Unit **6**

Geometry and Time

Essential Questions

- What are the attributes of shapes?

- How can we partition shapes into equal parts?

- How do we tell time to the nearest 5 minutes?

✳ **Unit Story: Arjun the Artist**

You can read the Unit Story with your student by visiting the Unit Story page on the Caregiver Hub.

🔍 Unit Investigation

Lesson 1 is the Unit Investigation. Students look for familiar and unfamiliar shapes in their classroom and describe them based on their attributes to build curiosity and apply their own knowledge in a variety of ways. Use the **Caregiver Connection** to help students continue to explore the math they will see in the unit.

Caregiver Connection

Students may enjoy looking for different shapes at home and trying to find examples of shapes that do not fit into known categories, like circles or triangles. You can ask:

- "How could you describe this shape?"
- "How many sides does this shape have?"
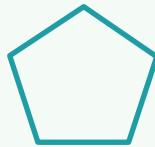- "How is this shape similar to or different from other shapes?"

Quadrilaterals, **pentagons**, and **hexagons** are closed shapes with straight sides. You can identify and describe each shape with the number of sides and corners.
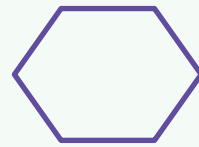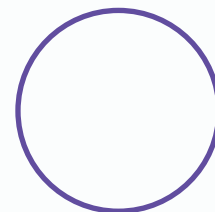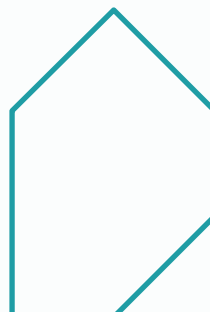
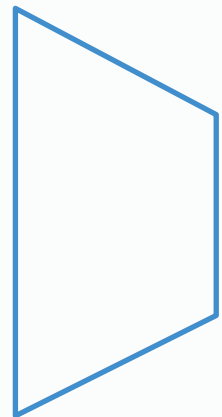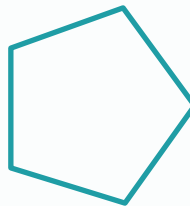| Quadrilateral	Pentagon	Hexagon
4 sides, 4 corners	5 sides, 5 corners	6 sides, 6 corners

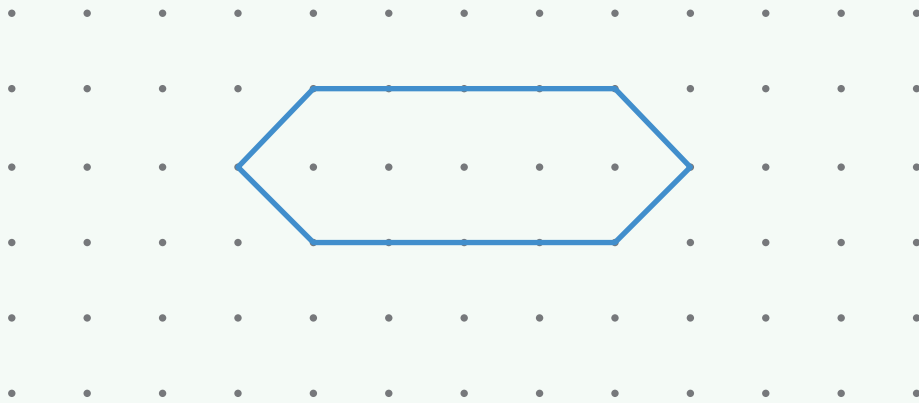## Try This

1 Find a pentagon and label it A.
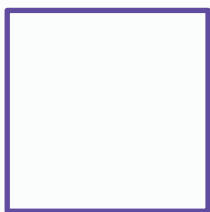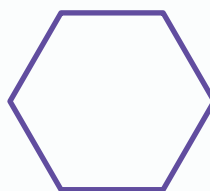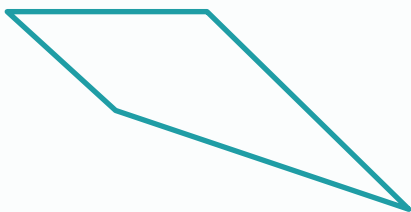
You can draw shapes based on their attributes.
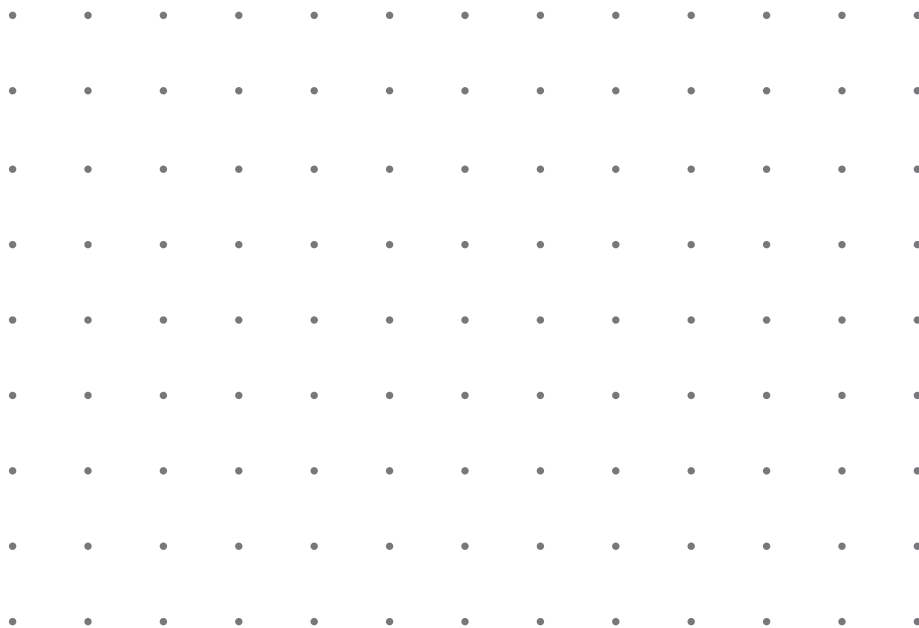
I drew a hexagon by drawing 6 sides and 6 corners.

