finished, instruct each pair to meet with another pair to compare and discuss their results.

9. Discuss the following questions with the class:

    a. **DOK-2** Can a shape be classified in more than one category? *Yes*

    b. **DOK-2** What categories does a square belong to? *Quadrilateral, parallelogram, rectangle, and rhombus*

    c. **DOK-2** What are some examples of shapes that are not quadrilaterals? *Triangles, pentagons, and hexagons*

    d. **DOK-1** What is the most general category on the graphic organizer? *Quadrilateral*

    e. **DOK-3** What are the similarities and differences between a rectangle and a rhombus? *Both are quadrilaterals and parallelograms, and both have straight sides. Both have opposite angles that are equal. Rectangles have four right angles. Rhombi have four equal sides.*

10. As an extension, have students go on a scavenger hunt to find two-dimensional shapes in the classroom and classify them in various hierarchies of categories and subcategories based on different properties.

Hook

Clasificar figuras

Classify Two-Dimensional Figures

Name: _____ Date: _____

Escribe el número de cada figura de la próxima página en el lugar correcto para categorizarla.

CUADRILÁTERO
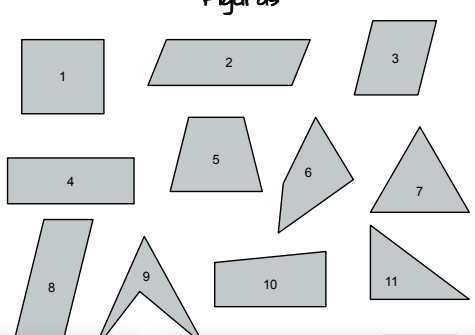
PARALELOGRAMO

RECTÁNGULO

Hook

Figuras

Classify Two-Dimensional Figures

Shape Sort

Name: _____ Date: _____

the number of each shape from the next page in the correct location to categorize it.

QUADRILATERAL

PARALLELOGRAM

RECTANGLE
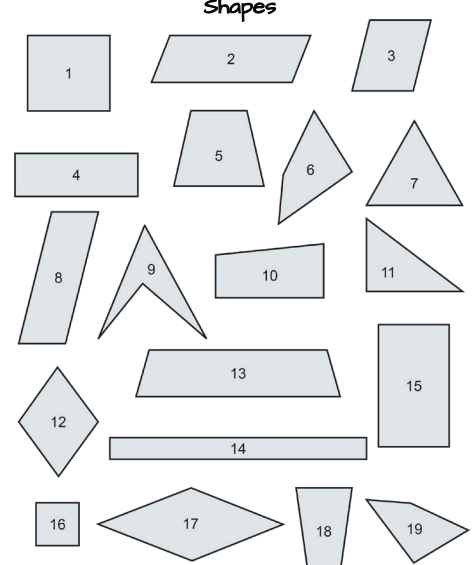
RHOMBUS

TRAPEZOID

NOT A QUADRILATERAL

1

Hook

Shapes

Classify Two-Dimensional Figures

2

Student Handout

Scan and Watch the Hook Phenomena Video

Accelerate LEARNING
THE LEADER in STEM EDUCATION

| Home | Engage | Explore | Explain | Elaborate | Evaluate | Intervention | Acceleration |

Explore

NAVIGATION STEPS

Click Explore

Click on Explore in the White Menu Bar
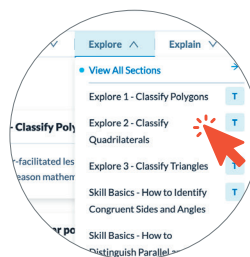
Review Content

Use the Dropdown to Review Explore Content

Scaffolded, hands-on **Explore** activities are at the heart of each lesson. We know students learn best by doing, so we go beyond worksheets and memorization, providing opportunities to engage in rich mathematical discourse within real-world contexts.

EXPLORE 1 - CLASSIFY POLYGONS

Students classify polygons based on their number of sides, size of angles, and whether their sides are parallel.

Mathematical Process Standards

- (A) Apply mathematics to problems arising in everyday life, society, and the workplace.
- (B) Use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution.
- (D) Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate.
- (E) Create and use representations to organize, record, and communicate mathematical ideas.
- (F) Analyze mathematical relationships to connect and communicate mathematical ideas.
- (G) Display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication.

Procedure and Facilitation Points

1. Help students access the task by using the following guiding questions:
   a. What is a warehouse?
   b. What does the word *organize* mean to you?
   c. What do you remember about classifying two-dimensional figures based on their attributes?

2. Read the following scenario to the class: *The employees at a party-supply rental company are reorganizing their warehouse. They need some help organizing all their different tables. Can you help them classify the tables?*

3. Distribute a bag of Table Shapes to each group, and tell them you are handing out models of the tables stored in the warehouse. Allow students time to explore the bag of shapes. Discuss the following questions:
   a. **DOK-1** What do the shapes have in common? *They are all two-dimensional. They all have straight edges, 3 or more sides, and vertices.*
      - Explain that all of these shapes are polygons. A polygon is a two-dimensional closed shape with 3 or more straight sides. Ask students to name non-examples of polygons, such as circles or cubes.
   b. **DOK-1** How are the shapes different? *They have different numbers of sides and different angle sizes. Some have perpendicular lines or parallel lines.*
   c. **DOK-1** What types of shapes do you see? *Answers will vary. I see triangles, squares, rectangles, pentagons, and octagons.*
   d. **DOK-2** What do the markings on the Table Shapes mean? *There are tick marks on the sides to tell you which are the same length. The curves inside some of the angles tell you if any angles are the same size. The squares in some corners tell you they are right angles.*
      - Explain that polygons with all equal sides are called *regular polygons*. Ensure students understand this is a different use of the word *regular* than they may be familiar with.
   e. **DOK-1** What other words mean equal, when describing the sides and angles of shapes? *The words* congruent *and* equivalent *both mean equal in size.*
   f. **DOK-2** How could we organize the shapes? *We can organize them based on the attributes that are different about them, such as the number of sides or the size of the angles.*

4. Inform students that the employees cannot figure out the best way to organize the tables, so they have come up with three ways to try. Instruct students to remove the shapes from their bags and to observe them.

5. Give them a few minutes to classify the shapes however they choose. Ask the following guiding questions, and allow time for students to share their thinking:

   a. What are some of the ways you have learned to classify shapes in the past?

   b. How can we classify these shapes?

   c. Is there more than one way to classify these shapes? Explain.

   d. What are some of the attributes that make these shapes similar or different?

6. Make a list on the board of the following ways these shapes can be classified as students mention them during the discussion:

   a. Number of sides

   b. Size of angles

   c. Type of lines

7. Distribute a Student Journal to each student, and explain how they will be classifying the Table Shapes.

   a. Part I: By number of sides

   b. Part II: By the size of the angles (acute, obtuse, or right)

   c. Part III: By the number of pairs of parallel sides

8. Explain that students are also responsible for labeling each set of tables once they are classified, using the correct mathematical terms. Sample labels include the following:

   a. Tables with four sides would be labeled Quadrilaterals.

   b. Tables with vertices larger than 90 degrees would be labeled Obtuse Angles.

   c. Tables with one pair of sides that are the same distance apart and never meet would be labeled One Pair of Parallel Sides.

Part I: Number of Sides

1. Explain that the employees want to try sorting the tables by the number of sides because some customers want tables with more or fewer sides.

2. Challenge students to discuss and determine how to use the number of sides to classify the tables.

3. Have students complete the four tasks for Part I on their Student Journals.

   a. They should help the employees correctly label each group. They should be sure to use the correct term for shapes with that number of sides, such as *hexagons*.

   b. Students will sort the polygon tables into groups based on the number of sides they have. Ask students to write the number from the top-right corner of each card in the correct group. Every table belongs in one of the groups.

   c. Encourage students to discuss and answer the reflection questions using their observations.

4. Monitor and talk with students as needed to check for understanding by using the following guiding questions: *(Answers will vary.)*

   a. **DOK-1** How many sides does this polygon have? *This polygon has ___ sides.*

      • Help students count the sides by touching each one with their finger or marking each side with their pencil to keep track.

   b. **DOK-1** What do we call a polygon with ___ sides? *A polygon with ___ sides is called a ___.*

   c. **DOK-3** How do the prefixes of the polygon names relate to the number of sides? *The prefix tri- means "three," so I know a triangle has 3 angles and 3 sides.*

5. After Part I, invite the class to a Math Chat to share their observations and learning.

Student Journal

Classify Two-Dimensional Figures

...lore

Name: _____   Date: _____

Classify Polygons

Party Rental Superstore!

Part I: Number of Sides

Fill in the table with the correct term that describes each group of tables. Then fill in the table with the numbers from the Table Shapes. There are 24 tables. Make sure each table is classified.

Number of Sides	Name	Table Numbers
3		
4		
5		
6		
7		
8		
9		
10		

If a table has 5 vertices, what shape is it? How do you know?
_____
_____

What do you think the prefix *tri-* means? Explain why.
_____

© Accelerate Le...   1

Explore

Classify Two-Dimensional Figures

...Parallel Sides

...e table with the numbers from the Table Shapes. There are 24 tables. Make
...ch table is classified.

...s with No ...allel Sides	Tables with 1 Pair of Parallel Sides	Tables with 2 Pairs of Parallel Sides	Tables with More than 2 Pairs of Parallel Sides

...the tables with two pairs of parallel sides have in common?
_____
_____

...another attribute that could be used to sort the Table Shapes?
_____
_____

...e we able to classify shapes in different ways?
_____
_____

3

Table Shapes

Classify Two-Dimensional Figures

Table Shapes

1

Accelerate LEARNING
THE LEADER in STEM EDUCATION

Student Journal

...lore

Classify Two-Dimensional Figures

Name: _____   Date: _____

Clasificar polígonos

¡Supertienda de arriendo de artículos para fiesta!

Parte I: Cantidad de lados

Llena la tabla con el término correcto que describa cada grupo de tarjetas. Luego, llena la tabla con los números de las tarjetas del documento «Tabla de figuras». Hay 24 tarjetas. Asegúrate que cada tarjeta esté clasificada.

Cantidad de lados	Nombre	Número de la tabla
3		
4		
5		
6		
7		
8		
9		
10		
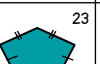
Si una tarjeta tiene 5 vértices, ¿qué figura es? ¿Cómo lo sabes?
_____
_____

¿Qué piensas que significa el prefijo *tri-*? Explica por qué.
_____

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1

... Explore

Classify Two-Dimensional Figures

... Lados paralelos

... tabla con los números de las figuras del documento «Tabla de figuras». Hay ...as. Asegúrate que cada figura esté clasificada.

...s SIN lados ...ralelos	Tarjetas con 1 par de lados paralelos	Tarjetas con 2 pares de lados paralelos	Tarjetas con más de 2 pares de lados paralelos

...enen en común las figuras con dos pares de lados paralelos?
_____
_____

...s otro atributo que podría usarse para ordenar las figuras del documento ...e figuras»?
_____
_____

...é podemos clasificar figuras de distintas maneras?
_____
_____

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Table Shapes

Tabla de figuras

Classify Two-Dimensional Figures

18	24	21	12
15	9	6	3
17	23	20	11
14	8	5	2
16	22	19	10
13	7	4	1

1

Math Chat

After the Explore Part I, invite the class to a Math Chat to share their observations and learning.

Questions	Sample Student Responses
DOK-1 What patterns do you notice in the names of the polygons?	The name of each polygon begins with a prefix that tells how many sides the shape has. TRIangles have 3 sides, QUADrilaterals have 4 sides, PENTagons have 5 sides, HEXagons have 6 sides, HEPTagons have 7 sides, OCTagons have 8 sides, NONagons have 9 sides, and DECagons have 10 sides.
DOK-2 Could these groups be classified any further?	Yes, they could be classified by types of quadrilaterals: squares, rhombuses, rectangles, parallelograms, or trapezoids. They also can be classified by other polygons: regular or irregular; angles: acute, obtuse, or right.
DOK-1 What do the markings on the shapes tell you about each polygon?	The tick marks on the sides can tell you which sides are the same length. The squares in the corners of some shapes mean those are right angles. The curves in some of the angles tell you which angles are the same measure.

