InsightMath

Partitioning Shapes and Time

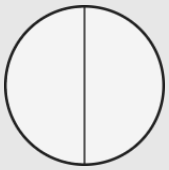
Family Guide | Grade 1 | Unit 11

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

Key Math Ideas

In this unit, students extend their understanding of shapes by learning about halves and fourths as they divide shapes by folding paper or by using lines to create equal sections of a shape. Students explore and recognize that equal parts must be the same size.

Later in this unit, students learn how equal parts of a circle can help them determine time on an analog clock. Understanding these concepts lays the foundation for future work in fractions.



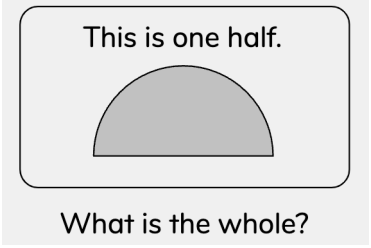
Showing halves

A half hour can be thought of as one-half of the shape of the clock face.

Analog to digital time connections

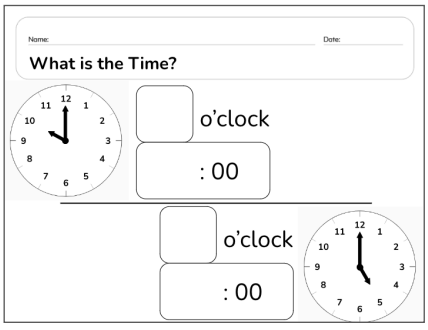
→ In the first half of the unit, your student will learn to

- identify halves and fourths (or quarters) as shapes dividedinto equal shares;
- model and explain how dividing a shape shows halves or fourths by drawing, folding, or cutting the whole shape;
- make a whole that is a polygon starting with one half or one fourth.



→ In the second half of the unit, your student will learn to

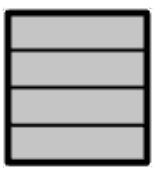
- model and explain how the long hand goes around the clock once in one hour and the short hand travels from one number to the next in one hour;
- tell, show, and write time to the hour on analog and digital clocks;
- use an analog clock to describe that a half hour can be thought of as one-half of the shape of the clock face;
- use language specific to time, such as “half past the hour” or “six thirty.”



Helpful Hint

Sometimes students say that a shape is split into halves because there are 2 parts or fourths because there are 4 parts, regardless of whether each part is equal in size.

Ask your student to create and analyze examples and nonexamples of halves and fourths, and discuss what makes them halves and fourths.



Example: Equal shares make fourths.

Nonexample: Unequal shares do not make fourths.

Tips for Supporting Your Student at Home

Questions to Ask Your Student

→ At the beginning of the unit:

- How can you make halves of a shape?
- How can you make fourths of a shape?
- How can you tell if a part is one half or one fourth of a whole?

→ By the end of the unit:

- How can we use the short hand and long hand to tell time?
- When the short hand moves from one number to the next, how much time has passed? How do you know?
- When the long hand has moved halfway through the clock, how much time has passed? How do you know?

If...	Try...
your student confuses the minute and hour hands on analog clocks . . . 	showing that the hour hand is shorter than the minute hand and asking them to describe what happens to the short hand as you move the long hand on a geared clock. You can also pair an analog clock with a digital clock so your student can check the times against each other.

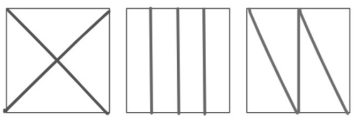
Student Strengths Spotlight

We make a plan. Students plan how to make halves and fourths based on what they know about equal parts.

We listen to other people's ideas. Students listen to others' ideas about how to make a shape by iterating halves or fourths. They also listen to each others' ideas as they make connections between parts of the clock face and time.

Try This Together!

- **Paper Folding Fun!** Make and cut shapes from a piece of paper with your student. Then, ask your student to fold the shapes into halves and fourths different ways. Ask students to explain how equal parts may look different as they fold the paper different ways.



- **Sharing Food.** During a snack or a meal, split a food item to share between two people. Ask, "Did I make halves? How do you know?" After your student shares what they think, point out that it is not halves if the two parts are not equal. Try the same with fourths.
- **Tell the Time!** As you and your student are doing activities during the day, note the time on the hour and half hour on analog and digital clocks. After 30 minutes or an hour has passed, ask your student to tell the time again. Making connections between telling time and the parts of their day helps to solidify their understanding of time and how to read clocks.
- **Name the New Time on an Analog Clock.** Ask your student, "Where are the short hand and long hand?" Set a timer for one hour. After one hour, ask your student what they notice about the clock hands ("Where are the short hand and long hand now?"), and ask them to explain what happened using the words "hour" and "minutes." Try this with 30-minute increments as well.