

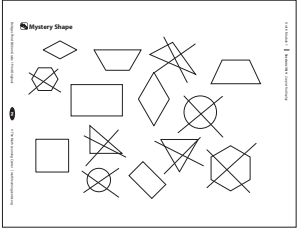
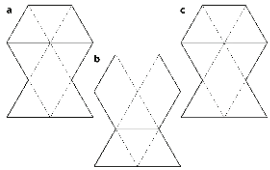
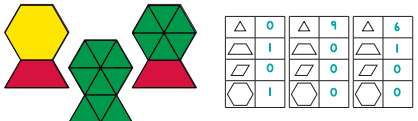
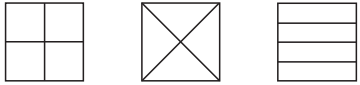
Geometry

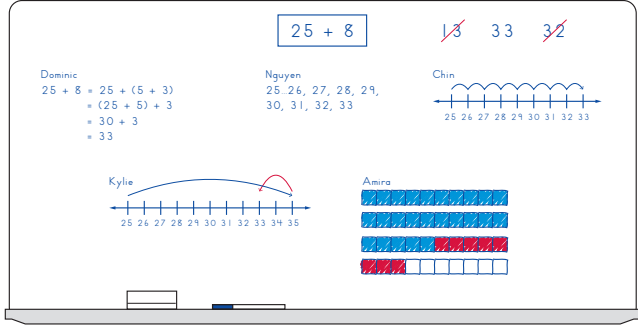
In this unit, your student will:

- Identify, describe, sort, and compare 2-D and 3-D shapes
- Draw 2-D shapes and build 3-D shapes
- Put shapes together to create pictures, designs, and larger shapes
- Divide circles and rectangles into halves and fourths
- Add 1-digit and 2-digit numbers



Your student will practice these skills by solving problems such as these:

PROBLEM	COMMENTS																								
<p>I'm thinking of one of the shapes on this paper, and I'm going to give you some clues so you can figure out which one it is. The shape I'm thinking of has 4 sides. Can you use that information to get rid of any of the shapes on the sheet? Which ones? Why?</p> <p><i>"You can get rid of all the triangles. They only have 3 sides!"</i></p> <p><i>"Cross out the circles. They don't have any straight sides."</i></p> <p><i>"We can cross out the hexagons, but we have to keep all the rest of the shapes because they all have 4 sides."</i></p>	<p>In this activity, the teacher provides clues that enable students to eliminate all but one 'mystery shape.' As they work to identify the shape, students describe and compare shapes in terms of their defining attributes.</p> 																								
<p>Can you come up with three different ways to fill this shape with pattern blocks?</p>  <p><i>"I put a hexagon on top and a trapezoid on the bottom."</i></p> <p><i>"I used all triangles. It took 9 of them because they're so little."</i></p> <p><i>"I put a trapezoid on the bottom, and all triangles on the top. It took 7 blocks in all — six triangles and 1 trapezoid."</i></p>	<p>First graders fit pattern blocks together to make larger shapes and record how many of each type of block they use for each solution. In the process, they start to develop early understandings about measuring area, including the fact that the size of the unit influences the outcome.</p>  <table border="1" data-bbox="1161 1480 1356 1575"> <tr> <td>△</td><td>0</td> <td>△</td><td>9</td> <td>△</td><td>6</td> </tr> <tr> <td>▱</td><td>1</td> <td>▱</td><td>0</td> <td>▱</td><td>1</td> </tr> <tr> <td>◻</td><td>0</td> <td>◻</td><td>0</td> <td>◻</td><td>0</td> </tr> <tr> <td>○</td><td>1</td> <td>○</td><td>0</td> <td>○</td><td>0</td> </tr> </table>	△	0	△	9	△	6	▱	1	▱	0	▱	1	◻	0	◻	0	◻	0	○	1	○	0	○	0
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<p>How can 4 friends divide this square flatbread fairly?</p>  <p><i>"I folded my paper in half. Then I opened it and folded it in half the other way. Now I have fourths that are all little squares."</i></p> <p><i>"I folded my paper diagonally, so I got 4 triangles."</i></p> <p><i>"I folded mine in half and then in half again. I got skinny rectangles."</i></p>	<p>First graders relate well to food and fractions since their earliest experiences with fractions often involve sharing treats with siblings or friends. In folding paper squares and circles, they discover that there is often more than one way to split a shape into equal parts. Students learn to describe the parts as halves and fourths (or quarters) and to read and write the numbers $\frac{1}{2}$ and $\frac{1}{4}$.</p>																								