Printable Math Chat

Classify Two-Dimensional Figures

Math Chat
What patterns do you notice in the names of the polygons?
Could these groups be classified any further?
What do the markings on the shapes tell you about each polygon?

Classify Two-Dimensional Figures

Chat

de lados

Charla de matemáticas
¿Qué patrones notas en los nombres de los polígonos?
¿Se podrían clasificar más estos grupos?
Qué te dicen las marcas en las formas sobre cada polígono?

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THE LEADER in STEM EDUCATION

Part II: Types of Angles

1. Now the employees want to try sorting the tables by the size of the angles.

   a. Students will need to look at the angles of each shape and decide if they are acute, obtuse, or right. They will also determine if two or more angles on a shape are congruent.

   b. Ask the following guiding questions to review the types of angles, and allow time for students to share their thinking:

      • Which table shapes have an acute angle? How do you know?

      • Which table shapes have an obtuse angle? How do you know?

      • Which table shapes have a right angle? How do you know?

      • Can you show me a way to determine if an angle is a right angle? Note: Students might suggest using the corner of a piece of paper. If they do not, show them this method. In addition, show students how a shape has a right angle if you see a little square drawn in the angles.

      • Do any of these table shapes have more than one type of angle? Which ones?

      • How can you tell the difference between an acute and obtuse angle?

      • How is a right angle different from acute and obtuse angles?

      • What are congruent angles? Which shapes have at least two congruent angles? Note: Discuss the term congruent if students do not already know what this means.

2. Once students have had an opportunity to review types of angles, they should sort the table shapes into piles by the size of the angles of each table.

3. Invite students to brainstorm the different ways to classify the shapes by their angle types and then share in a whole group discussion. As students share their thinking, make a list of the suggested ways to classify angles on the board. These could include the following examples:

   a. Tables with all acute angles

   b. Tables with all right angles

   c. Tables with all obtuse angles

   d. Tables with some right angles

   e. Tables with some acute and some obtuse angles

4. Have students complete the tasks for Part II on their Student Journals.

   a. They should help the employees correctly label each group. They should use the correct terms for the sizes of angles, such as acute.

   b. They should write the number from the top-right corner of each card in the correct group. Every table belongs in at least one of the groups.

   c. Encourage students to discuss and answer the reflection questions using their observations.

5. Monitor and talk with students as needed to check for understanding by using the following guiding questions: *(Answers will vary.)*

   a. **DOK-1** How many angles does this polygon have? *This polygon has ___ angles.*

      • Help students count the angles by touching each one with their finger or marking each angle with their pencil to keep track.

   b. **DOK-1** What types of angles are seen in the Table Shapes? *An angle less than 90 degrees is called an acute angle. An angle greater than 90 degrees is called an obtuse angle. An angle exactly 90 degrees is called a right angle.*

   c. **DOK-2** How can we tell the size of each angle? *If it has a square in the corner, then it is exactly 90 degrees. I can use a corner of a piece of paper to check if the angle is more or less than 90 degrees.*

   d. **DOK-3** What do you notice about the angles of the regular polygons? *When a polygon has all congruent sides, it also has all congruent angles.*

6. After Part II, invite the class to a Math Chat to share their observations and learning.

Math Chat

After the Explore Part II, invite the class to a Math Chat to share their observations and learning.

Questions	Sample Student Responses
DOK-1 What are the attributes of all regular polygons?	All polygons are two-dimensional closed shapes with no curves. Regular polygons have all of those attributes, and they have all equal sides and equal angles.
DOK-2 What do you notice about the shapes with all right angles? Why do you think this is?	They are all quadrilaterals. I think this is because right angles occur at perpendicular lines, so they would make rectangles and squares.
DOK-3 What types of polygons could never have only obtuse angles?	Triangles and quadrilaterals could never be in the category for only obtuse angles. A triangle cannot have more than one obtuse angle. A quadrilateral cannot have more than 2 obtuse angles.

Printable Math Chat

Classify Two-Dimensional Figures

Math Chat
What are the attributes of all regular polygons?
What do you notice about the shapes with all right angles? Why do you think this is?
What types of polygons could never have only obtuse angles?

Classify Two-Dimensional Figures

ángulos

Charla de matemáticas
¿Cuáles son los atributos de todos los polígonos regulares?
¿Qué notas acerca de las figuras con todos los ángulos rectos? ¿Por qué crees que es esto?
é tipos de polígonos nunca podrían tener sólo ángulos obtusos?

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Part III: Parallel Sides

1. Finally, the employees want to sort the tables based on how many pairs of parallel sides they have.

2. Give students time to talk within their groups as you ask the following guiding questions to review the types of lines:

    a. What are parallel lines?

    b. Which shapes have at least one pair of parallel lines?

    c. Which shapes have more than one pair of parallel lines?

    d. Which shapes do not have any parallel lines?

3. Once students have had an opportunity to review parallel lines, they should sort the table shapes into piles by how many pairs of parallel sides they have. Students should brainstorm the different ways to classify the shapes by their parallel lines and then share in a whole group discussion. As students share their thinking, make a list of the suggested ways to classify on the board. These could include the following examples:

    a. Tables with no parallel sides

    b. Tables with one pair of parallel sides

    c. Tables with two pairs of parallel sides

    d. Tables with more than two pairs of parallel sides

4. Have students complete the tasks for Part III on their Student Journals.

    a. They should write the number from the top-right corner of each card in the correct group. Every table belongs in at least one of the groups.

    b. Encourage students to discuss and answer the reflection questions using their observations.

5. Monitor and talk with students as needed to check for understanding by using the following guiding questions:

    a. **DOK-1** What does it mean if two sides are parallel? *Parallel sides are always equal distance apart, even if the lines were to continue on forever.*

        • Help students extend lines to determine if they are parallel.

    b. **DOK-2** What other types of sides do you see on these polygons? *Some of the sides are perpendicular, meaning they form a right angle when they meet.*

        • Point out examples of perpendicular lines as needed.

    c. **DOK-2** Do regular polygons always have a set of parallel sides? *Not always; the regular polygons with an even number of sides, such as a quadrilateral, do have parallel sides. But the regular polygons with an odd number of sides do not have parallel sides.*

6. After the Explore, invite the class to a Math Chat to share their observations and learning.

Math Chat

After the Explore Part III, invite the class to a Math Chat to share their observations and learning.

Questions	Sample Student Responses
Choose a Structured Conversation routine to facilitate the following question: **DOK-3** What connections can you make between the number of total sides and the number of parallel sides on a polygon?	If you have 2 sides that are parallel, you need at least 2 more sides to close the shape. This would make it a quadrilateral. Therefore, you cannot make a triangle with parallel sides. If a regular polygon has an even number of sides (quadrilateral, hexagon, octagon, etc.), then it will have sets of parallel sides. If a regular polygon has an odd number of sides (triangle, pentagon, etc.), then it will not have parallel sides.
DOK-2 How can your understanding of parallel and perpendicular lines help when classifying different shapes?	You can use this information to classify the shapes more specifically. For example, you can classify a quadrilateral as a parallelogram or trapezoid. You can also use this information to analyze the angles inside the polygon.
DOK-2 What are other attributes that could be used to classify these table shapes?	We could sort based on the number of perpendicular lines, number of lines of symmetry, number of vertices, etc.

Printable Math Chat

Classify Two-Dimensional Figures

Math Chat
What connections can you make between the number of total sides and the number of parallel sides on a polygon?
How can your understanding of parallel and perpendicular lines help when classifying different shapes?
What are other attributes that could be used to classify these table shapes?

Classify Two-Dimensional Figures

Chat

aralelos

Charla de matemáticas
é conexiones puedes hacer entre la cantidad total de lados y la cantidad de lados paralelos en un polígono?
Cómo puede ayudar tu comprensión de las rectas paralelas y perpendiculares al clasificar diferentes figuras?
áles son otros atributos que podrían usarse para clasificar estas figuras de mesa?

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Post-Explore

1. Have students complete the Exit Ticket to formatively assess their understanding of the concept.

2. Complete the Anchor Chart as a class.

3. Have each student complete their Interactive Notebook.

Exit Ticket

Formative

...plore

Classify Two-Dimensional Figures

Name: _____ Date: _____

Classify Polygons
Exit Ticket

The party-supply company has received four new orders for table rentals. Read the details of each order in the boxes. Draw a table shape in each section that fits each order's description.

Order 1	Order 2
We would like to rent a table with at least one set of parallel sides.	We would like to rent a table with 5 sides and at least 1 obtuse angle.

Order 3	Order 4
We would like to rent a table with all right angles.	We would like to rent a table with no parallel sides and all acute angles.

Name at least three ways polygons can be classified.

_____

_____

1

Classify Two-Dimensional Figures

_____ Date: _____

...polígonos
...de salida

...cibido cuatro nuevos pedidos de alquiler ... en los recuadros. Dibuja una figura de ...escripción de cada pedido.

Pedido 2
Nos gustaría alquilar una mesa con 5 lados y al menos 1 ángulo obtuso.

Pedido 4
Nos gustaría alquilar una mesa sin lados paralelos y con todos los ángulos agudos.

...se pueden clasificar los polígonos.

_____

_____

1

Embedded supports in every lesson!

Instructional Supports

1. If students need additional support determining angles in shapes, provide them with an index card to help them compare each one to a 90-degree angle.
2. Reduce the number of shapes students explore if the amount is too overwhelming. Likewise, distribute one shape at a time to each student so the student can focus on classifying it before moving on to the next shape.
3. Students may need an explanation of the symbols drawn on the shapes to indicate congruent sides, parallel sides, and right angles.
4. Challenge students to come up with always, sometimes, or never statements about the polygons based on patterns noticed during this Explore. For example, a triangle will never have parallel sides.

Language Supports

During each part of the Explore, write the names of the categories students are using on index cards and encourage them to state the name of the category every time they place an item in that group.

This scope has a large number of vocabulary terms. Students may benefit from creating a visual glossary as they explore. The glossary could include shape names (or prefix meanings) as well as terms used to describe attributes such as *acute*, *obtuse*, *right*, *parallel*, and *perpendicular*. Be sure to repeat the terms often, in casual as well as formal discussions about the shapes to reiterate their meaning. Visuals and hand gestures should also be used to emphasize meaning. For example, holding your arms in an L-shape to signal a right angle can help the student remember the definition.

Use a think-aloud strategy to model mathematically precise language as you verbalize a student's explanation. For example, "I see you classified these shapes as having all obtuse angles because each one is greater than 90°!"

Clarify the meaning of the verb *classify* as it is used in this scope. You can discuss that it means to organize things into classes, or groups, just like a class is a group of students.

Explore the prefixes that signify the number of sides. Ask students to think of other words that use the same prefixes, such as quadruplets, triathlon, or octopus.

The following English Language Proficiency Standards are supported:
1.ACEFGH, 2.CE, 3.AD 4.DF

A great formative assessment!

AccelerateLEARNING
THE LEADER in STEM EDUCATION

| Home | Engage | Explore | **Explain** | Elaborate | Evaluate | Intervention | Acceleration |

Explain

NAVIGATION STEPS
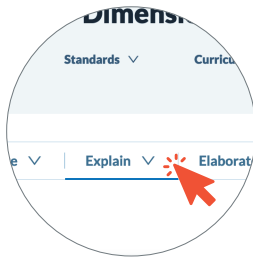
Click Explain

Click on Explain in the White Menu Bar

→

Review Content

Use the Dropdown to Review Explain Content

In the **Explain** section, students form authentic connections and apply their learning to various contexts. They deepen their understanding and build confidence as they master the lesson standards.

More practice and formative assessment opportunities!

*Accelerate*LEARNING
THE LEADER in STEM EDUCATION

SHOW WHAT YOU KNOW - PART 1: CLASSIFY POLYGONS Formative

Students apply the knowledge and skills learned during the Explore using this practice.

Preparation

• Print a Student Handout for each student.

• The Show What You Know correlates with the Explore of the same title.

Procedure and Facilitation Points

1. Reading assistance may be needed for some students to complete this activity.

2. Students should individually complete the Show What You Know activity that correlates with the Explore activity already completed.

3. Provide manipulatives as needed, especially those manipulatives used in the Explore.

4. This element can be used to assess whether intervention is needed for each student.

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INTERACTIVE NOTEBOOK

Students take notes, express ideas, and/or process the information presented in class using the activity and notebook.

