## Big Idea/ Topic
- Reason with and analyze shapes and their attributes

## Standard Alignment
MGSE2.G.1 Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces.
8 Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.

## Diagnostic Assessment
In the attached Which One Doesn’t Belong, diagnostic assessment, students will be shown a group of shapes and will be asked to determine which of the shapes does not belong in the group. Once students choose a shape, they must explain the reasoning for their choice.

## Instructional Design
**Desmos Activity link:** The Shape of Things

### Engage

![Image of shapes]

**Teacher Tips:**
- There should be one shape per name for this card sort activity.
- If students have trouble matching the names, encourage them to start with the shapes that they know.

- **Synchronous** Complete during a classroom discussion while pausing the activity to highlight student responses.
- **Asynchronous** Introduce the problem to students in a virtual platform; this can be done via e-document or video. Allow students to share responses within the Desmos platform and provide feedback via the teacher dashboard. Additionally, students could use an audio/video to share. Provide feedback to individual student responses and highlight multiple strategies used by students.
- **Unplugged/ Offline** Provide the paper version of the card sort for students to engage in the task. Have students share ideas through email/text/phone. Provide feedback to students and share other students’ ideas before engaging in the remaining sections.
Explore

Now let's start to sort those shapes... On the next screen, we're going to group the shapes based on attributes. Move each shape to an attribute that applies.

3 Sort These Shapes - ...

Fantastic Work!

Now, let's get back to finding shapes in real life. On the next few pages, you will see pictures of different classrooms. In each classroom, circle two DIFFERENT shapes that share an attribute.

We would like you to be able to explain the attribute the shapes share.

Some examples that might help with your search are:

- Do both shapes have no sides?
- Do both shapes have the same number of angles?
- Are both shapes quadrilaterals?

Once you find and circle your shapes, type the names of the shapes and what attribute they share in the text box.

- **Synchronous** Complete during a classroom discussion using the teacher tips above. Pause the activity to highlight student responses and generate more engagement.
- **Asynchronous** Introduce the problem to students in a virtual platform; this can be done via e-document or video. Allow students to share responses within the Desmos platform and provide feedback via the teacher dashboard. Additionally, students could use an audio/video to share. Provide feedback to individual student responses.
- **Unplugged/ Offline** Provide the paper version of the activity for students to engage in the task. Have students share ideas through email/text/phone. Provide feedback to students and share other students' ideas before engaging in the remaining sections.
Apply

6 Find 2 Different Shapes

1. Find two DIFFERENT shapes in the picture that share an attribute and circle them.
2. Type the names of the shapes and the attribute that they share in the box below.

7 Find 2 Different Shapes

1. Find two DIFFERENT shapes in the picture that share an attribute and circle them.
2. Type the names of the shapes and the attribute that they share in the box below.

- **Synchronous** Complete Desmos activity during synchronous learning, using the teacher guidance above, either face to face, virtual, or blended.
- **Asynchronous** Give students time to complete the screens and provide feedback. Ensure that enough time is provided for students to participate and respond to your feedback and edit responses as needed.
- **Unplugged/ Offline** Provide students with the paper version of the activity and allow students to engage in the task. Ask students to complete the questions and have them submit responses via email/text/phone. Provide feedback, share these responses with other students, and share other students’ responses with them.

Reflect

8

You have done amazing work recognizing shapes and sorting them based on their attributes!

Take a look at the shape on the left. Can you tell me which attributes apply to this shape?

- **Synchronous** Complete Desmos activity during synchronous learning, using the teacher guidance above, either face to face, virtual, or blended.
- **Asynchronous** Give students time to complete the screens and provide feedback. Ensure that enough time is provided for students to participate and respond to your feedback and edit responses as needed.
- **Unplugged/ Offline** Provide students with the paper version of the activity and allow students to engage in the task. Ask students to complete the questions and have them submit responses via
Evidence of Student Success

Formative Assessment Questions:

- What shapes do you see around the room?
- What attributes or characteristics does that shape have?
- What does a shape need to have to be a triangle? Rectangle? etc.
- What are some differences between a (quadrilateral) and a (rectangle)?
- How can we figure out the name of a shape?

Student Learning Supports

Establish mathematics goals to focus learning.
- Make instructions and expectations clear for the activities.
- Make explicit connections between current and prior lessons or units.

Facilitate meaningful mathematical discourse.
- Explicitly model and teach good “discussion board” etiquette.

Pose purposeful questions.
- Predetermine when you will call on the student or use the pause feature within the activities.
- Break class into small discussion groups to work collaboratively and then have groups report back to the whole group.

Support productive struggle in learning mathematics.
- Offer outlines and other scaffolding tools and share tips that might help students learn.
- Provide feedback using the feedback feature within activities and offer corrective opportunities.
- Consider the pacing of the lesson.

Elicit and use evidence of student thinking.
- Anticipate any misconceptions or questions students might have about the task, materials or technology. Proactively address them with readily available and accessible resources.
Count On It! For Teachers and Parents

**Episode 210** – Blossom and Snappy Go to the Zoo, Part Two

Shapes – Draw funny pictures using only 2-dimensional shapes. For example, you can draw a person using only rectangles. Or you could draw a flower with only one circle, and the rest in squares. Be creative!
### Which One Doesn’t Belong

**Shapes** In each set, circle the *One that doesn’t belong* and describe why it does not fit with the others.

<table>
<thead>
<tr>
<th>Which One Doesn’t Belong?</th>
<th>Why It Doesn’t Belong?</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Octagon" /> <img src="image2" alt="Hexagon" /> <img src="image3" alt="Octagon" /></td>
<td></td>
</tr>
<tr>
<td><img src="image4" alt="Pentagon" /> <img src="image5" alt="Triangle" /> <img src="image6" alt="Triangle" /></td>
<td></td>
</tr>
<tr>
<td><img src="image7" alt="Gift" /> <img src="image8" alt="Octagon" /> <img src="image9" alt="Square" /></td>
<td></td>
</tr>
</tbody>
</table>