Try This

1 Draw a quadrilateral.

✏️ **Draw**
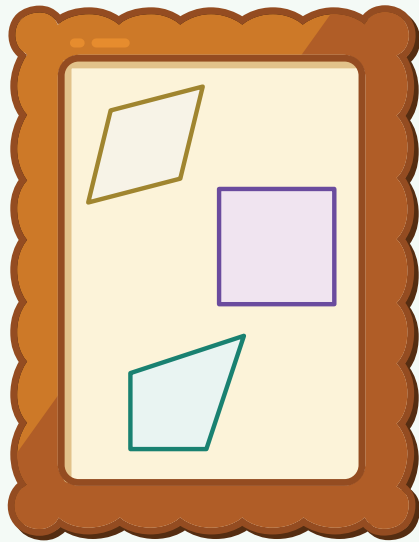
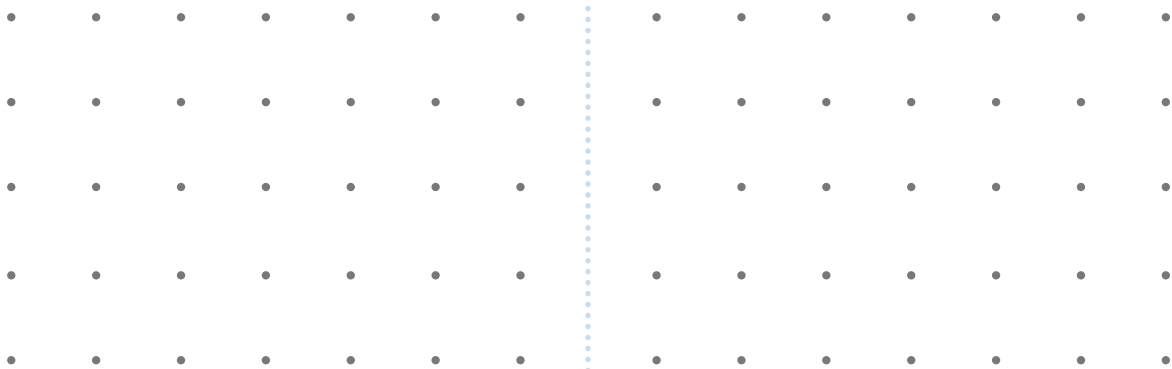Shapes can have different side lengths and different types of corners but still belong in the same category.

These are all quadrilaterals because they all have 4 sides and 4 corners.

Try This

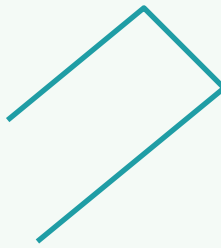1   Draw **2** different shapes with **5** sides each.

Draw

2   What type of shape did you draw in Problem 1?

You can measure side lengths to find shapes with specific attributes.

Both shapes have 4 sides. Two sides are 2 centimeters long.

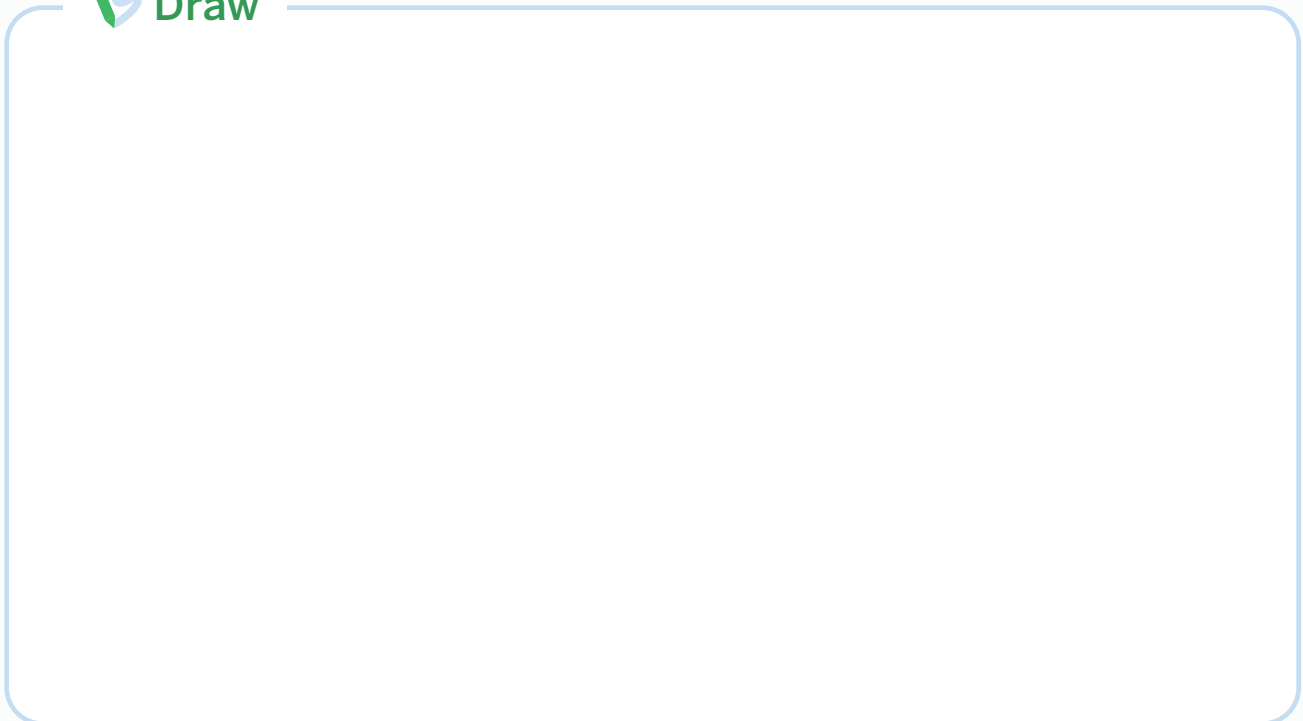There are some attributes that *cannot* be combined to make a shape.

You cannot make a shape with 3 sides and 4 corners.
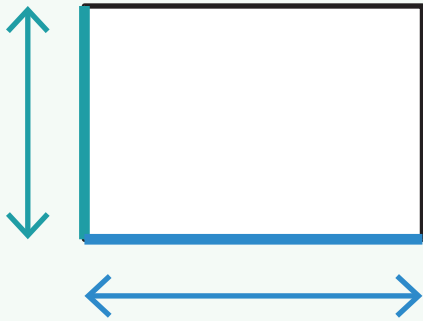
Try This

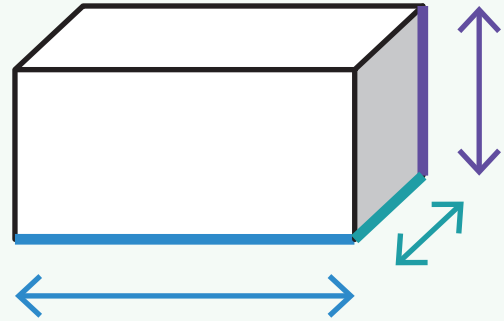**1** Draw a quadrilateral with exactly 3 sides that are each 2 inches long.

Draw

Two-dimensional shapes are flat shapes with 2 dimensions that can be measured. **Three-dimensional** shapes are solid shapes with 3 dimensions that can be measured.
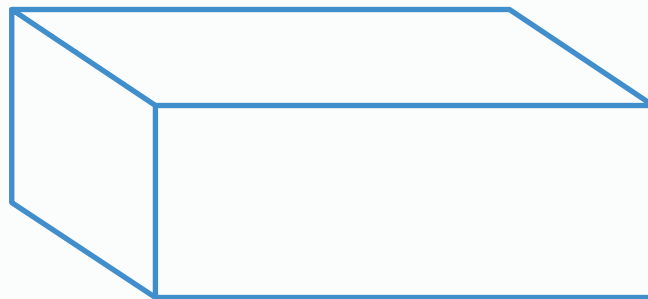
**two-dimensional
shape (flat)**

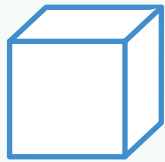**three-dimensional
shape (solid)**

Try This

1 Use a ruler to measure the edges on the rectangular prism in inches. Label each edge with its measurement.

You can describe three-dimensional shapes with their faces, edges, and corners.