Preparation

• Print a Student Handout for each student.

Procedure and Facilitation Points

1. Prepare an Interactive Notebook using a spiral or composition notebook for each student. Students can use the first few pages to create a Table of Contents with page numbers to keep track of activities.

2. Pre-cut or allow students to cut the pieces for each Student Handout according to the teacher instructions given in the box on the first page.

3. Allow time for students to complete the activity and then glue the pieces in their Interactive Notebook.

4. Interactive Notebooks can be used as a student reference during independent work and can be sent home at the end of the year as a record of their learning.

Student Handout

Classify Two-Dimensional Figures

Interactive Notebook

Triangles

Acute Isosceles	Right Isosceles	Obtuse Isosceles	Acute Isosceles Equilateral	Right Scalene
1 obtuse angle 2 equal sides	1 right angle 3 unequal sides	3 acute angles 2 equal sides	1 right angle 2 equal sides	3 acute angles At least 2 equal sides All 3 equal sides

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Classify Two-Dimensional Figures

Triángulos

Isósceles ...to	Isósceles obtuso	Equilátero isósceles agudo	Escaleno recto
1 ángulo obtuso 2 lados iguales	1 ángulo recto 3 lados desiguales	3 ángulos agudos 2 lados iguales	1 ángulo recto 2 lados iguales	3 ángulos agudos Al menos 2 lados iguales Todos los 3 lados iguales

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LANGUAGE CONNECTIONS

Students have the opportunity to use their linguistic and cultural background knowledge to support connections to new skills, vocabulary, and concepts at their proficiency levels.

Preparation

- Determine each student's English proficiency level.

- Print a Student Handout for each student at their English proficiency level.

- Allow students to have access to the Picture Vocabulary for this scope.

- Allow students to have access to manipulatives such as geoboards and rubber bands.

Procedure and Facilitation Points

1. Distribute a Student Handout at the appropriate proficiency level to each student.

2. Use the prompts for the listening, speaking, reading, and writing portions. Use gestures, pointing at objects, and visuals as appropriate. See prompts for suggestions.

3. Allow time for students to think with their neighbors before responding.

4. Encourage students to persevere through their thinking and to use mathematical tools and models.

5. Invite students to respond appropriately to each linguistic domain.

Multilingual Learner Support!

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Beginner

Have geoboards and rubber bands readily available for students to use. Read the following prompts one at a time:

- *Show me on your fingers*(wiggle your fingers) *how many sides quadrilaterals have.*

- *Point to the type of quadrilateral that has two* (hold up two fingers) *pairs of parallel sides* (hold your arms parallel to each other).

- *Use the geoboard* (point to the geoboard) and rubber bands(point to the rubber bands) *to make a parallelogram.*

- *Draw a model of the parallelogram you made* (point to the parallelogram section on the Student Handout).

- *Point to the type of parallelogram that has two* (hold up two fingers) *pairs of parallel* (hold your arms parallel to each other) sides and four(hold up four fingers) *right angles* (hold your arms at right angles).

- *Use the geoboard* (point to the geoboard) *and rubber bands* (point to the rubber bands) t*o make a rectangle.*

- *Draw a model of the rectangle you made* (point to the rectangle section on the Student Handout).

- Continue prompting students to point, model, and draw a rhombus, a square, and a trapezoid.

- *Use the geoboard* (point to the geoboard) *and rubber bands* (point to the rubber bands) *to make a triangle.*

- *Write the name of the shape* (point to the polygon section on the Student Handout) *you made.*

- Continue prompting students to model and write the names of a pentagon, a hexagon, and an octagon.

Intermediate

Have geoboards and rubber bands readily available for students to use. Read the following prompts one at a time:

- Have students discuss the following questions with their partners:
  - *What are quadrilaterals?*
  - *How are the quadrilaterals alike? How are they different?*
- Explain that you will read some phrases that describe different quadrilaterals.
- *Use your geoboards and rubber bands to build each shape. Write the name of each shape on your handout.*
- *Draw the shape under the name.*
- Read the following statements one at a time, repeating and modeling as necessary.
  - *A parallelogram is a quadrilateral with two pairs of parallel sides and two opposite pairs of congruent sides.*
  - *A rectangle is a parallelogram with two pairs of perpendicular sides.*
  - *A rhombus is a parallelogram with exactly four congruent sides.*
  - *A square is a special type of rectangle that has four congruent sides.*
  - *A trapezoid is a quadrilateral that has four sides with one set of opposite sides being parallel.*
- *Now we are going to build other polygons.*
- *Use the geoboard and rubber bands to make a triangle. Write the name of the shape on your handout.*
- Continue prompting students to model and write the names of a pentagon, a hexagon, and an octagon.

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Advanced

Have geoboards and rubber bands readily available for students to use. Read the following prompts one at a time:

- Have students discuss the following questions with their partners:
  - *What attributes help us classify shapes?*
  - *How can shapes look different but share similar attributes?*
- Explain that you will read some phrases that describe different quadrilaterals.
- *Use your geoboards and rubber bands to make each shape.*
- *Write the name of each shape in the correct hierarchy section on your handout.*
- *Draw the shape under the name.*
- Read the following statements one at a time, repeating as necessary.
  - *A parallelogram is a quadrilateral with two pairs of parallel sides and two opposite pairs of congruent sides.*
  - *A rectangle is a parallelogram with two pairs of perpendicular sides.*
  - *A rhombus is a parallelogram with exactly four congruent sides.*
  - *A square is a special type of rectangle that has four congruent sides.*
  - *A trapezoid is a quadrilateral that has four sides with one set of opposite sides being parallel.*
- *Now we are going to build other polygons that have different numbers of sides.*
- *Use the geoboard and rubber bands to make a triangle. Write the name of the shape on your handout.*
- Continue prompting students to model and write the names of a pentagon, a hexagon, and an octagon.

MY MATH THOUGHTS

Students have the opportunity to write out their mathematical thoughts and ideas using several avenues.

Preparation

Allow students to have access to a variety of mathematical tools, such as place-value blocks, fraction circles, and mathematical models such as place-value charts, fraction walls, number lines, etc.

Procedure and Facilitation Points

1. Allow students to discuss their thinking with a neighbor before writing their thoughts on paper.

2. Encourage students to persevere through their thinking and to use mathematical tools and models as necessary.

3. Invite students to write their answers in complete sentences, using correct spelling, grammar, and punctuation.

Student Handout

Classify Two-Dimensional Figures

Name: _____ Date: _____

Aditya is building a model to show the relationships among shapes.

Parallelogram

Square | Rectangle

How could you figure out which shape name goes in the empty box to complete the model?

Decide whether the following statements are true or false. If a statement is false, make it true.

A square is a rhombus.

A square is a rectangle.

A parallelogram is a rhombus.

Clasificar figuras bidimensionales

Name: _____ Date: _____

construye un modelo para mostrar las relaciones entre las figuras.

Paralelogramo

Cuadrado | Rectángulo

¿Cómo podrías averiguar el nombre de la figura que va en el recuadro vacío para completar el modelo?

Decide si los siguientes enunciados son verdaderas o falsas. Si un enunciado es falso, hazlo verdadero.

Un cuadro es un rombo

Un cuadro es un rectángulo

Un paralelogramo es un rombo

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PICTURE VOCABULARY

Students build academic vocabulary and connect vocabulary to their experiences. This element is meant to be used in tandem with Explores.

Preparation

- Prepare to project the Slideshow for the class.

- Print the Student Handout with multiple slides on one page for students to cut and add the Picture Vocabulary to their Interactive Notebooks.

Procedure and Facilitation Points

1. Project the Slideshow for the class.

2. Read words and/or definitions with students. Discuss words or definitions that are unfamiliar to students.

3. Discuss the following questions:

   a. How can you connect this word to your work in the Explore?

   b. How would you rephrase the definition in your own words?

   c. What do you picture in your mind when you hear this word?

4. To practice vocabulary with an engaging game, see Vocabulary Strategies in the Explain section of each Launch scope.

5. Refer to the Slideshow to review Picture Vocabulary as students complete each Explore.

Tips and Tricks

- Print the Student Handout with four slides on a page. Cut out each slide, and create a math word wall in the classroom.

- Download the Picture Vocabulary slides in the Teacher Toolbox under Essentials. Use this to create a slideshow without pictures, and print with multiple slides on one page. To foster student ownership of their own learning, allow students to add their own pictures.

Jerarquía

CUADRILÁTERO

RECTÁNGULO   TRAPECIO

CUADRADO

Orden o forma de organizar objetos basado en las relaciones de sus características

Triángulo equilátero

Triángulo que tiene todos sus lados iguales

Polígono

Ángulo agudo

Ángulo menor de 90 g

Ángulo

Rectas paral

Dos rectas que nunca se

Figura

3cm
6cm
3cm   5cm
4cm

Ilustración, diagrama o representación

Figuras bidimensionales

Forma plana con solo dos dimensiones, como la longitud y el ancho

Lado

nto de una figura bidimensional

Rectángulo

Figura de cuatro lados con cuatro ángulos rectos en los que los lados opuestos son iguales en longitud y paralelos

...assify

SHAPES   THREE-DIMENSIONAL SHAPES

To put things with shared attributes together into groups

Equilateral Triangle

A triangle with all equal sides

Congruent

Acute Angle

An angle that measures le degrees

Attribute

orange   square
large
triangle   circle small
right   green
triangle

A characteristic used to something, also known a

Acute Triangle

Obtuse Angle

An angle that measures more than 90 degrees

Obtuse Triangle

A triangle with two acute angles (less than 90 degrees) and one obtuse angle (larger than 90 degrees)

Parallel Lines

Two lines that never touch

Quadrilateral

A polygon with exactly 4 sides

Home   Engage   Explore   Explain   **Elaborate**   Evaluate   Intervention   Acceleration

Elaborate

NAVIGATION STEPS
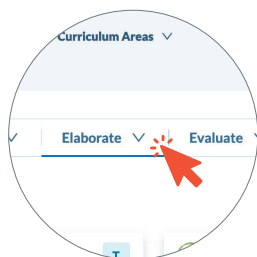
Click Elaborate

Click on Elaborate in the White Menu Bar
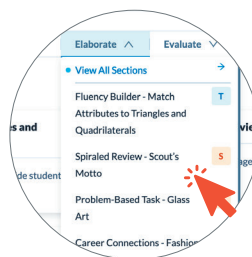
Review Content

Use the Dropdown to Review Elaborate Content

Learning math requires a personalized approach. Each lesson's **Elaborate** section offers various resources and activities to differentiate instruction and deepen understanding of diverse learners. This section is ideal for small group instruction, center and station activities, and independent practice.

FLUENCY BUILDER - MATCH ATTRIBUTES TO TRIANGLES AND QUADRILATERALS

Students turn over two cards and look to match the pictures, numbers, and/or words.

Preparation

- Print and cut out a set of Match Cards for each pair. When printing the cards, be sure to print them double-sided so the game logo is on one side of each card.
- Print an Instruction Sheet to go with each set of Match Cards.
- Consider laminating all printed materials except for the Student Recording Sheet for long-term use. You can place smaller pieces in envelopes or resealable bags.
- Print the Student Recording Sheet for each student.

Procedure and Facilitation Points

1. Show students how to shuffle the cards, and place them facedown in a 4 × 6 array.
2. Demonstrate playing the game with a student.
    a. The first player flips over two cards to try to find a match.
    b. If the player matches two cards, the player keeps the matched set and goes again.
    c. If the player does not find a match, they place the turned cards facedown again, and it is the next player's turn.
    d. Players continue taking turns until all of the matches have been found.
    e. The player who collects more cards wins.
3. Distribute materials.
4. Have students play the game.
5. At the end of the game, have each player record two of the matches they made on the Student Recording Sheet. Have students explain why the 2 cards are a match. Encourage students to share their responses with their partners.

Instruction Sheet

y Builder

Match

Turn 2 cards over.

Keep them if they match!

Turn them back over if they do not match.

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Join and Separate

a 2 tarjetas.

rda

son

las tarjeta

de nuevo

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Student Recording Sheet

Fluency Builder

Name: _____

Pa

Hoja de registr

Al final del juego, selecciona dos p
parejas en los recuadros de abajo.

