InsightMath

Exploring Shapes and Time

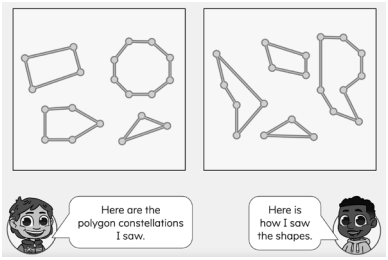
Family Guide | Grade 2 | Unit 8

Your student is exploring how wholes and parts of wholes can be named by the number of equal-sized parts which compose them.

Key Math Ideas

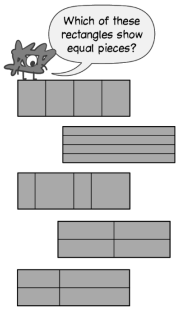
In this unit, your student will deepen their understanding of shapes, fractions, and time. They will explore how shapes can be identified based on their attributes, or characteristics of the shape. For example, they will identify a triangle as having 3 sides and 3 vertices (the corner of a shape), or a quadrilateral as having 4 sides and 4 vertices. Students also identify shapes with right angles, like the corner of a piece of paper. They will extend their understanding of fractions by dividing circles and rectangles into halves, thirds, and fourths, and they will describe them using this fraction language. Your student will then build on their knowledge of hours and half hours and use fraction connections by tell time to the nearest five minutes using analog clocks (showing numbers 1 to 12).

→ At the beginning of the unit, your student will learn to



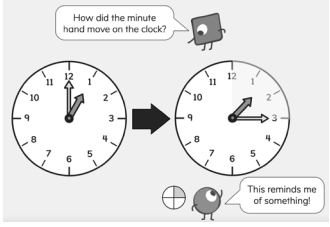
- name and sort polygons (two-dimensional shapes with straight lines) based on their number of vertices or sides;
- demonstrate that individual polygons have the same number of sides and vertices;
- draw polygons given one or more attributes (sides, vertices, angles),
- such as drawing a polygon with two right angles and four sides.

→ In the middle of the unit, your student will learn to



- identify and describe halves, thirds, and fourths as equal parts of a whole;
- use language to describe fraction relationships, such as “half of;”
- divide shapes into parts to show examples and non-examples of halves, thirds, and fourths.

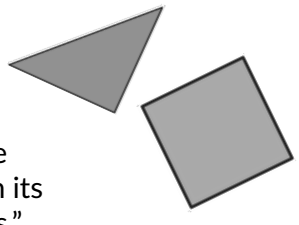
→ By the end of the unit, your student will learn to



- use the clock face of an analog clock to describe how the hour hand takes one hour to rotate through four quarters of a circle and a quarter hour can be thought of as one quarter of the shape;
- tell time on an analog clock to the nearest five minutes and write it in
- the format of a digital clock;
- draw hands on analog clocks to match times written, spoken, or shown on digital clocks;
- label time of day using a.m. and p.m. and relate them to daily activities;
- describe the relationships between units of time (minutes in an
- hour, days in a week, weeks in a year).

Helpful Hint

Sometimes students do not identify certain triangles as triangles because they “do not look like a triangle.” This is also true with squares when the square is rotated. For example, they may call the square a “diamond” instead. Help your child look for shapes in the real world that are rotated in an “unusual” way (like the examples). Have your student tell what shape it is and how they know based on its attributes like “I know this is a square because it has four sides and four right angles.”



Tips for Supporting Your Student at Home

Questions to Ask Your Student

→ At the beginning of the unit:

- Is this shape a polygon? How do you know?
- What shapes make up a cube's faces?
- How can you compare triangles and quadrilaterals? What about pentagons, hexagons, and octagons?
- How can you tell if a shape has a right angle?

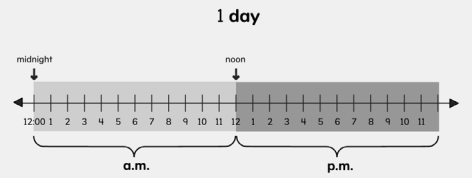
→ In the middle of the unit:

- How can you divide a shape into halves? (try the same question with thirds and fourths)
- If you have one third, how many equal parts does it take to make a whole? (try the same question with one half and one fourth)

→ By the end of the unit:

- What do the the minute and hour hands on a clock tell you?
- How do you tell the time?
- How can you use a number line to explain a.m. and p.m.?
- How many hours are in a day, days are in a week, months are in a year?

If...	Try...
your student is confused by 12 a.m. and 12 p.m. . . .	having them use a timeline as a way to show when we switch from a.m. to p.m. (and p.m. to a.m.).

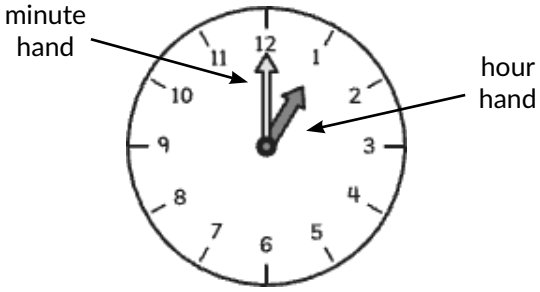


Student Strengths Spotlight

I learn from my mistakes.	Making mistakes is part of how we learn. Whether you student makes mistakes telling time or making equal parts, encourage them to identify their mistake and ask how they can learn from it!
I explain my thinking.	When students explain their thinking, they have the opportunity to reflect on their own understanding, which helps them to learn.

Try This Together!

- **Tell the Time.** Try playing a game of telling the time using an analog clock multiple times during a day. Focus on how your student explains what the hour hand and the minute hand do. Have them check the time they told with a digital clock.



- **Sharing Food.** During a snack or a meal, split a food item to share between two people. Ask, "Did we each get one half? How do you know?" After your student shares what they think, point out that it is not one half if the two parts are not equal. Try the same with thirds and fourths.
- **How Many Can You Draw?** Challenge your student to draw as many different-looking shapes as they can of a specific type of polygon. For example, how many different types of octagons can you and your student make? What is the same and what is different about them?