PROBLEM	COMMENTS
<p>What is $25 + 8$?</p> 	<p>Students continue to work with the derived fact strategies they developed in Unit 5. In the process, they discover that the same strategies — counting on, compensation, and making 10 — can help them add 1-digit to 2-digit numbers.</p> <p><i>"It's 33. I started with 25 and kept on counting, like this: 25... 26, 27, 28, 29, 30, 31, 32, 33."</i></p> <p><i>"I got 33 too! I pretended the 8 was a 10. I know that 25 and 10 is 35. Then I took 2 away because we're really supposed to add 8, not 10."</i></p> <p><i>"I took 5 from the 8 and gave it to the 25. That made 30, but then I had to add the other 3 from the 8. Thirty plus 3 is 33."</i></p>

Frequently Asked Questions About Unit 6

Q: My student calls 3-D objects by 2-D names. Why is this, and how can I help?

A: When looking at three-dimensional objects, first graders are likely to see and describe those objects in terms of their two-dimensional faces. They may refer to cubes as “squares,” pyramids as “triangles,” spheres and cylinders as “circles,” and so on. When they do, help them dig a little deeper by asking questions such as, “Where are the squares on that cube-shaped tissue box? How many squares are there?” Explain that each of the six squares is one face of the cube. What shape are the faces of some of the other three-dimensional objects they see? Can they find an object with six faces shaped like rectangles? If so, it’s called a rectangular prism. Can they find an object that’s round but not flat like a circle? If so, they’ve probably found a sphere. What can they tell you about the can of soup on the counter? When they comment that the top and bottom of the can are shaped like circles, let them know they’re looking at a cylinder, and challenge them to find other cylinders in the kitchen or bathroom.

Q: How can I support my student’s learning?

A: Shapes are everywhere! Have your student look for examples of 2-D and 3-D shapes at home, in the school yard, at the park, in the store — wherever you happen to be. Can they spot rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles? What about cubes, rectangular prisms, pyramids, cones, cylinders, and spheres? Play I spy, taking turns to give each other clues about the shapes you see.

To further support your student in learning mathematics, you can:

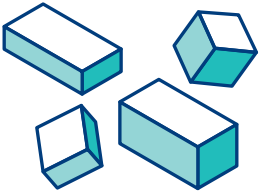
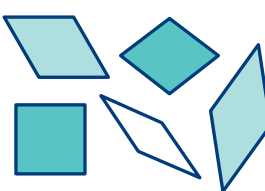
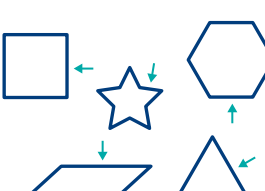
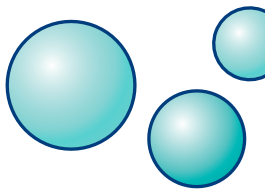
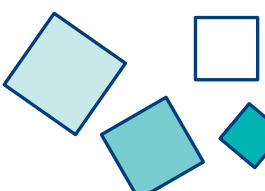
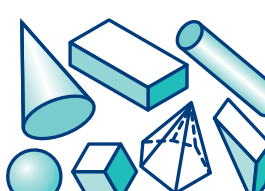
- Visit mathathome.mathlearningcenter.org and work through the activities in Grade 1: Set 6 together. These activities complement the learning that takes place in the classroom during Unit 6 and provide fun ways to engage in mathematical thinking. This set also includes digital versions of games your student has learned at school, such as Last Shape in Wins, Pattern Block Puzzles, and Shape Sorting & Graphing.
- Visit apps.mathlearningcenter.org and invite your student to explore the Geoboard, Pattern Shapes, and Fractions apps. Throughout Unit 6, students explore these tools in their physical forms in the classroom.
- Read books with your student that focus on 2-D and 3-D shapes and fractions. Some book suggestions include:
 - » *Round Is a Tortilla: A Book of Shapes* by Roseanne Greenfield Thong, illustrated by John Parra
 - » *Have You Seen My Monster?* by Steve Light
 - » *Danbi Leads the School Parade*, by Anna Kim
 - » *Circle! Sphere!* by Grace Lin
 - » *Round* by Joyce Sidman, illustrated by Taeun Yoo
 - » *The Wishing Club: A Story About Fractions* by Donna Jo Napoli, pictures by Anna Currey
 - » *Luna’s Yum Yum Dim Sum* by Natasha Yim, illustrated by Violet Kim