	Tarjeta 1
Par 1	

y Builder

Name: _____ Date: _____

Match
Student Recording Sheet

At the end of the game, choose two matches you made. Draw the matches in the boxes below.

	Card 1	Card 2	Why do they match?
Match 1			
Match 2			

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1

Match Cards

y Builder

tch Cards (Front of Page 1)

	I have 4 equal sides. **I am a rhombus.**
	I have at least one angle that is exactly 90 degrees. **I am a right polygon.**
	I have one angle that points inward. **I am a concave polygon.**

de la página 1)

Tengo 4 lados iguales.

Soy un rombo.

Tengo al menos un ángulo que es exactamente de 90 grados.

Soy un polígono recto.

Tengo un ángulo que apunta hacia adentro.

Soy un polígono cóncavo.

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INTERACTIVE PRACTICE - PROFILE BUILDER

Students practice skills that are aligned with the TEKS addressed in this lesson through engaging, fun games!
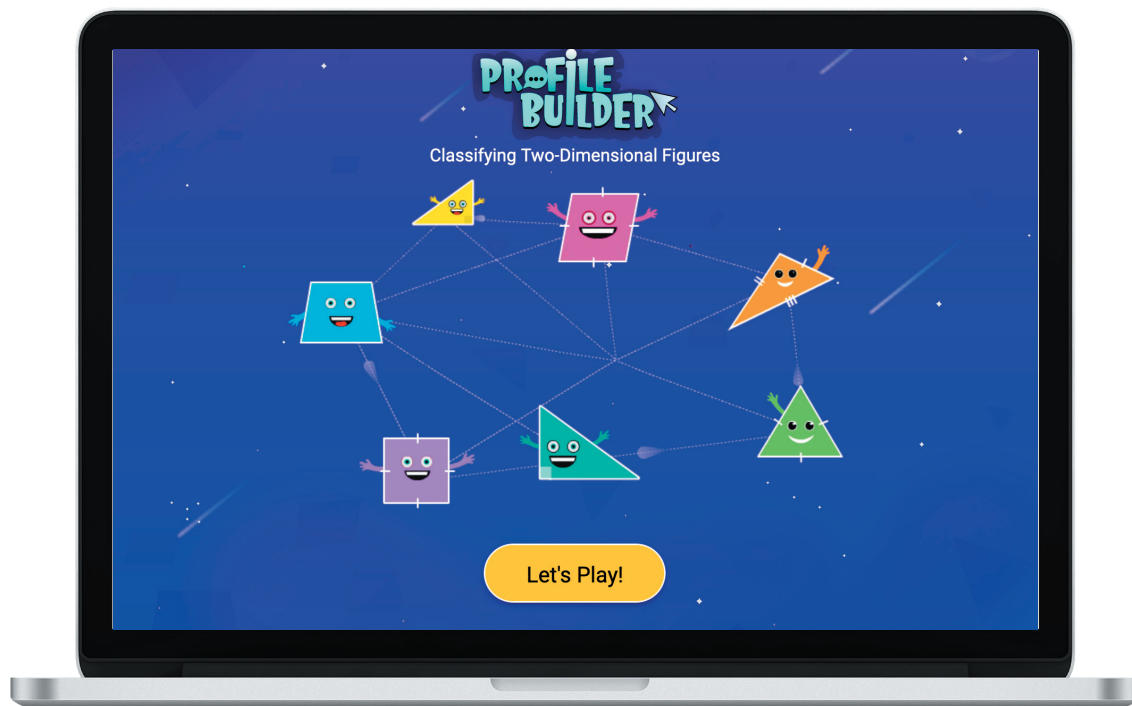
CAREER CONNECTIONS - FASHION DESIGNER

Career Connections is meant to be an avenue that introduces your students to mathematical careers and the 21st Century Skills needed to succeed in those fields. These include, but aren't limited to, creativity and innovation, critical thinking, problem-solving, and technology skills. This scope highlights the career of a fashion designer. Students will consider the profession, the math used, and the impact this career has had on their community.

Preparation

- Group students for rich collaboration and discourse.
- Gather materials and place in a central location for easy access.
- Be prepared to project the Fashion Designer Slideshow.

Scan Me and Watch The Career Connection Video

Procedure and Facilitation Points

Part I

1. Show the fashion designer career video clip to the students.
2. Orchestrate a conversation with the students, asking questions such as the following:
   a. How does a fashion designer use his or her knowledge of two-dimensional figures?
   b. Does it seem difficult or hard to use knowledge in this way?
   c. Have you ever seen a design for an article of clothing before? What article of clothing would you like to design? Why?
   d. Why do you think it is important to be able to use your knowledge of two-dimensional figures when designing an article of clothing?
   e. Is this a career you are interested in? Why or why not?
   f. How does a fashion designer use problem-solving?

Part II

1. Distribute the materials to each student to design the pattern and colors to be put on fabric.
2. Project the Fashion Designer Slideshow for students to see.

Slideshow

Career Connections   Classify Two-Dimensional Figures

Fabric Designer

...orte has designed a pullover T-shirt that has a square neck. Your task is to design ...colors that will be printed on the fabric he has chosen.

He has specific requirements for the print and shirt designs:
- ❏ Right sleeve — Any and all **parallelograms**
- ❏ Left sleeve — Any and all **rectangles**
- ❏ Torso — Any and all **polygons** that are NOT quadrilaterals

Challenge yourself to incorporate these in the most CREATIVE way you can!

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Career Connections   Classify Two Dimensional Figures

Diseñador de telas

...ador William Forte ha diseñado una camiseta con cuello cuadrado. Tu tarea es diseñar el ...los colores que se imprimirán en la tela que ha elegido.

...requisitos específicos para los diseños de impresión y camisa:
- ...nga derecha: cualquiera y todos los **paralelogramos.**
- ...nga izquierda: cualquiera y todos los **rectángulos**
- ...so: todos y cada uno de los **polígonos** que _NO_ son cuadriláteros

...te a incorporar estos en la forma más _CREATIVA_
...las!

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SPIRALED REVIEW - SCOUT'S MOTTO

Students review previous or current grade-level content based on the focal points set for each grade.

Preparation

- Print a copy of the Spiraled Review handout for each student.

Procedure and Facilitation Points

1. You may need to provide reading assistance in order for some students to complete this activity.

2. Read the story on the first page to engage student interest before moving on to the questions.

3. Use this spiraled review as a warm-up in class, or send it home for homework, but be sure to discuss answers and strategies with the class as a whole group.

4. Refer to the standard in the lower right-hand corner of each question box to assess the students' content knowledge or need for further intervention.

PROBLEM-BASED TASK - GLASS ART

Students work collaboratively to apply the knowledge and skills they have learned to an open-ended, real-world challenge.

Procedure and Facilitation Points

1. Allow students to work in groups.

2. Encourage students to look back at their Student Journals from the Explore activities if they need to review the skills they have learned.

3. If students are stuck, use guiding questions to help them think through it without telling them what steps to take next. If time permits, allow each group to share their solution with the class.

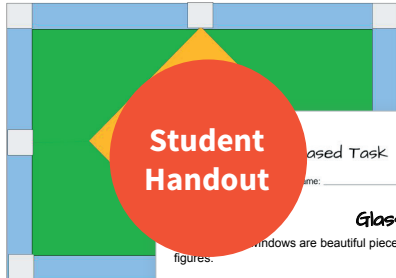4. Discuss how different groups tackled the challenge in different ways.

MATH STORY - DO YOU HAVE A PENCIL?
Lexile® 960L

Read the passage, and answer the questions that follow.

Student Handout

Math Story — ¿Tienes un lápiz?

Lee la lectura y responde las preguntas a continuación.

1. Donde sea que te encuentres al leer esto, probablemente hay un lápiz a mano. Mira el lápiz. Todos tomamos los lápices por sentado. ¿Alguna vez has pensado en cómo se creó una herramienta tan simple o cómo se hace?

2. Las personas han utilizado una herramienta para hacer marcas desde tiempos prehistóricos. Se utilizaron rocas calcáreas o palos carbonizados para hacer marcas en las paredes de la cueva o pieles de animales. Antiguos griegos y romanos utilizaban piezas de plomo para hacer marcas en su papel hecho de papiro. fue descubierto y extraído en Inglaterra Las tiras o varillas se que también lo hizo madera alrededor de el lápiz de plomo fue era una forma **micro** grafito, de la palabra gr herramienta popular todavi la actualidad.

3. Un químico francés, Nicolas- en polvo, arcilla en polvo y a suavemente como el grafito p horneada para hacer los núc la dureza y la oscuridad del r

© Accelerate Lea

Math Story

Usa la información del cuento para responder cada pregunta.

1. El caucho utilizado para hacer borradores se envía en balas que pesan entre 225 y 250 libras cada uno. ¿De qué figura es la base de la bala?
   A. Un cilíndro
   B. Un triángulo
   C. Un octágono
   D. Un rectángulo

2. En el párrafo 2, la palabra *microcristalino* significa—
   A. cristales de azúcar
   B. cristales grandes
   C. cristales pequeños
   D. cristales de sal

3. A continuación hay un polígono. ¿Cuál de los siguientes se puede usar para describir esta figura?

Math Story — Do You Have a Pencil?

Read the passage, and answer the questions that follow.

1. Wherever you are reading this, there is probably a pencil close at hand. Look at the pencil. We all take pencils for granted. Have you ever thought about how such a simple tool came to be or how it is made?

2. People have used a tool for making marks since prehistoric times. Chalky rocks or fire-charred sticks were used to make marks on cave walls or animal hides. Ancient Greeks and Romans used pieces of the soft element lead to make marks on their paper made from papyrus. A soft, black material was discovered and mined in England in the late 1500s. It was named black lead. Strips or rods were cut and wrapped in twine to give it strength, which also made it more comfortable to hold. A method to glue strips of wood around the black lead was invented in Germany. This made the lead pencil very popular. It was discovered in 1779 that this material was a **microcrystalline** form of carbon. The former black lead was named graphite, from the Greek word *graphein*, meaning "to write." This popular tool is still commonly referred to as a lead pencil today.

3. A French chemist, Nicolas-Jacques Conté, discovered that mixing powdered graphite, powdered clay, and water could produce a material that wrote as smoothly as pure graphite. His graphite mixture was molded and baked to make the pencil cores. He also discovered that he could vary the hardness and darkness of the graphite core. He could do this by using more or less graphite in the mixture. In 1839, Lother von Faber invented a way to make the graphite cores a consistent size and shape. He then invented a method to cut and groove wood to hold the graphite cores.

Math Story

Use information from the story to answer each question.

1. The rubber used to make erasers is shipped in bales that weigh from 225 to 250 pounds each. What shape is the base of the bale?
   A. A cylinder
   B. A triangle
   C. An octagon
   D. A rectangle

2. In paragraph 2, the word *microcrystalline* means–
   A. sugar-like crystals
   B. large crystals
   C. small crystals
   D. salt-like crystals

3. Below is a polygon. Which of the following can be used to describe this shape?

   A. Polygon, rhombus, parallelogram
   B. Polygon, parallelogram, quadrilateral, rhombus
   C. Polygon and parallelogram only
   D. Polygon, parallelogram, quadrilateral
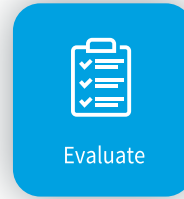
| Home | Engage | Explore | Explain | Elaborate | **Evaluate** | Intervention | Acceleration |

Evaluate

NAVIGATION STEPS

Click Evaluate

Click on Evaluate in the White Menu Bar

Review Content

Use the Dropdown to Review Evaluate Content

Assessments are intentionally integrated so that you can **evaluate** student progress and mastery. Collect data through TEKS-aligned assessments, along with student self-reflections and performance tasks.

OBSERVATION CHECKLIST `Diagnostic` `Formative`

This element provides a breakdown of the key concepts and skills in the scope. It can be used as a formative assessment for teachers and as a self-assessment for students.

Preparation

• Print a Teacher Handout and Student Handout for each student.

Procedure and Facilitation Points

1. Distribute a Student Handout to each student.

2. As students are working through the Explore and Explain activities in the scope, formatively assess their progress by taking anecdotal notes on how key concepts and skills were observed. Reflection questions can be considered to measure the impact of whole-group and small-group activities.