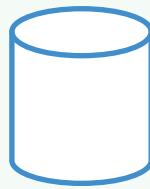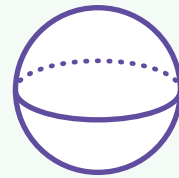| Some three-dimensional shapes have flat faces, edges, and corners.	Some three-dimensional shapes have curved surfaces with few to no edges or corners.
cube prism	cylinder cone sphere

Try This

1 Choose a three-dimensional shape you have learned about and describe it. Use words from the word bank if they are helpful.

face	edge	corner

_____

_____

_____

_____

In this sub-unit . . .

- We sorted, drew, and identified shapes, like **quadrilaterals**, **pentagons**, and **hexagons**, based on their sides and corners.

Quadrilaterals	Pentagons	Hexagons
4 sides, 4 corners	5 sides, 5 corners	6 sides, 6 corners

- We noticed that shapes in the same category can look different but share some of the same attributes.

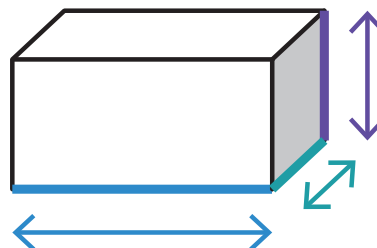These are both hexagons because they have 6 sides and 6 corners.

🔥 *Math tip:* Shapes in different categories can share attributes.

- We saw that **two-dimensional** shapes are flat shapes with 2 dimensions that can be measured, and **three-dimensional** shapes are solid shapes with 3 dimensions that can be measured.
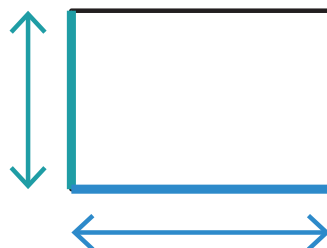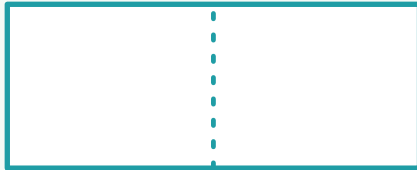
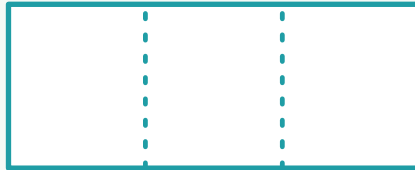two-dimensional shape (flat)   three-dimensional shape (solid)

You can split shapes into equal parts and name the parts.
Halves, **thirds**, and fourths are different sizes.
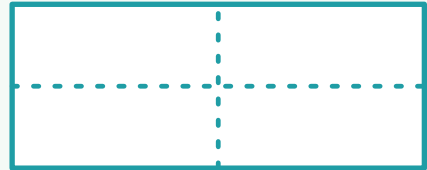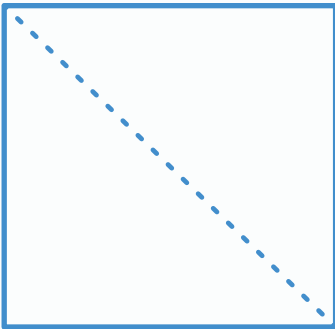
2 equal parts

halves

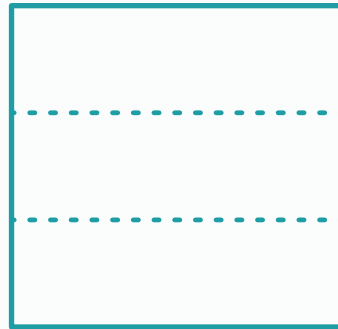**3 equal parts**

thirds

4 equal parts

fourths or quarters

Try This

For Problems 1 and 2, name the equal parts of each shape.

1

2
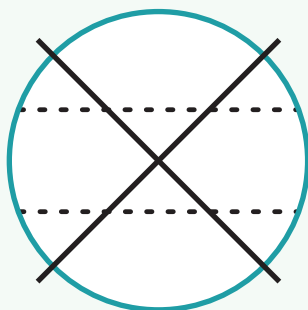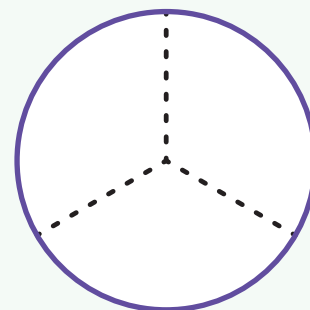
Different shapes can be split into equal parts in different ways. The way you draw to split a shape into equal parts depends on the shape.
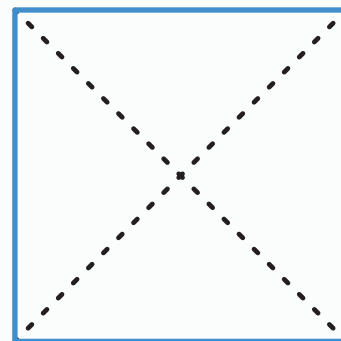
thirds

not thirds

thirds

Try This

Shawn said each part of the square is a fourth. Use the square for Problems 1 and 2.

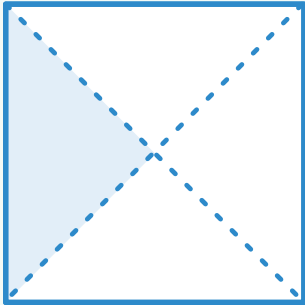**1** Do you agree with Shawn? Explain your thinking.

