

# Grade 1

<b>Unit</b>  <b>2.3</b>	<b>Unit Title</b> <b>Shapes and Their Attributes</b> <b>Represent &amp; Interpret Data (up to 2 categories)</b>	<b>Lesson</b>  <b>1 of 4</b>	<b>Day</b>  <b>1 - 3</b>
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## Lesson Focus

1. Standards Addressed	2. Content to be Learned	3. Mathematical Practices	4. Essential Question
<p><b>1.G.1</b> Distinguish between defining attributes (open or closed, 3 sided) versus non-defining attributes (color, orientation, overall size); <del>build and draw shapes to possess defining attributes.</del> <b>build</b></p>	<ul style="list-style-type: none"> <li>•Identify and describe 3-D shapes according to their defining attributes.</li> <li>•Identify 2-D shapes on 3-D shapes</li> </ul>	<p><b>SMP3</b> Construct viable arguments and critique the reasoning of others.</p> <p><b>SMP4</b> Model with mathematics.</p> <p><b>SMP5</b> Use appropriate tools strategically.</p>	<ul style="list-style-type: none"> <li>•How can you identify and describe a 3-d shape?</li> <li>•What 2-D shapes do you see on flat surfaces of this 3-d shape?</li> <li>•How are these shapes alike and different?</li> <li>•How do you know this shape is a square, rectangle, etc?</li> </ul>
5. Prerequisite Knowledge	6. Essential Vocabulary	7. Possible Misconceptions	8. Necessary Materials
<ul style="list-style-type: none"> <li>•Identify, describe, and differentiate between 2-D shapes.</li> <li>•Understand what is meant by a flat surface.</li> </ul>	<p>Sphere, cone, cylinder, cube, rectangular prism</p> <p>flat surface, curved surface</p> <p>2-dimensional (2-D)</p> <p>3-dimensional (3-D)</p>	<ul style="list-style-type: none"> <li>•Concepts like, “a square is a rectangle”.</li> <li>•Defining attributes vs non-defining.</li> </ul>	<p><b>OnCore</b> Lesson 86 &amp; 87 Student pages 171 – 174</p> <p><b>Investigations</b> Unit 7 INV 1 Session 1-1 thru 1-5</p> <p><b>IXL Geometry Link:</b> <a href="http://www.ixl.com/math/grade-1">http://www.ixl.com/math/grade-1</a></p> <p>J2 Identify 3-D shapes J3 Geometry of everyday objects</p>

## Instruction

9. Instruction Practices (What are the teachers doing)	10. Learning Practices (What are the students doing)
<p>Teachers will guide students identify and describe 3-d shapes according to their defining attributes. They will help students to identify the 2-D shapes that can be seen on the flat surfaces of a 3-D shape by having objects shaped like a sphere, cone, cylinder, cube and rectangular prisms available for the students to hold and look at. Teachers will use OnCore Lesson 86 &amp; 87, Investigations Unit 7 Investigation 1 (Sessions 1-1 thru 1-5) and when possible have students use the IXL activities on the computer. These activities could be used whole class by using a projector or at home as a homework assignment. Building and drawing of these shapes will appear later in the year.</p>	<p>Students will identify and describe 3-D shapes according to their defining attributes. They will be able to explain how these shapes are alike and different. They will feel comfortable enough with their understanding of the attributes to critique the reasoning of others. Students will learn to identify the 2-D shapes that make up the flat surfaces of the 3-dimensional shapes. They will practice these concepts using OnCore student pages, additional worksheets provided by the teacher and if time may try the IXL Geometry activities on the computers in school or at home as a homework assignment. Building and drawing of these shapes will appear later in the year.</p>