3. Have students reflect on ways they can demonstrate their understanding and self-assess their progress on each key concept or skill as they work through both whole-group and small-group activities.

4. Students can reflect on their thinking, learning, and work in the scope; identify ways they have improved; and establish new learning goals.

5. Colleagues who provide instructional support to students can be equipped with the accommodations and modifications noted on the Teacher Handout.

6. Anecdotal notes provided on the Teacher Handout can be used as documentation for standards-based report cards.

DECIDE AND DEFEND   Formative

Decide and Defend is an open-ended assessment that prompts students to reason mathematically and support their ideas with evidence.

Student Handout

Classify Two-Dimensional Figures

...cide and Defend

Name: _____ Date: _____

Square vs. Rectangle Debate

Juan thinks that a rectangle is a square but a square is not a rectangle. Sharon thinks that a square is a rectangle but a rectangle is not a square. Who is correct? Show or explain your reasoning in the box below.
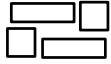
Classify Two-Dimensional Figures

...e and Defend

Name: _____ Date: _____

Debate de cuadrado vs. rectángulo

...n rectángulo es un cuadrado, pero que un cuadrado no es un ... piensa que un cuadrado es un rectángulo, pero que un ...n cuadrado. ¿Quién tiene la razón? Muestra o explica tu ...cuadro de abajo.

STANDARDS-BASED ASSESSMENT Summative

Students demonstrate mastery of the key concepts and skills in the scope through a standards-based summative assessment.

Preparation

- Print a Student Handout for each student. The Student Handout can also be assigned digitally.
- Allow students to use manipulatives by request.
- Prepare Supplemental Aids for students who meet eligibility criteria.

Procedure and Facilitation Points

1. Distribute the Student Handout to each student.
2. Prompt students to show what they know in completing the assessment.
3. Allow students to reflect on their performances using the Heat Map.
4. Once student data has been collected after the assessment, refer to the Scaffolded Instruction Guide in the Home section of this scope to differentiate instruction for each student.

Tips and Tricks

- This element can be used as an assessment of learning and is intended to be assigned to students independently at their seats.
- Allow students to work with partners to review and rework problems they may have missed. Provide assistance as needed.
- The questions from this assessment can be found in the Assessment Bank and can be used to build a customized assessment.
- For test prep, print the Standards-Based Assessment, and cut out individual problems. Hang the problems along with chart paper around the classroom. Allow students to rotate through and solve each problem with partners. Challenge students to review the strategies already on the chart paper and use a different representation.
- The data from this assessment can be used to provide specific support and intervention.

Student Handout

Classify Two-Dimensional Figures

rds-Based Assessment

Name:_____ Date:_____

stion. Then follow the directions to answer each question. Mark each answer by circling the correct answer choice(s). If a question asks you to show or explain your work, you must do so to receive full credit.

1. Mrs. Sosa made the following graphic organizer for her students.

Quadrilaterals

Rectangles | Squares | Rhombuses

Which two-dimensional figure goes into the empty box to complete the model?

A. Trapezoids
B. Perpendicular
C. Parallelograms
D. Pentagons

Classify Two-Dimensional Figures

ment

Date:_____

sponder cada pregunta. spuesta correcta(s). Si la erlo para recibir la

ra sus estudiantes.

Rombos

ara completar el modelo?

D. Pentágonos

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SKILLS QUIZ Formative Summative

Skills Quiz is a short, standards-based formative assessment to determine student mathematical fluency with the key concepts and skills in the scope.

Preparation

- Print a Student Handout for each student. The Student Handout can also be assigned digitally.
- Allow students to use manipulatives by request.
- Prepare Supplemental Aids for students who meet eligibility criteria.

Procedure and Facilitation Points

1. Distribute the Student Handout to each student.
2. Prompt students to show what they know in completing the assessment.
3. Allow students to reflect on their performances using the Heat Map.
4. Once student data has been collected after the assessment, refer to the Scaffolded Instruction Guide in the Home section of this scope to differentiate instruction for each student.

Tips and Tricks

- This element can be used as an assessment for learning and can be assigned to students to complete independently at their seats or as part of a workstation.
- This element is a perfect opportunity to have a one-on-one conference with each student to discuss their performance, and it can be used as a foundation for setting individualized goals.
- The data from this assessment can be used to provide specific support and intervention.
- A Skills Quiz from a previous unit can also be used as a spiral review.

Skills Quiz

Classify Two-Dimensional Figures

Name: _____ Date: _____

Clasificar figuras bidimensionales

Coloca el nombre del polígono que corresponde en cada uno de las recuadros en el diagrama de flujo de jerarquía. (Una figura no será usada).

Cuadrado | Rectángulo | Paralelogramo | Triángulo | Trapecio | Rombo | Cuadrilátero

1. Polígono de cuatro lados

2. Exactamente dos pares de lados paralelos

3. Exactamente un par de lados paralelos

4. Exactamente dos pares de lados perpendiculares

5. Exactamente cuatro lados congruentes

6. Exactamente [dos] pares d[e] perp[endiculares] cuatro con[gruentes]

7. Dibuja un trapecio que [sea] diferente al de arriba

Skills Quiz

Classify Two-Dimensional Figures

Determina si cada enunciado es verdadero o falso. Si es falso, explica por qué lo es.

9. Un círculo es un polígono.

10. Un triángulo isósceles tiene dos o más lados congruentes.

11. Un cuadrado está clasificado como un rectángulo y un rombo.

12. Un paralelogramo siempre tiene todos los ángulos rectos.

13. Los paralelogramos, trapecios, triángulos y rectángulos tienen al menos un par de lados paralelos.

14. Un triángulo obtuso tiene 3 ángulos obtusos.

Classify Two-Dimensional Figures

Classify Two-Dimensional Figures

Name: _____ Date: _____

[Place] the boxes in the hierarchy flowchart with the correct polygon (one fig[ure will] not be used).

Square | Rectangle | Parallelogram | Triangle | Trapezoid | Rhombus | Quadrilateral

1. Four-sided polygon

2. Exactly two pairs of parallel sides

3. Exactly one pair of parallel sides

4. Exactly two pairs of perpendicular sides

6. Exactly two pairs of perpendicular sides and four congruent sides

7. Draw a trapezoid that looks different than the one above.

8. Draw a triangle that looks different than the one above.

1

Skills Quiz

Classify Two-Dimensional Figures

Determine if each statement is true or false. If it is false, explain why it is false.

9. A circle is a polygon.

10. An isosceles triangle has two or more congruent sides.

11. A square is classified as a rectangle and a rhombus.

12. A parallelogram always has all right angles.

13. Parallelograms, trapezoids, triangles, and rectangles all have at least one set of parallel sides.

14. An obtuse triangle has 3 obtuse angles.

15. A rectangle is classified as a parallelogram and a quadrilateral.

Student Handout

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HEAT MAP Student Self-Reflection

Students analyze their assessment results and determine what they did well and where they can improve.

Preparation

- Determine if students will analyze their Skills Quiz, Standards-Based Assessment, or both.
- Print a Heat Map for each student.
- Gather a red crayon and a green crayon for each student.

Procedure and Facilitation Points

1. Distribute a Heat Map to each student along with red and green crayons. Students should have their graded assessment(s) available.

2. Students use their graded assessment(s) to color-code the Heat Map. For each question answered correctly, students color the corresponding box green. For each question answered incorrectly, students color the corresponding box red.

3. Encourage students to look for patterns in their data, such as a certain standard that was missed more frequently or a standard they have clearly mastered, and use this information to reflect and set goals in the provided table.

4. Refer to the Scaffolded Instruction Guide found in the Home section to provide extension or additional support.

Heat Map

Classify Two-Dimensional Figures

Name:_____ Date:_____

...swers on the Skills Quiz. Next to each standard, color the ...green if your answer is correct. Color the question box red if your answer is incorrect.

Skills Quiz	
Standards	Questions
5.5A Classify two-dimensional figures in a hierarchy of sets and subsets using graphic organizers based on their attributes and properties.	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Reflection Questions	
1. Which skill did you feel most confident with? Why?	2. Which skill did you feel most challenged by? Why?
3. Which type of error did you most commonly make?	4. How can you avoid those errors in the future?

Classify Two-Dimensional Figures

Name:_____ Date:_____

...en la «Prueba de habilidades». Al lado de cada ...rado de la pregunta de verde si tu respuesta es ...rado de la pregunta de rojo si tu respuesta es

...rueba de habilidades	
...mensionales ...tos y ...dores ...s y	Preguntas 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

...reguntas de reflexión	
...e sentiste ...ué?	2. ¿Con qué habilidad te sentiste más desafiado? ¿Por qué?
...ometiste con ...recuencia?	4. ¿Cómo puedes evitar esos errores en el futuro?

TECHNOLOGY-ENHANCED QUESTIONS   Summative

Technology-Enhanced Questions are designed to allow students to answer question types that are not possible in a paper/pencil format. These computer-based questions use formats that allow for non-conventional question types, including multiple answer, sequence, griddable, fill-in-the-blank, sorting, and bar graph.

Procedure and Facilitation Points

1. Students work individually to complete the questions digitally. This assessment is only available in a computer-based format. Assign students to the assessment before they begin so the system captures their responses and produces data on their performances.

Procedure and Facilitation

Students work individually to complete the questions digitally. This assessment is only available in a computer-based format. Assign students to the assessment before they begin so the system captures their responses and produces data on their performances.

Technology-Enhanced Question Type	Skill to Practice
Multiple answer	Selecting and deselecting answer choices Understanding that one or more answers are possible
Sequence	Putting in the correct order (both forward and backward)
Griddable	Using numerical answ Using correct place va Correct location of de
Fill-in-the-blank	Explaining accurately
Sorting	Placing in the correct
Bar graph	Adjusting the bar accu

QUESTION 2

The diagram below shows how parallelograms, rhombuses, and squares are related.

Parallelograms
Rhombuses
Squares

What is true about these shapes? Select the correct word to complete each statement.

All [▾] are rhombuses.

All rhombuses are [▾] .

Not all [▾] are rhombuses.

ANSWER

The diagram below shows how parallelograms, rhombuses, and squares are related.

Parallelograms
Rhombuses
Squares
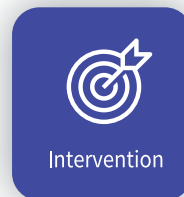
Home   Engage   Explore   Explain   Elaborate   Evaluate   **Intervention**   Acceleration

Intervention

NAVIGATION STEPS

Click Intervention

Click on Intervention in the White Menu Bar
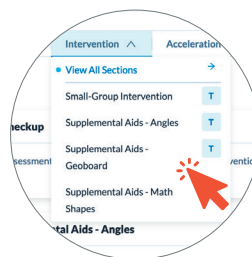
Review Content

Use the Dropdown to Review Intervention Content

Unleash the power of hands-on learning to provide targeted instruction and tackle conceptual misunderstandings head-on! Perfect for **intervention**, re-teaching, or test preparation, these dynamic resources are your go-to tools for transforming math challenges into triumphs in the classroom.

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SMALL-GROUP INTERVENTION

Students classify polygons, including quadrilaterals and triangles, into categories and subcategories based on their attributes and properties.

Preparation

- Plan to have students work in pairs.
- Print a set of Category Cards for each pair of students.
- Print a set of Shape Cards for each pair of students.
- Gather a dry-erase marker for each pair of students.
- Print a set of Teacher Guides for use throughout the activity.
- Print a Teacher Checklist.
- Print a Checkup for each student.

Part I

- Cut apart the Category Cards for Part I, and place them into a resealable bag labeled "Part I."
- Cut apart the Shape Cards for Part I, and place them into a resealable bag labeled "Part I."

Part II

- Cut apart the Category Cards for Part II, and place them into a resealable bag labeled "Part II."
- Cut apart the Shape Cards for Part II, and place them into a resealable bag labeled "Part II."

Part III

- Cut apart the Category Cards for Part III, and place them into a resealable bag labeled "Part III."
- Cut apart the Shape Cards for Part III, and place them into a resealable bag labeled "Part III."