_____

_____

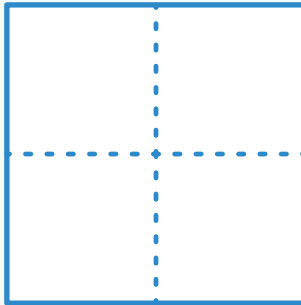_____

2 What is another name for each part of the square?

_____

Equal parts of same-sized shapes can look different but still be the same size and have the same name.
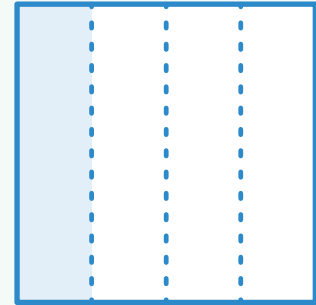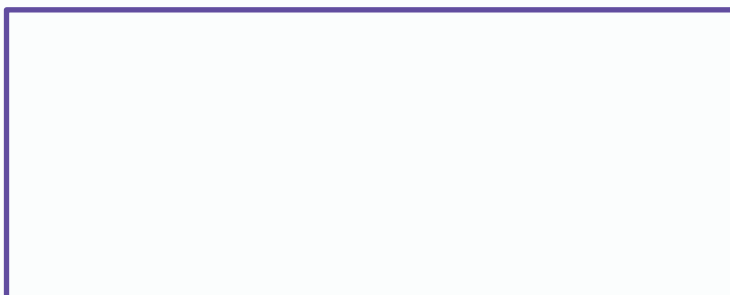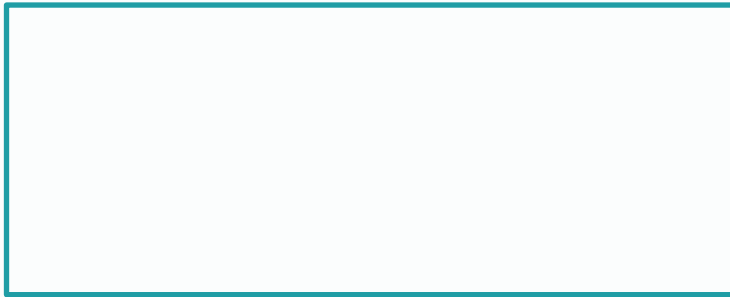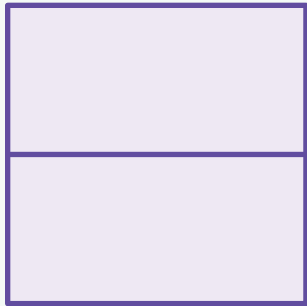
fourth   fourth   fourth

Try This

1 Show **2** different ways to split the rectangles into thirds.

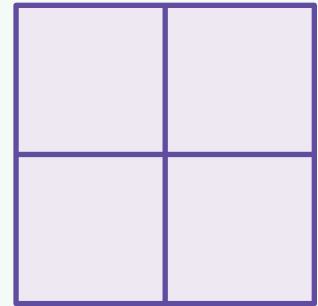When a shape is split into 2, 3, or 4 equal parts and all the equal-sized parts are shaded, the *whole* shape is shaded.

2 halves	3 thirds	4 fourths

1 whole

Try This

1 Clare and her brother are splitting a sandwich. Draw a line to show how she could cut the sandwich into **2** equal parts. Shade the part that Clare ate. Then write the name of the part.
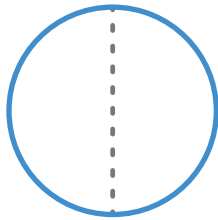
Clare ate _____ .

In this sub-unit . . .

- We saw that we can split shapes into equal parts and name the equal parts.
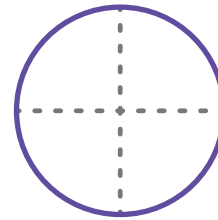
Halves

Thirds

Fourths/Quarters

2 equal parts

3 equal parts
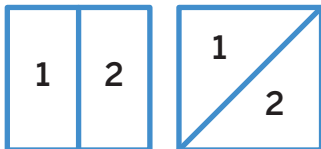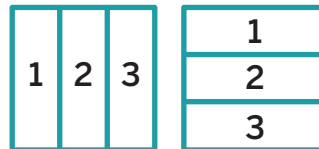
4 equal parts

- We noticed that equal parts of same-sized wholes can look different but still be the same size and have the same name.

Halves

| 1 | 2 |

1 / 2

Thirds

| 1 | 2 | 3 |

1
2
3

Fourths

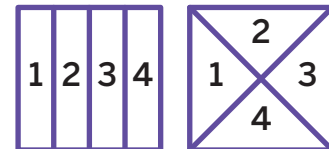| 1 | 2 | 3 | 4 |

2
1   3
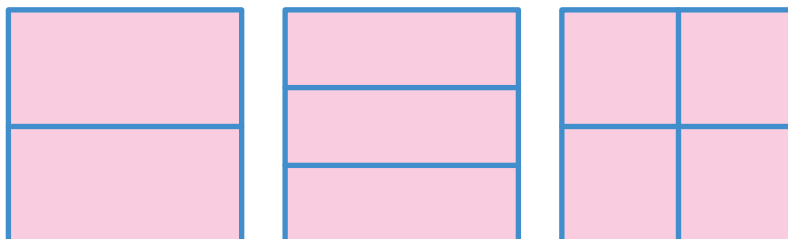4

🔥 *Math tip:* You can name the equal parts by counting how many parts there are in total.
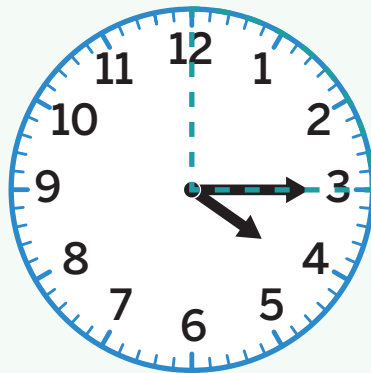
- We saw that when a shape is split into equal-sized pieces and all the pieces are shaded, it represents the whole shape.

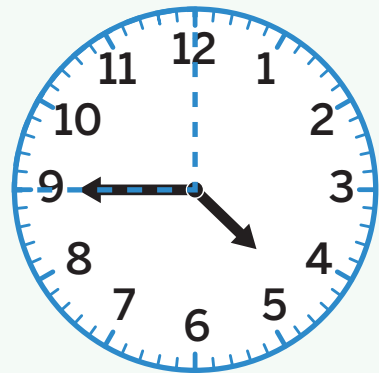When telling time, think about the clock split into halves and quarters. When the minute hand is 1 quarter past the hour, use the term **quarter past**. When the minute hand is 1 quarter before the next hour, use **quarter to**.
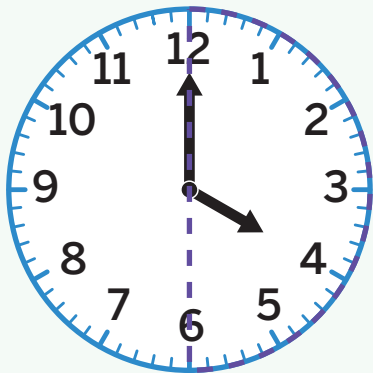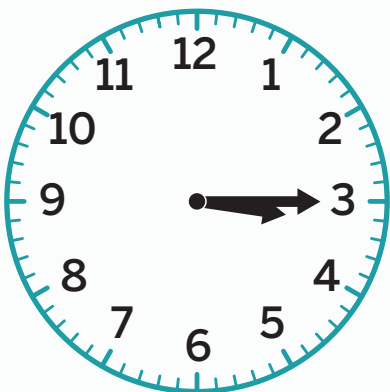

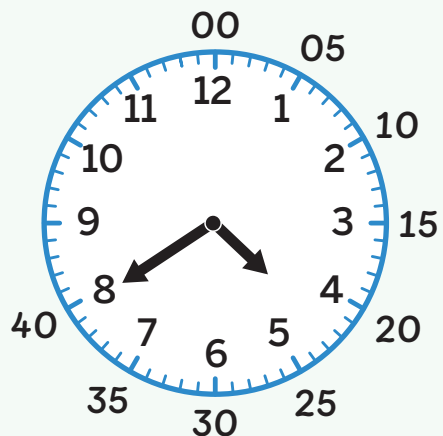4 o' clock   **quarter past** 4   **quarter to** 5

Try This

1 Write the time shown on the clock using the phrases *quarter past*, *half past*, or *quarter to*.

_____

You can count forward or backward by 5 to tell the minutes on an analog clock. To tell the hour, think about the placement of the hour hand and the minute hand.