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### Lesson Focus

1. Standards Addressed	2. Content to be Learned	3. Mathematical Practices	4. Essential Question
<p><b>1.G.1</b> Distinguish between defining attributes (open or closed, 3 sided) versus non-defining attributes (color, orientation, overall size); <del>build and draw shapes to possess defining attributes.</del> <b>build</b></p>	<ul style="list-style-type: none"> <li>•Describe attributes of 2-D shapes.</li> <li>•Use defining attributes to sort 2-D shapes.</li> </ul>	<p><b>SMP3</b> Construct viable arguments and critique the reasoning of others.</p> <p><b>SMP4</b> Model with mathematics.</p> <p><b>SMP5</b> Use appropriate tools strategically.</p>	<ul style="list-style-type: none"> <li>•What attributes can you use to define 2-D shapes?</li> <li>•How can you use attributes to sort 2-D shapes?</li> </ul>
5. Prerequisite Knowledge	6. Essential Vocabulary	7. Possible Misconceptions	8. Necessary Materials
<ul style="list-style-type: none"> <li>•Recognize straight sides and vertices.</li> <li>•Understand how to sort items that are alike in one way.</li> </ul>	<ul style="list-style-type: none"> <li>•Circle, square, triangle, rectangle, trapezoid, hexagon</li> <li>•Sides, vertices</li> </ul>	<ul style="list-style-type: none"> <li>•Not recognizing the attributes.</li> <li>•Difficulty with defining vs non-defining attributes.</li> </ul>	<p><b>OnCore</b> Lessons 88 &amp; 89 Student pages 175 – 178</p> <p><b>Investigations</b> Unit 2 INV 2 Describing &amp; Sorting Shapes</p> <p><b>K-5 Math Resources Activity:</b> <a href="#">Polygon Sort</a></p> <p><b>IXL Geometry Link:</b> <a href="http://www.ixl.com/math/grade-1">http://www.ixl.com/math/grade-1</a> J1 Identify 2-D shapes</p>

### Instruction

9. Instruction Practices (What are the teachers doing)	10. Learning Practices (What are the students doing)
<p>Teachers will guide students to understand and describe the defining attributes of 2-D shapes. They will help students to distinguish between defining and non-defining attributes. Teachers will use OnCore lessons 88&amp;89, Investigations Unit 2 INV 2, and Polygon Sort to guide students to use the attributes to sort 2-D shapes. If Students may practice using the computers (in school or at home) with the IXL lesson Identify 2-D Shapes.</p>	<p>Students will be able to describe the attributes of 2-D shapes. They will understand the difference between defining and non-defining attributes, which will help them, to sort the shapes into categories. Students will practice sorting 2-D shapes using OnCore, Investigations and the K-5 Math Resource. The IXL link “Identify 2-D Shapes” may be utilized in the classroom or at home.</p>

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## Lesson Focus

1. Standards Addressed	2. Content to be Learned	3. Mathematical Practices	4. Essential Question
<b>1.G.2</b> Compose 2-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) to create a composite shape, and compose new shapes from the composite shape ( <i>decompose</i> ). <sup>4</sup> <small><sup>4</sup>Formal shape names not needed.</small>	<ul style="list-style-type: none"> <li>•Use pattern block shapes and geoboards to compose or decompose new 2-d shapes.</li> <li>•Compose a new shape by combining 2-D shapes.</li> <li>•Decompose combined shapes back into pattern block shapes..</li> </ul>	<b>SMP3</b> Construct viable arguments and critique the reasoning of others. <b>SMP4</b> Model with mathematics. <b>SMP5</b> Use appropriate tools strategically.	<ul style="list-style-type: none"> <li>•How can you put 2-D shapes together to make a new 2-D shape?</li> <li>•How can you find shapes in other shapes?</li> <li>•What shapes are needed to make a trapezoid, etc?</li> </ul>
5. Prerequisite Knowledge	6. Essential Vocabulary	7. Possible Misconceptions	8. Necessary Materials
Identify the attributes of plane shapes (2-D).	<ul style="list-style-type: none"> <li>•Composite means “composed of” other shapes</li> <li>•Decompose means to break down a composite shape into smaller shapes.</li> <li>•Pattern blocks</li> </ul>	Not being able to recognize the shapes inside another shape because they may be in an unfamiliar orientation.	<b>OnCore</b> Lessons 93 – 97 Student pages 185 – 194 <b>Investigation</b> Unit 2 INV 1 Composing & Decomposing 2-D Shapes <b>K-5 Math Resource Activities:</b> <a href="#">Pattern Block Triangles</a> □ <a href="#">Fold a Square</a> □ <a href="#">Cover a Hexagon</a>