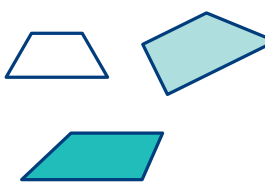

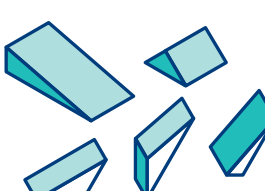
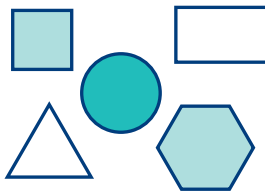
Geometry Vocabulary Terms *page 1 of 2*

<p>circle a closed two-dimensional (flat) shape made by drawing a curve that is always the same distance from a point called the center</p>	
<p>cone a three-dimensional (solid) shape with a circular or elliptical base and a curved surface that tapers to the vertex</p>	
<p>congruent of the exact same shape and size; identical</p>	
<p>cube a three-dimensional (solid) shape whose 6 faces are all squares</p>	
<p>cylinder a three-dimensional (solid) shape with 1 curved surface and 2 congruent flat bases that are circular or elliptical</p>	
<p>edge the line segment along which 2 faces of a three-dimensional (solid) shape meet</p>	
<p>face a two-dimensional (flat) surface of a three-dimensional (solid) shape</p>	

<p>hexagon a two-dimensional (flat) closed shape with 6 sides</p>	
<p>parallelogram a 4-sided, two-dimensional (flat) closed shape with 2 pairs of parallel sides</p>	
<p>pentagon a two-dimensional (flat) closed shape with 5 sides</p>	
<p>polygon a two-dimensional (flat) closed shape with 3 or more sides</p>	
<p>pyramid a three-dimensional (solid) shape that has a polygon for a base; its 3 other faces are triangular and meet at a vertex (called the apex)</p>	
<p>quadrilateral a two-dimensional (flat) closed shape with 4 sides</p>	
<p>rectangle a 4-sided, two-dimensional (flat) closed shape with 2 pairs of parallel sides and 4 right angles</p>	

Geometry Vocabulary Terms *page 2 of 2*

<p>rectangular prism a three-dimensional (solid) shape with 2 congruent rectangles for bases; its other faces are parallelograms</p>	
<p>rhombus a 4-sided, two-dimensional (flat) closed shape with 4 congruent sides</p>	
<p>side a line segment that, with other line segments, forms a two-dimensional (flat) shape</p>	
<p>sphere a three-dimensional (solid) shape constructed so that every point of the surface is the same distance from a point called the center</p>	
<p>square a 4-sided, two-dimensional (flat) closed shape with 4 congruent sides and 4 right angles</p>	
<p>three-dimensional (3-D) shape a solid shape with depth, width, and height; a shape that has volume</p>	

<p>trapezoid a 4-sided, two dimensional (flat) closed shape with exactly 1 pair of parallel sides</p>	
<p>triangle a two-dimensional (flat) closed shape with 3 sides</p>	
<p>triangular prism a three-dimensional (solid) shape with 2 congruent triangles for bases; its other faces are parallelograms</p>	
<p>two-dimensional (2-D) shape a flat shape with length and width; a shape that has area but not volume</p>	
<p>vertex or corner the point at which the sides of a two-dimensional (flat) closed shape or the edges of a three-dimensional (solid) shape intersect</p>	