For the minutes, I started at the 12 and counted by 5 until I got to the 8: 0, 5, 10, 15, 20, 25, 30, 35, 40. The hour hand is between the 4 and the 5, so it is 4:40.

Try This

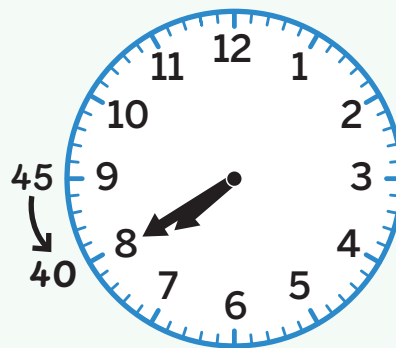**1** What time does this clock show?

_____

When telling time, it can be helpful to start at a time you know that is closest to the minute hand and use different counting strategies.

7:40

The minute hand is close to the 30-minute mark, so I started at 30 and counted by 5 to the 8 and got 40.
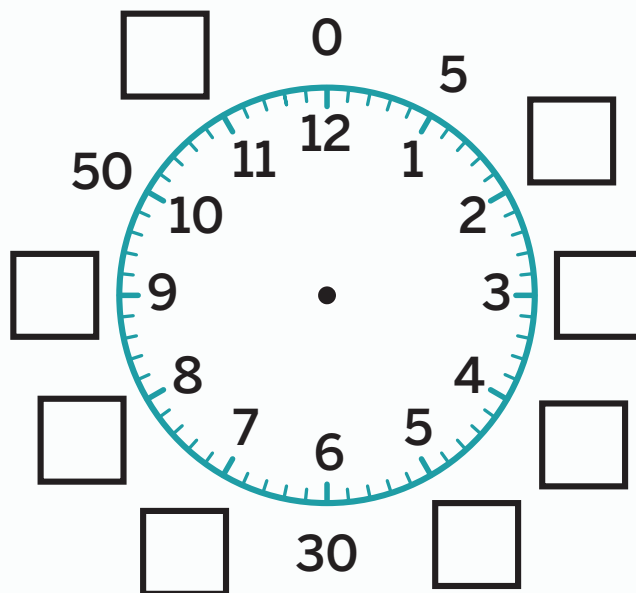

7:40

I know that 9 represents the 45-minute mark, so I counted back by 5 to get 40.

Try This

1 Fill in the missing numbers to show the time to the nearest 5 minutes. Then draw hands on the clock to show 7:15.

It is important to label times with **a.m.** or **p.m.** because each time occurs twice a day. To show the time of day, it helps to include the labels.
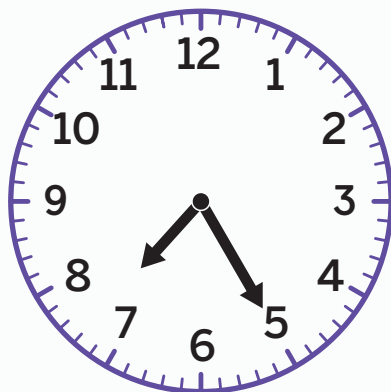
7:45 a.m.   7:45 p.m.

Try This

1 The clock shows when Han arrived at school. Write the time shown on the clock with *a.m.* or *p.m.*

You can measure time using different units (e.g., days, weeks, months) and the relationships between those units.

JULY

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

AUGUST

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

Try This

For Problems 1 and 2, use the calendar in the Summary.

1 Jada is counting down to her birthday. Her birthday is on August 23. Today is July 12. How many weeks is it until Jada's birthday?

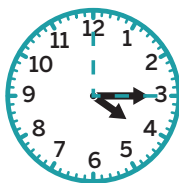2 Today is Jada's birthday, August 23. How many days is it from her birthday to the last day of August?
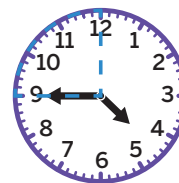
In this sub-unit . . .

- We saw that when telling time, you can think about the clock split into halves and quarters. When the minute hand is 1 quarter past the hour, you can say **quarter past**. When the minute hand is 1 quarter before the next hour, you can say **quarter to**.
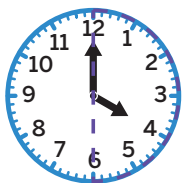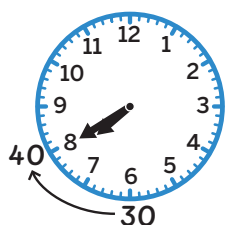
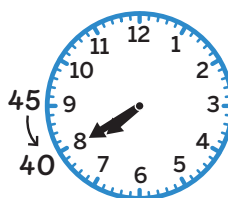four o' clock   **quarter past** four   **quarter to** five

- We noticed that you can count forward or backward by 5 to tell the minutes on an analog clock. To tell the hour, it is important to consider the placement of the hour hand and the minute hand.

7:40
The minute hand is close to the 30-minute mark, so I started at 30 and counted by 5 to the 8 and got 40.
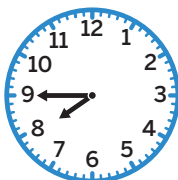
7:40
I know that 9 represents the 45-minute mark, so I counted backward by 5 to get 40.

🔥 *Math tip:* It can be helpful to start at a benchmark time closest to the minute hand and use different counting strategies to tell the time.
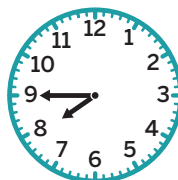
- We labeled times **a.m.** or **p.m.** because times occur twice a day.
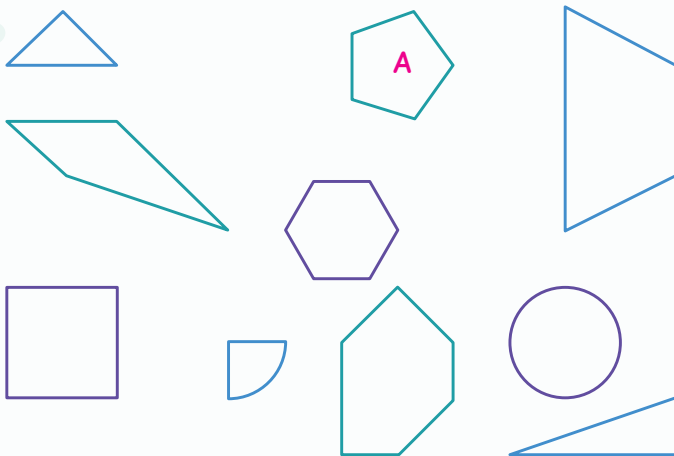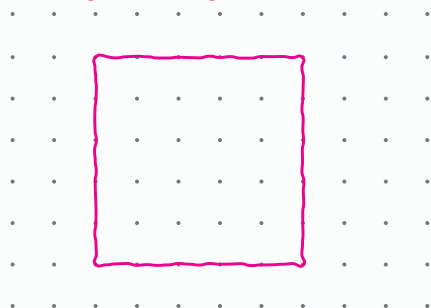
7:45 a.m.   7:45 p.m.