## Instruction

9. Instruction Practices (What are the teachers doing)	10. Learning Practices (What are the students doing)
Teachers will guide students to compose 2-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter circles) to create a composite shape (composite meaning a shape composed of other shapes). Teachers will also model for students how to compose new shapes from composite shapes (decompose a shape into smaller shapes). They may model the lesson using pattern blocks, OnCore Lessons 93 - 97, Investigations Unit 2 INV 1 or the K-5 Math Resource Activities.	Students will compose 2- dimensional shapes to create a composite shape (a shape composed of other shapes) and compose new shapes from composite shapes (decompose a shape into smaller shapes). They will practice composing and decomposing composite shapes using OnCore, Investigations, and K-5 Math Resource Activities. Students may utilize pattern blocks and geoboards to develop their understanding.

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## Lesson Focus

1. Standards Addressed	2. Content to be Learned	3. Mathematical Practices	4. Essential Question
<p><b>1.MD.4</b> Organize, represent, and interpret data <b>with up to three categories</b>; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.</p>	<ul style="list-style-type: none"> <li>•Organize, represent, and interpret data with up to two (then three) categories.</li> <li>•Read and make pictograph, bar graph or tally chart.</li> <li>•Ask and answer questions about the data represented in each of these graphs.</li> </ul>	<p><b>SMP3</b> Construct viable arguments and critique the reasoning of others.</p> <p><b>SMP4</b> Model with mathematics.</p> <p><b>SMP5</b> Use appropriate tools strategically.</p>	<ul style="list-style-type: none"> <li>•What do the pictures in a pictograph show?</li> <li>•Why is a key important?</li> <li>•How do you read a bar graph to find the number that a bar shows?</li> <li>•How does a bar graph help you compare information?</li> <li>•How do you count the tallies on a tally chart?</li> </ul>
5. Prerequisite Knowledge	6. Essential Vocabulary	7. Possible Misconceptions	8. Necessary Materials
<ul style="list-style-type: none"> <li>•Understand one-to-one correspondence.</li> <li>•Understand comparison terms; longer, longest, shorter, shortest</li> </ul>	Pictograph Bar graph Tally chart Key	Not reading the key first. Not understanding the question being asked.	<b>OnCore</b> Lessons 79 – 85 Student pages 157 – 170 <b>Investigation Snap-in</b> Unit 4 Session 3.4A (replaces INV 3)

## Instruction

9. Instruction Practices (What are the teachers doing)	10. Learning Practices (What are the students doing)
<p>Teachers will guide students to organize, represent, and interpret data with up to three categories. They will begin with examples that use two categories and build up to three categories. (Most student pages have both 2 and 3 category examples.) Teachers will help students read pictographs, bar graphs, and tally charts by asking questions about the data represented. They will provide opportunities for students to make pictographs, bar graphs and tally charts with up to three categories as well. Teachers will stress the importance of a key for pictographs. Teachers may find they need more than 5 times for this lesson.</p>	<p>Students will organize, represent, and interpret data with up to three categories. They will read and make pictographs, bar graphs and tally charts. Students will ask and answer questions about the data represented in each of these graphs. They will understand and use a key when constructing a pictograph, though they may find most of their examples will have each picture standing for 1 thing they need to be aware that this is not always the case so that the key is one of the first things they read when answering questions about the data. Students will practice using OnCore lessons and Investigations Snap-in materials.</p>