Procedure and Facilitation Points

Part I: Classify Polygons

1. Distribute a dry-erase marker and a set of Shape Cards for Part I to each pair of students.
2. Prompt students to remove the Shape Cards from the resealable bag and to analyze the cards.
3. Encourage student pairs to discuss how the shapes are similar and different. Ask the following questions:
   a. What do all of these shapes have in common? *Answers will vary. They are all polygons. They all have straight sides. They are closed figures.*
   b. What is a polygon? *A closed figure with at least 3 sides and 3 angles*
   c. What makes all of these shapes polygons? *They are all closed shapes with straight sides and contain at least 3 sides and angles.*
4. Explain to students that they will work with their partners to classify these polygons into various categories and subcategories. Ask the following questions:
   a. What are some of the ways you have learned to classify shapes? *Answers will vary. We have learned to classify shapes based on the number of sides, types of angles, parallel and perpendicular lines, lines of symmetry, and congruence.*

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    b. Is there more than one way to classify these shapes? Explain. *Answers will vary. Yes, we could start by classifying the shapes based on their number of sides. Then we could make subcategories based on each shape's types of angles and lines under the first category.*

    c. What are some of the attributes that make these shapes similar or different? *Answers will vary. We can have similar triangles and quadrilaterals because all triangles have three sides and all quadrilaterals have four sides. They are different because the types of angles and lines that make up each polygon will vary.*

5. Give student pairs a few minutes to classify the polygons however they choose. Students may use their dry-erase marker to label the categories and subcategories of their polygons on the table. Then encourage students to share with the group and explain the way they classified the polygons.

6. Distribute a set of Category Cards for Part I to each pair of students.

7. Use the Teacher Guides for Part I as a reference throughout this activity.

8. Prompt students to find the Category Card with Number of Sides at the top.

9. Challenge students to classify their Shape Cards based on their number of sides by placing them under the correct category in relation to their Category Card.

10. Monitor students as they discuss and classify their shapes. After all the cards have been classified, ask the following questions:

    a. What is the name of shapes that have three sides? *Triangles*

    b. What is the name of shapes that have four sides? *Quadrilaterals*

    c. What is the name of shapes that have five sides? *Pentagons*

    d. What is the name of shapes that have six sides? *Hexagons*

    e. What is the name of shapes that have eight sides? *Octagons*

    f. Do all the shapes in each of these groups look the same? Explain their differences. *Answers will vary. Even though they have the same number of sides, the length of their sides and size of their angles may be different.*

11. Prompt students to find the Category Card with Parallel Sides at the top. Ask the following question:

    a. How would you define parallel sides? *Parallel sides are sides that will remain an equal distance apart and will never cross.*

12. Challenge students to classify their Shape Cards based on whether they have no parallel sides or contain pairs of parallel sides.

13. Monitor students as they discuss and classify their shapes. After all the cards have been classified, ask the following questions:

    a. What do you notice about the shapes that have no parallel sides? *Answers will vary. I notice that they are irregular polygons. I notice that the triangles have no parallel sides.*

    b. What do you notice about the shapes that contain pairs of parallel sides? *Answers will vary. I notice that some shapes have only one pair of parallel sides and that other shapes have more than one pair of parallel sides.*

    c. Can we make subcategories from the category Contains Pairs of Parallel Sides to classify our shapes in a more specific way? Explain. *Yes, we can make subcategories of 1, 2, 3, etc. pairs of parallel sides to show subcategories that are more specific.*

14. Using the Teacher Guide for Parallel Sides, instruct each pair of students to create subcategories under the Contains Pairs of Parallel Sides category by using their dry-erase marker on the table to draw arrows down from the main category and to write the numbers 1, 2, 3, and 4 off of each arrow. Model this process for students if necessary.

15. Next, challenge students to classify their Shape Cards based on the subcategories of how many pairs of parallel sides a polygon contains.

16. Monitor students as they discuss and classify their shapes. After all the cards have been classified under the subcategories, ask the following questions:

    a. What types of polygons have 1 pair of parallel sides? 2 pairs? 3 pairs? 4 pairs? *Trapezoids contain 1 pair of parallel sides, parallelograms, rhombuses, squares, and rectangles contain 2 pairs of parallel sides, and so on.*

17. Quickly assess how accurately student pairs classified their cards before moving on to the next Category Card with Perpendicular Sides at the top.

18. Discuss the vocabulary term for each Category Card, and then challenge students to classify their Shape Cards based on the categories represented on the card.

19. After the Shape Cards have been classified and assessed, use the Teacher Guide to instruct students on how to create subcategories for each Category Card.

20. Ask guiding questions similar to the ones provided previously while student pairs continue sorting their Shape Cards into their subcategories.

21. Continue this process until each pair of students has used each of the Category Cards to classify the given polygons based on their parallel sides, perpendicular sides, lines of symmetry, congruence, and types of angles.

22. Mention that Types of Angles is different from the way the other categories and subcategories are set up. Show students the Teacher Guide, and instruct them on how to draw the graphic organizer of overlapping rectangles to show how shapes can have one type of angle or more than one type of angle. If it is easier to draw one of these diagrams for the group and to have the group work together on classifying shapes by their angles, feel free to do this.

23. Make sure to document students' progress and understanding while they work.

24. At the end of the activity, instruct students to organize their materials, return the Shape Cards to their resealable bag, and return the Category Cards to their resealable bag.

Part II: Classify Quadrilaterals

1. Distribute a dry-erase marker, a set of Category Cards for Part II, and a set of Shape Cards for Part II to each pair of students.

2. Prompt students to remove the Shape Cards from the resealable bag and to analyze the cards.

3. Encourage student pairs to discuss how the shapes are similar and different. Ask the following questions:

    a. What do all these shapes have in common? *All the shapes are quadrilaterals.*

    b. What do all quadrilaterals have in common? *All quadrilaterals have four sides.*

4. Explain to students that they will work with their partners to classify these polygons into various categories and subcategories. Encourage students to remove their Category Cards from the bag and to analyze each category.

5. Challenge student pairs to take a few minutes to classify the quadrilaterals however they choose. Students may use their dry-erase marker to draw arrows between categories and subcategories for their quadrilaterals on the table. Then encourage students to share with the group and explain the way they classified the quadrilaterals.

6. Explain to students that they do not have to use all the Category Cards when classifying the shapes.

7. Monitor and assess students' understanding as they explain the way they classified their quadrilaterals using categories and subcategories.

8. Use the Teacher Guide for Part II as a reference throughout this activity.

9. Prompt student pairs to erase the work they just represented on the table and to find the Four Sides category and to place it at the top of their workspace on the table.

10. Challenge student pairs to classify their shapes based on whether they have four sides. Ask the following question:

    a. Which cards can be classified under the Four Sides category? *All the cards can be classified under the category of four sides because all the shapes are quadrilaterals.*

11. Prompt students to find all the Category Cards that mention parallel sides, to use their dry-erase marker to draw arrows coming down from the Four Sides category, and to lead those arrows to each subcategory that mentions parallel sides. Refer to the Teacher Guide to explain to students how this should look.

12. Challenge student pairs to work together to classify the cards placed under the Four Sides category into their new subcategory related to parallel sides. Ask the following guiding questions while students work:

    a. How can you determine whether a shape has a pair of parallel sides? *A shape has a pair of parallel sides when two sides that are opposite each other are the same distance apart, will remain that same distance apart, and will never cross.*

    b. Which shapes appear to have no pairs of parallel sides? *The irregular quadrilateral has no pairs of parallel sides.*

    c. Which shapes appear to have one pair of parallel sides? *The trapezoids have one pair of parallel sides.*

    d. Which shapes appear to have two pairs of parallel sides? *The rectangles, parallelograms, rhombuses, and squares have two pairs of parallel sides.*

13. Quickly assess how accurately student pairs classified their cards before moving on to the next Category Cards related to perpendicular sides and congruence.

14. Encourage students to use their remaining Category Cards to make subcategories from the cards related to parallel sides. If students are struggling to think of how to place the remaining Category Cards, guide them using the Teacher Guide or the following questions:

    a. Other than parallel sides, what other attributes can we use to classify quadrilaterals? *Perpendicular sides and congruence are attributes that can be used to sort quadrilaterals.*

    b. Analyze each shape that has already been classified into a category. Which attributes do these shapes contain that have not already been identified? *Answers will vary.*

15. Monitor student discussions and hierarchies as they work with their partners to classify each quadrilateral based on the different categories and subcategories. Document student progress and understanding throughout the activity.

16. If time allows, students may work to classify their cards in a different way by starting with a different category and representing different subcategories from that starting category.

17. Make sure to point out that even when students start with different categories and subcategories, quadrilaterals are still classified in the same way because their attributes don't change, even if they are organized differently.

18. Once students are done classifying their quadrilaterals, and their categories and subcategories have been assessed, have them describe each quadrilateral and its properties.

    a. Quadrilateral: *Four-sided polygon*

    b. Parallelogram: *Two pairs of parallel sides, two pairs of congruent sides*

    c. Rectangle: *Four pairs of perpendicular sides, two pairs of parallel sides, two pairs of congruent sides*

    d. Rhombus: *Two pairs of parallel sides, all sides congruent*

    e. Square: *Four pairs of perpendicular sides, two pairs of parallel sides, all sides congruent*

    f. Trapezoid: *One pair of parallel sides*

19. At the end of the activity, instruct students to organize their materials, to return the Shape Cards to their resealable bag, and to return the Category Cards to their resealable bag.

Part III: Classify Triangles

1. Distribute a dry-erase marker, a set of Category Cards for Part III, and a set of Shape Cards for Part III to each pair of students.

2. Prompt students to remove the Shape Cards from the resealable bag and to analyze the cards.

3. Encourage student pairs to discuss how the shapes are similar and different. Ask the following questions:

    a. What do all these shapes have in common? *All the shapes are triangles.*

    b. What do all triangles have in common? *All triangles have three sides.*

4. Explain to students that they will work with their partners to classify these triangles into various categories and subcategories. Encourage students to remove their Category Cards from the bag and to analyze and discuss the categories and the vocabulary terms they contain. Ask the following questions:

    a. What is an acute angle? *An angle that measures less than 90 degrees*

    b. What is an obtuse angle? *An angle that measures more than 90 degrees*

    c. What is a right angle? *An angle that measures exactly 90 degrees*

    d. What are congruent sides? *Congruent sides are exactly the same length.*

5. Use the Teacher Guide for Part III as a reference throughout this activity.

6. Prompt students to find the Three Sides category and to place it at the top of their workspace on the table.

7. Challenge student pairs to classify their shapes based on whether they have three sides. Ask the following question:

    a. Which cards can be classified under the Three Sides category? *All the cards can be classified under the category of three sides because all the shapes are triangles.*

8. Prompt students to find all the Category Cards that mention congruent sides, to use their dry-erase marker to draw arrows coming down from the Three Sides category, and to lead those arrows to each subcategory that mentions congruent sides. Refer to the Teacher Guide to explain to students how this should look.

9. Challenge each student pair to work together to classify the cards placed under the Three Sides category into their new subcategory related to congruent sides. Ask the following guiding questions while students work:

   a. How can you determine whether a shape has congruent sides? *A shape has congruent sides when a side length is the same length as another side length. We can analyze each side of the shape and determine if any of the sides are the same length.*

   b. What is a triangle called when it has no congruent sides? *A triangle with no congruent sides is called a scalene triangle.*

   c. What is a triangle called when it has two congruent sides? *A triangle with two congruent sides is called an isosceles triangle.*

   d. What is a triangle called when it has three congruent sides? *A triangle with three congruent sides is called an equilateral triangle. A triangle with three congruent sides can also be called an isosceles triangle.*

10. Quickly assess how accurately student pairs classified their cards before moving on to the next Category Cards related to types of angles.

11. Encourage students to use their remaining Category Cards to make subcategories from the cards related to congruent sides. If students are struggling to think of how to place the remaining Category Cards, guide them using the Teacher Guide or the following questions:

    a. Other than congruent sides, what other attributes can we use to classify triangles? *We can classify triangles based on their types of angles.*

    b. Analyze each triangle that we have not already classified into a category. Which attributes do these shapes contain that we have not already identified? *We can classify them based on whether they contain acute, right, or obtuse angles.*

12. Monitor students' discussions and hierarchies as they work with their partners to classify each triangle based on the different subcategories related to angle types of a triangle. Document student progress and understanding throughout the activity.