Lesson 2

1

Lesson 3

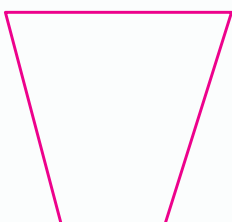1 Sample response shown.

Lesson 4

1 Sample response shown.

2 pentagon

Lesson 5

1 Sample response shown.

Lesson 6
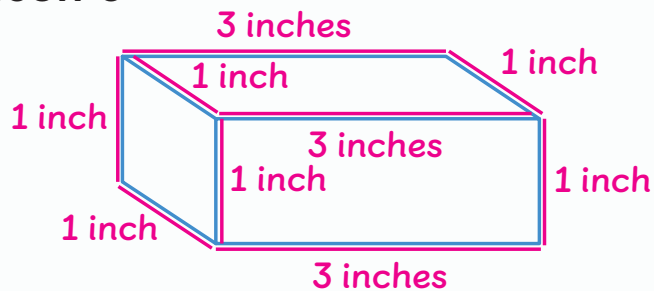
1

3 inches
1 inch
1 inch
1 inch
3 inches
1 inch
1 inch
1 inch
3 inches

Lesson 7

1 Sample response shown.
A triangular prism has 2 faces that look like triangles and 3 faces that look like rectangles. It has 6 corners and 9 edges.

Lesson 8

1 halves

2 thirds

Lesson 9

1 Sample explanation shown.
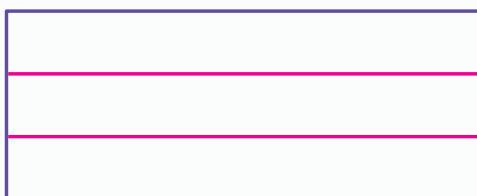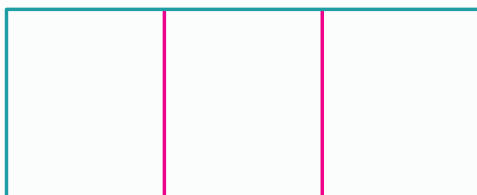I agree. The square is split into 4 equal parts. 4 equal parts are called fourths.

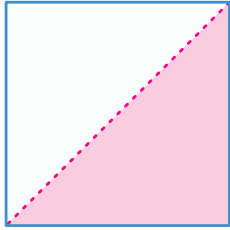**2** Sample response shown.
a quarter

Lesson 10

1 Sample response shown.

Lesson 11

1   **Sample response shown.**

Clare ate _____**a half**_____.

Lesson 12

1   **quarter past 3**

Lesson 13

1   **6:50**

Lesson 14

1
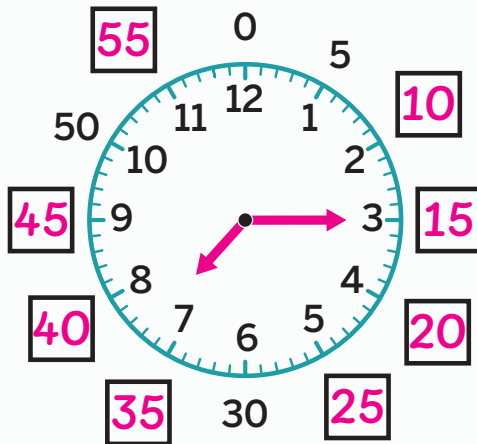
Lesson 15

1   **7:25 a.m.**

Lesson 16

1   **6 weeks**

2   **8 days**

Grade 2 Unit 6 Glossary/2.º grado Unidad 6 Glosario

English	Español

A

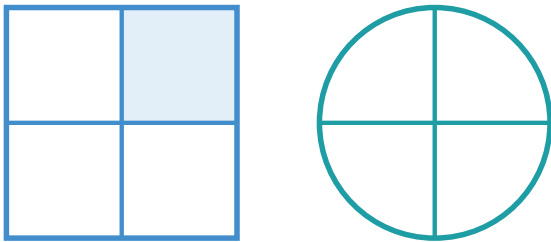## a centimeter/centimeters
A length unit in the metric measurement system. There are 100 centimeters in a meter.

un centímetro/centímetros
Unidad de longitud del sistema de medida métrico decimal. Hay 100 centímetros en un metro.

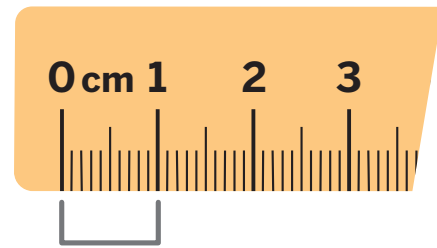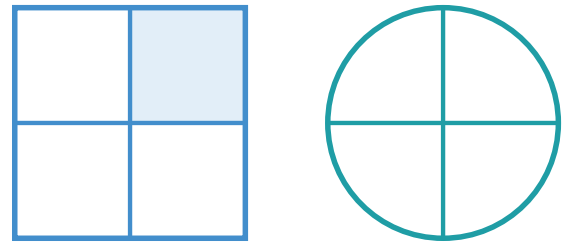**a fourth/fourths** Each part of a shape that is split into 4 equal parts. The plural of fourth is fourths.

un cuarto/cuartos Cada parte de una figura que se divide en 4 partes iguales. El plural de cuarto es cuartos.

a half/halves Each part of a shape that is split into 2 equal parts. The plural of half is halves.
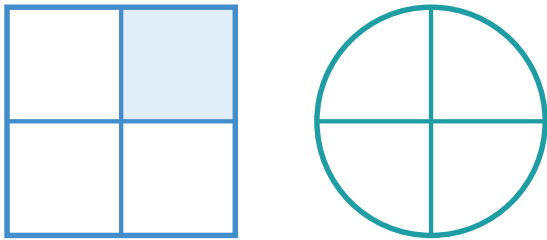
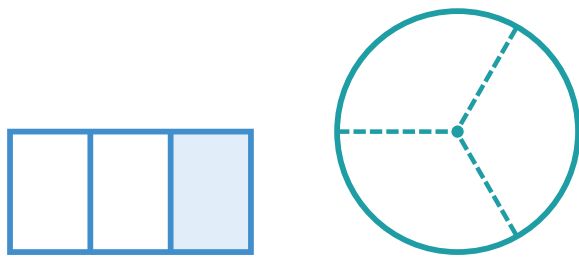**una mitad/mitades** Cada parte de una figura que se divide en 2 partes iguales. El plural de mitad es mitades.
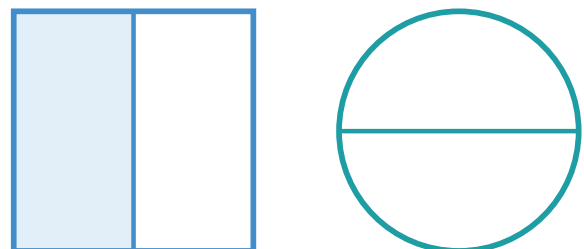
English	Español
a quarter/quarters Each part of a shape that is split into 4 equal parts. The plural of quarter is quarters.	**un cuarto/cuartos** Cada parte de una figura que se divide en 4 partes iguales. El plural de cuarto es cuartos.

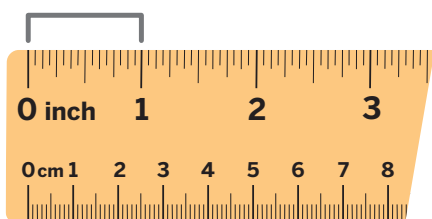| English	Español
a third/thirds Each part of a shape that is split into 3 equal parts. The plural of third is thirds.	**un tercio/tercios** Cada parte de una figura que se divide en 3 partes iguales. El plural de tercio es tercios.
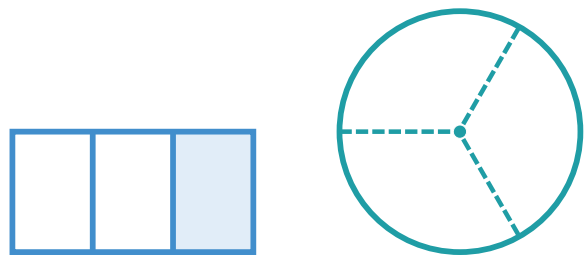
English	Español
a.m. The period of time from midnight to noon.	**a.m.** El período de tiempo entre la medianoche y el mediodía.

Grade 2 Unit 6 Glossary/2.º grado Unidad 6 Glosario

English	Español

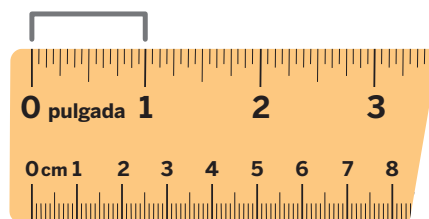**an inch/inches** A length unit in the U.S. customary measurement system. There are 12 inches in a foot.

una pulgada/pulgadas Unidad de longitud del sistema de medida estándar de los Estados Unidos. Hay 12 pulgadas en un pie.

attribute A feature or trait that describes an object or set of objects.

atributo Característica o rasgo que describe un objeto o conjunto de objetos.

C

cone

cono

conjecture A statement that you believe is true based on current information.

conjetura Expresión que crees que es cierta según la información dada.

cube

cubo

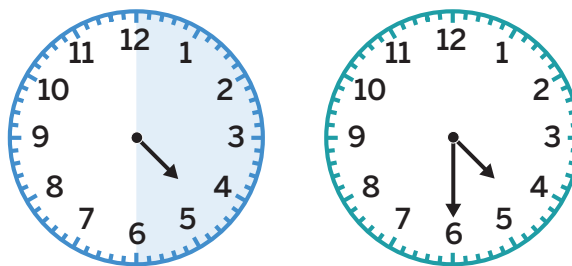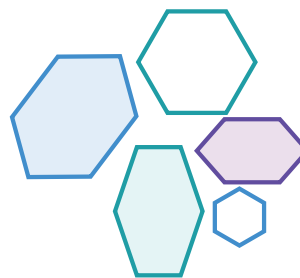| English	Español

cylinder

cilindro
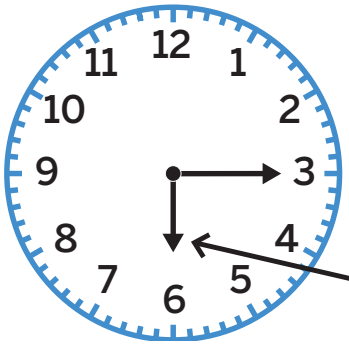
F

flat shape
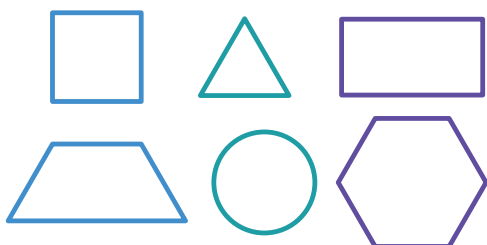
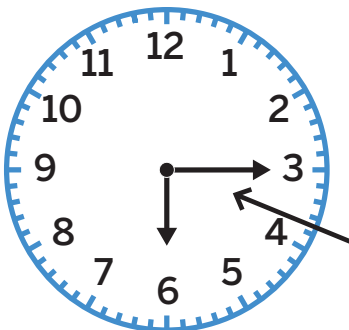**figura plana**
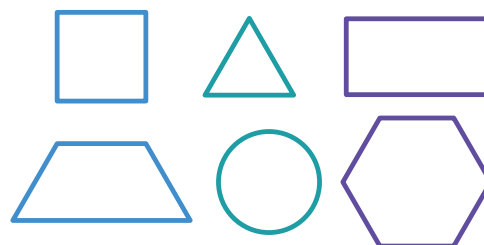
H

half past The clock shows half past 4 o'clock or 4:30.
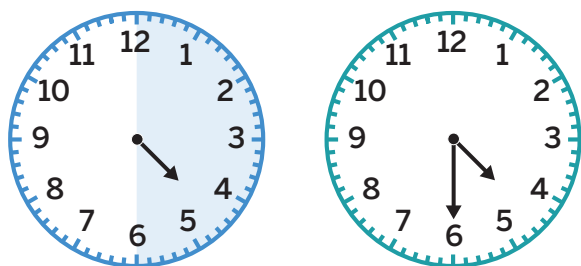
y media El reloj marca las cuatro y media o las 4:30.

hexagon A shape with 6 sides and 6 corners.
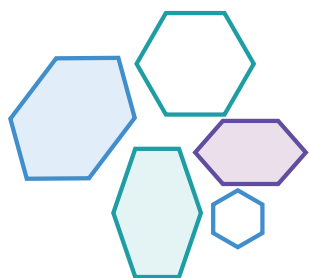
hexágono Una figura con 6 lados y 6 esquinas.