13. Make sure that students are analyzing if each triangle contains only acute angles, a right angle, or an obtuse angle.

14. Once students are done classifying their triangles, and their categories and subcategories have been assessed, have students describe each triangle and its properties.

    a. Acute scalene triangle: *contains only acute angles and no congruent sides*

    b. Right scalene triangle: *contains one right angle and no congruent sides*

    c. Obtuse scalene triangle: *contains one obtuse angle and no congruent sides*

    d. Acute equilateral: *contains only acute angles, and all sides are congruent*

    e. Acute isosceles triangle: *contains only acute angles and has two congruent sides*

    f. Right isosceles triangle: *contains one right angle and two congruent sides*

    g. Obtuse isosceles triangle: *contains one obtuse angle and two congruent sides*

15. At the end of the activity, instruct students to organize their materials, to return the Shape Cards to their resealable bag, and to return the Category Cards to their resealable bag.

16. Afterward, allow time for students to complete the Checkup individually.

Formative

Checkup (Spanish version, back)

Classify Two-Dimensional Figures

Name: _____ Date: _____

Resuelve los siguientes problemas.

1. Felipe describe una figura a otro estudiante de su clase.

- La figura tiene cuatro lados.
- La figura tiene un par de lados paralelos.
- La figura tiene dos ángulos rectos, un ángulo agudo y un ángulo obtuso.
- La figura no tiene lados congruentes.

¿Qué figura describió Felipe?
A. Trapecio
B. Cuadrado
C. Rombo
D. Paralelogramo

2. Un estudiante utilizó una tabla para clasificar polígonos. El estudiante cometió 2 errores.

Sin ...	Un par de lados paralelos	Dos pares de lados paralelos
A.		
B.		
C.		

Checkup (Spanish page 2)

Classify Two-Dimensional Figures

3. El organizador gráfico clasifica los tipos de triángulos. Completa la información que falta con los términos del recuadro.

Escaleno	Recto	Agudo
Isósceles	Obtuso	Equilátero

Checkup (English page 1)

Classify Two-Dimensional Figures

Name: _____ Date: _____

...e following problems.

1. Felipe describes a figure to another student in his class.

- The figure has four sides.
- The figure has one pair of parallel sides.
- The figure has two right angles, one acute angle, and one obtuse angle.
- The figure has no congruent sides.

Which figure did Felipe describe?
A. Trapezoid
B. Square
C. Rhombus
D. Parallelogram

2. A student used a table to classify polygons. The student made 2 errors.

No Pairs of Parallel Sides	One Pair of Parallel Sides	Two Pairs of Parallel Sides
A	D	G
B	E	H
C	F	I

Find the two quadrilaterals that are NOT classified correctly, and tell how they should be classified.

One of the quadrilaterals that is NOT classified correctly is _____. It should be classified as _____.
The other quadrilateral that is NOT classified correctly is _____. It should be classified as _____.
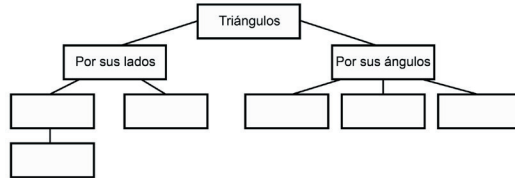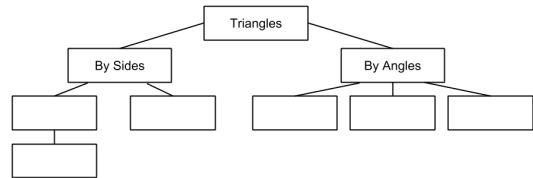
Checkup (English page 2)

Classify Two-Dimensional Figures

3. The graphic organizer classifies types of triangles. Complete the missing information with terms from the box.

Scalene	Right	Acute
Isosceles	Obtuse	Equilateral

4. Students are making a graphic organizer to help them remember the different quadrilaterals and their attributes. They need your help completing the missing information in the table.

Figure Name		Parallelogram	
Model			
Attribute Description	2 pairs of parallel sides; contains acute and obtuse angles		4 right angles; opposite sides are parallel

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SUPPLEMENTAL AIDS - ANGLES

Students use types of angles as a reference when approximating angles, identifying angles, or identifying shapes.

Procedure and Facilitation Points

- This Student Handouts contain a variety of angles of each type. These can be used to reinforce the following geometry concepts:
  - Approximating angle measures
  - Angles within triangles
  - Identifying angles types
  - Classifying angle types
- If possible, provide a laminated copy of the assorted triangles for each student. The students may then use dry-erase markers to classify and identify properties in a variety of situations.
- Encourage students to draw an angle of each type at the top of their paper or assessment as a reminder when solving geometry problems.
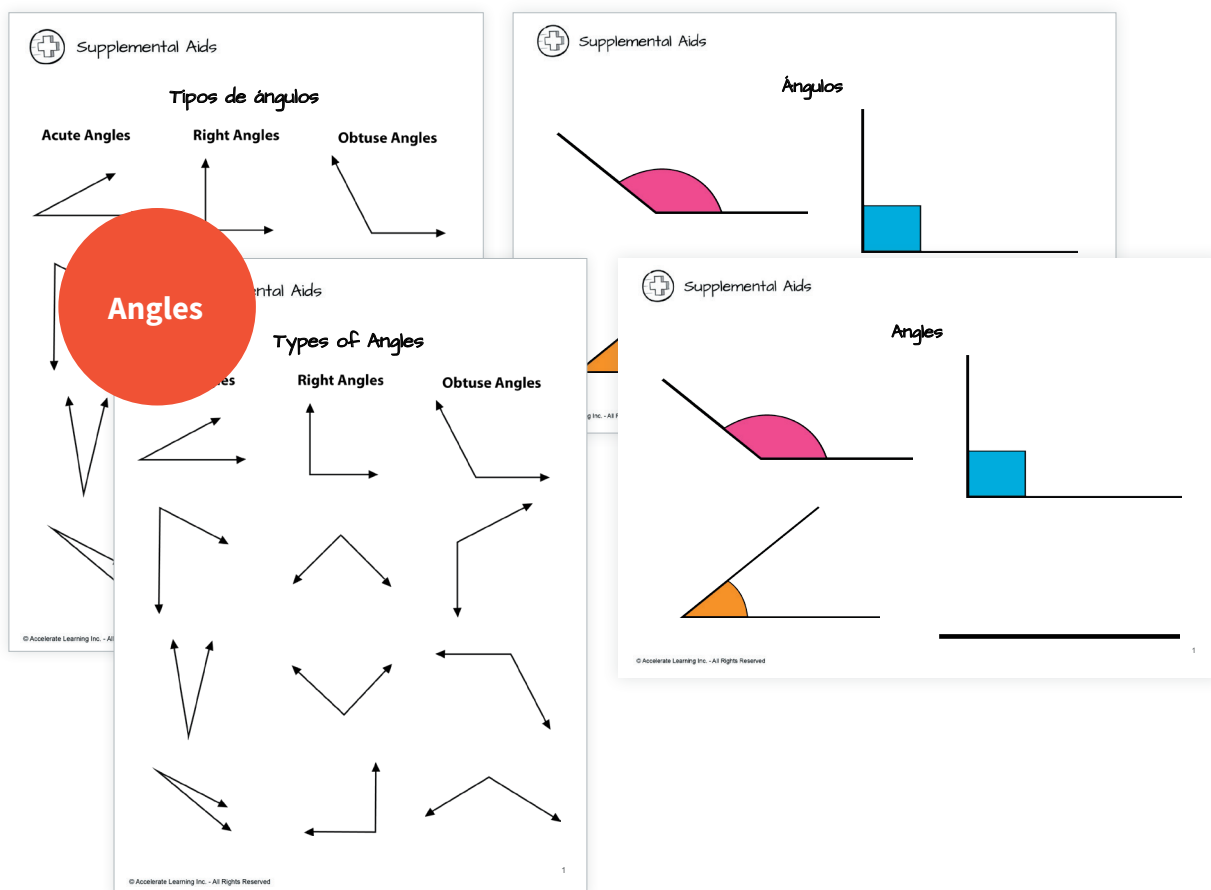
SUPPLEMENTAL AIDS - GEOBOARD

Students use geoboards to practice two-dimensional shape concepts.

Procedure and Facilitation Points

- This Student Handout contains a geoboard pattern. An actual geoboard and rubber bands may also be used in its place. Geoboards can be used to reinforce the following geometry concepts:
  - Classifying and sorting shapes
  - Identifying attributes that define shapes
  - Identifying shapes
  - Composing and decomposing shapes
  - Identifying lines of symmetry
  - Identifying angles within shapes
  - Identifying parallel and perpendicular lines
- If possible, provide a laminated copy of the geoboard for each student. The students may then use dry-erase markers to create a variety of shapes.
- The geoboard pattern may also be duplicated and used as a place for students to record what they create on their own geoboard.

Geoboard

Geoboard Pattern

Patrón en geotablero
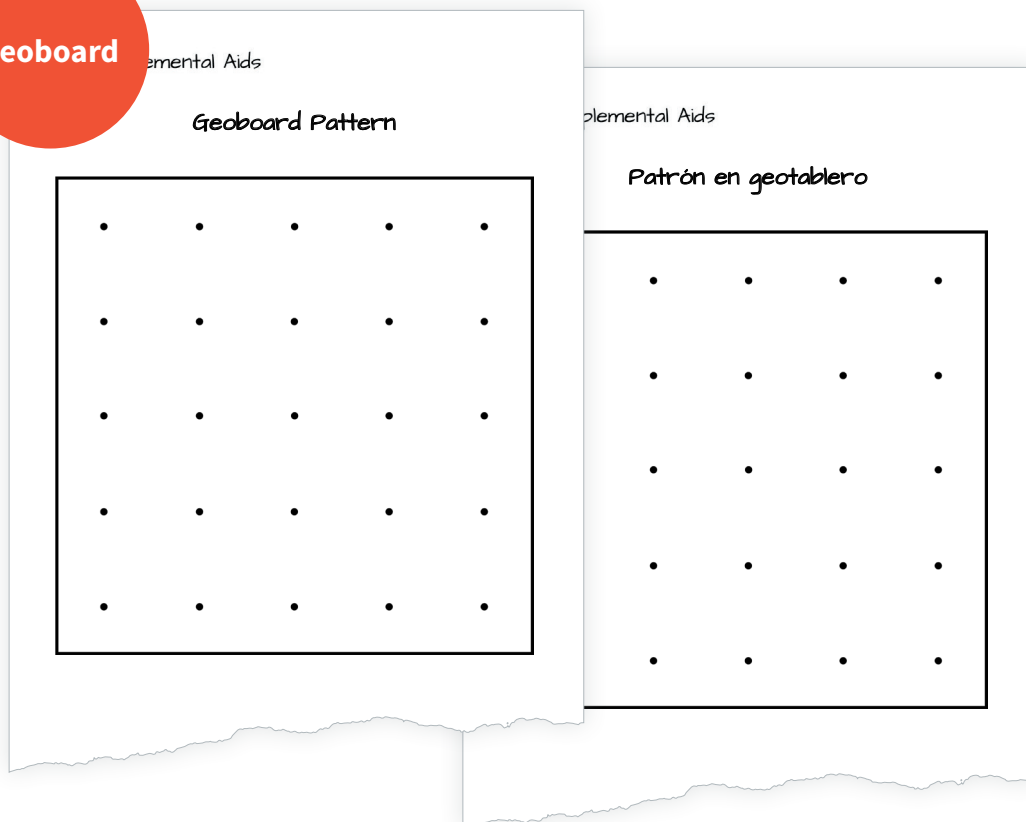
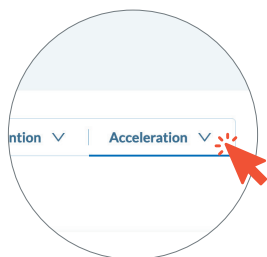| Home | Engage | Explore | Explain | Elaborate | Evaluate | Intervention | Acceleration |

Acceleration

Click Acceleration

Click on Acceleration in the White Menu Bar
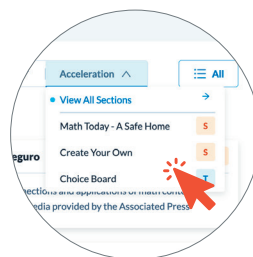
Review Content

Use the Dropdown to Review Acceleration Content

Acceleration activities allow students to dive deeper into the content and its applications, enhancing their understanding and engagement. These enrichment activities are designed for all students, providing opportunities to explore advanced concepts and develop critical thinking skills.

CHOICE BOARD

Students explore real-world connections and applications of math content through interactions with engaging activities.

Preparation

- Print a Choice Board for each student.
- Plan ahead for technology use. Access to other activities within the scope may be required for some options on the Choice Board.
- This activity can be completed in class or at home.

Procedure and Facilitation Points

1. Distribute a Choice Board to each student.
2. Allow students time to examine the Choice Board and select the activities they would like to explore.
3. Encourage students to attempt at least three activities on the Choice Board.
4. If time allows, have students share the connections they made in completing the activities they chose.

Choice Board

Choice Board   Classify Two-Dimensional Figures

Name:_____ Date:_____

Classify Two-Dimensional Figures

Choose one or more extension activities from the table below.

Writing Connection	Career Connection
Quadrilateral Family	**Fashion Designer**
Write a story where the characters are all quadrilaterals. Can you create a story that helps explain how different quadrilaterals are related?	Complete the Career Connections activity. Can you think of another career that may use two-dimensional shapes? Draw your example, and write about how it uses two-dimensional shapes.
Technology Connection	Engineering Connection
Profile Builder	**Quadrilateral Mobile**
Play Profile Builder, the Interactive Practice game. Design your own app where different quadrilaterals and triangles may each create a profile that lists their different properties. Design your app, and draw images for the profiles of each shape. Be sure to include a list of the properties for each shape.	Create a hanging mobile to display the hierarchy of quadrilaterals. Be sure to include the name and a picture of each quadrilateral.
Art Connection	Real-World Connection
Triangle Collage	**Quadrilaterals Everywhere!**
Cut out triangular-shaped pieces of colored paper, and glue them onto another blank piece of paper to create a picture. Remember to use isosceles, scalene, and equilateral triangles in your design.	List examples of quadrilaterals in our world. Once you have your list, classify each quadrilateral according to the different properties. Compare your list with a partner's list. Who has more quadrilaterals?

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Choice Board   Classify Two-Dimensional Figures

Name:_____ Date:_____

Clasificar figuras bidimensionales

Selecciona una o más actividades de extensión de la siguiente tabla.

Conexión con la escritura	Conexión profesional
Familia de cuadriláteros	**Diseñador de moda**
Escribe una historia donde los personajes sean todos cuadriláteros. ¿Puedes crear un cuento que ayude a explicar cómo se relacionan los diferentes cuadriláteros?	Completa la actividad «Conexiones profesionales». ¿Se te ocurre otra profesión que pueda utilizar figuras bidimensionales? Dibuja tu ejemplo y escribe sobre cómo utiliza figuras bidimensionales.
Conexión con la tecnología	Conexión con la ingeniería
Creador de perfiles	**Móvil de cuadriláteros**
«Profile Builder», el juego de la sección «Práctica interactiva». Diseña tu propia aplicación donde diferentes cuadriláteros y triángulos puedan crear cada uno un perfil que enumere sus diferentes propiedades. Diseña tu aplicación y dibuja imágenes para los perfiles de cada figura. Asegúrate de incluir una lista de las propiedades de cada figura.	Crea un móvil colgante para mostrar la jerarquía de cuadriláteros. Asegúrate de incluir el nombre y una imagen de cada cuadrilátero.
Conexión con el arte	Conexión con el mundo real
Colaje de triángulos	**¡Cuadriláteros por todas partes!**
Recorta trozos de papel de colores de forma triangular y pégalos en otro trozo de papel en blanco para crear una imagen. Recuerda utilizar triángulos isósceles, escalenos y equiláteros en tu diseño.	Lista ejemplos de cuadriláteros en nuestro mundo. Una vez que tengas tu lista, clasifica cada cuadrilátero según las diferentes propiedades. Compara tu lista con la de un compañero. ¿Quién tenía más cuadriláteros?

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CREATE YOUR OWN

Create Your Own is an enriching activity for students to be able to create their own inventions, plays, songs, technology apps, and more!

Procedure and Facilitation Points

1. Distribute a Create Your Own student handout to each student.

2. Allow time for them to be as creative as possible! There is no boundary to their creativity on this activity.

3. Invite each student to present or perform his or her creative product to the class or small group.

MATH TODAY - A SAFE HOME

Students will explore connections and applications of math and other cross-curricular content through interactions with authentic, real-world media provided by Associated Press.

Procedure and Facilitation Points

1. Allow students to view the video. Briefly explain that Sumatran tigers are at risk of extinction due to poaching, habitat loss, and deforestation leaving them without homes.
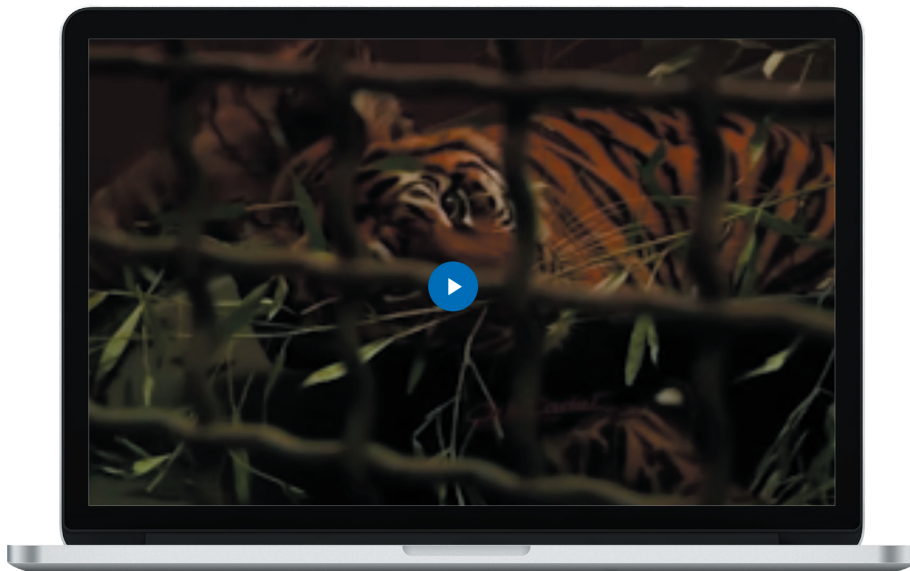
Scan and Watch the Video

2. Discuss:
   a. Let students share with "I notice . . ." and "I wonder . . ." statements. Ask students how math is used in this situation.
   b. What are some possible two-dimensional figures that would be desirable in a zoo exhibit? Why did you choose these shapes? *Answers will vary. Students should provide a reason for choosing a shape.*

3. Students should complete the Student Handout independently or with partners.

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Math Today

Classify Two-Dimensional Figures

Name: _____   Date: _____

Un hogar seguro

Los zoológicos de América del Norte tienen un trabajo más amplio que solo brindarnos la oportunidad de ver animales de cerca. Muchos son hogares seguros y temporales para que las especies en peligro de extinción se reproduzcan y crezcan al tamaño de una población antes de ser reintroducidos en sus hábitats naturales. La decisión sobre el tamaño y la forma de una exhibición para cualquier animal requiere una amplia consideración y planificación.

1. A los tigres [...] nadar y son excelentes nadadores, por lo que al z[...] cuadril[...] la pisc[...] transp[...] escribe[...] que dib[...]

2. Dibuja un org[...] espacio a con[...]

© Accelerate Learning Inc. - All R[...]

Math Today

Classifying Two-Dimensional Figures

3. En una exhibición para el mielero regente en peligro de extinción, un ave de colores brillantes, hay un comedero para pájaros. Cada lado del comedero para pájaros tiene todos los ángulos de 90° y dos conjuntos de lados paralelos. Dibuja dos formas posibles en que el comedero para pájaros podría verse, según la forma de los lados.

4. Explica por qué el comedero para pájaros puede verse de dos maneras diferentes.

Math Today

Classify Two-Dimensional Figures

Name: _____   Date: _____

A Safe Home

North American zoos have a larger job than just providing a chance for us to see animals up close. Many are safe, temporary homes for endangered species to breed and grow in population size before being reintroduced into their natural habitats. Deciding on the size and shape of an exhibit for any animal takes extensive consideration and planning.

1. Sumatran tigers love to swim and are excellent swimmers, so the zoo would like to build a pool for them. The pool will be a quadrilateral with four parallel and all-congruent sides. The pool's corners will have angle measures of 145°, 35°, 145°, and 35°. Use a protractor and a ruler to draw the shape below. Label the angle measures and the name of the shape you drew.

2. Draw a graphic organizer that shows the classification of this shape in the space below.

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Math Today

Classify Two-Dimensional Figures

3. In an exhibit for the endangered regent honeyeater, a brightly colored bird, there is a bird feeder. Each side of the bird feeder has all 90° angles and two sets of parallel sides. Draw two possible ways the bird feeder could look, based on the shape of the sides.

4. Explain why the bird feeder could look two different ways.

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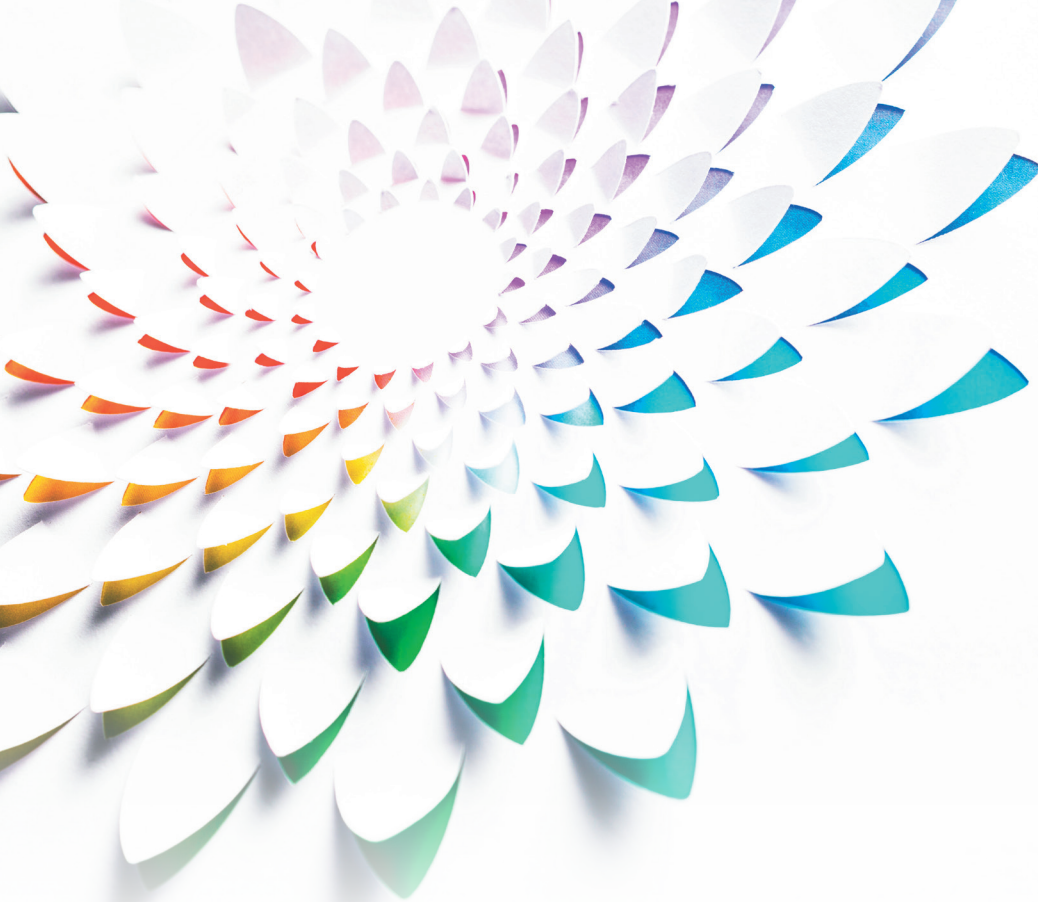
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✓ **ALL STUDENT MATERIALS ARE AVAILABLE IN ENGLISH AND SPANISH**

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