Grade 2 Unit 6 Glossary/2.º grado Unidad 6 Glosario

English	Español
hour hand The short arrow on a clock that moves from hour to hour.	**manecilla de horas** La aguja corta de un reloj que avanza de hora en hora

M
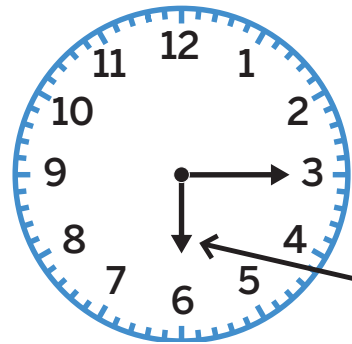
English	Español
minute hand The long arrow on a clock that moves around the whole circle in an hour.	**manecilla de minutos, minutero** La aguja larga de un reloj que recorre el círculo completo en una hora.

P
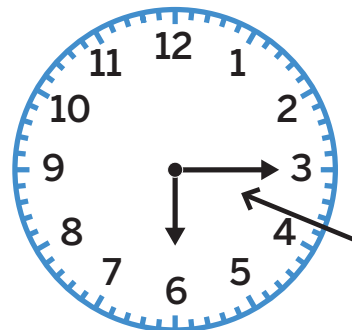
English	Español
p.m. The period of time from noon to midnight.	**p.m.** El período de tiempo entre el mediodía y la medianoche.

English	Español

pentagon A shape with 5 sides and 5 corners.
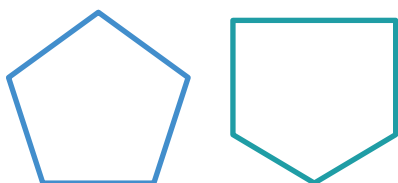
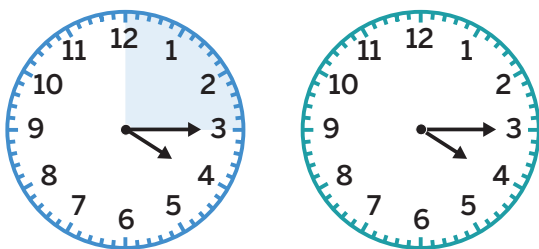**pentágono** Una figura con 5 lados y 5 esquinas.

Q

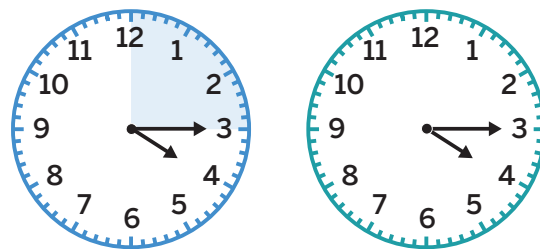**quadrilateral** A shape with 4 sides and 4 corners.

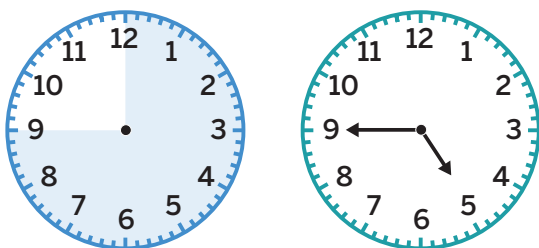**cuadrilátero** Una figura con 4 lados y 4 esquinas.

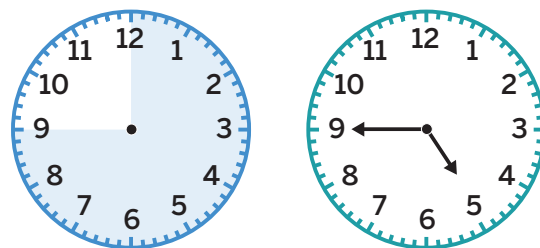**quarter past** The clock shows quarter past 4 o'clock or 4:15.

y cuarto El reloj marca las cuatro y cuarto o las 4:15.

quarter to The clock shows quarter to 5 o'clock or 4:45.

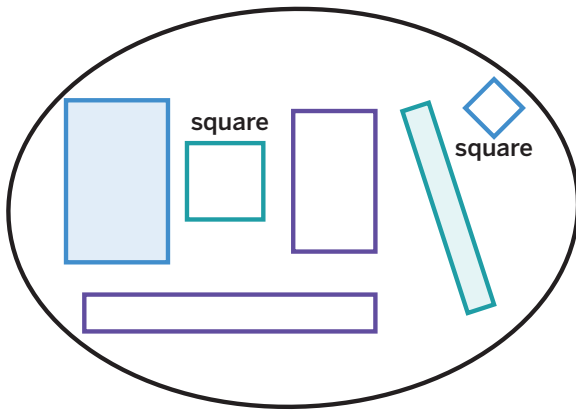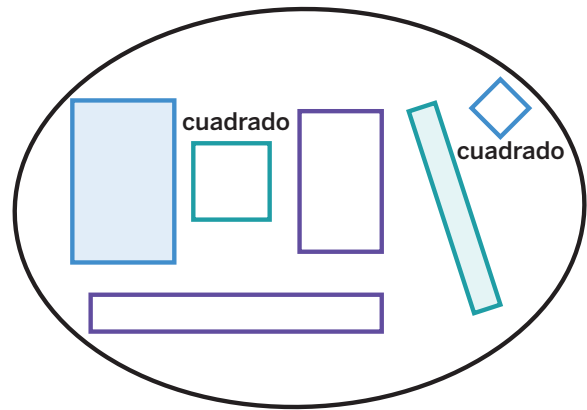**cuarto para** El reloj marca cuarto para las cinco o las 4:45.

English	Español

R

rectangle A shape with 4 sides and 4 square corners.

rectangles

square

square

rectángulo Una figura con 4 lados y 4 esquinas de ángulo recto.
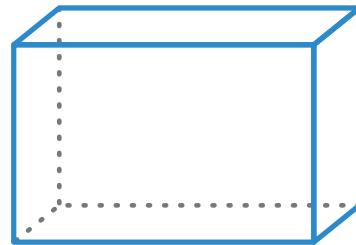
rectángulos

cuadrado

cuadrado

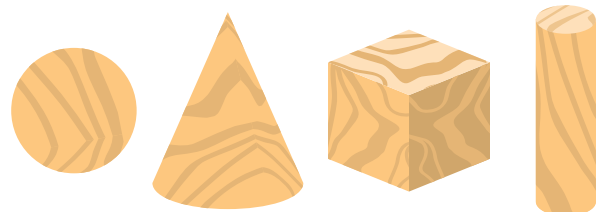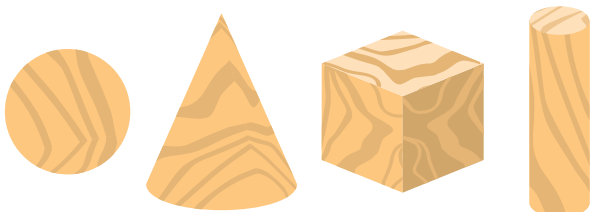**rectangular prism** A solid shape with 6 rectangular faces.

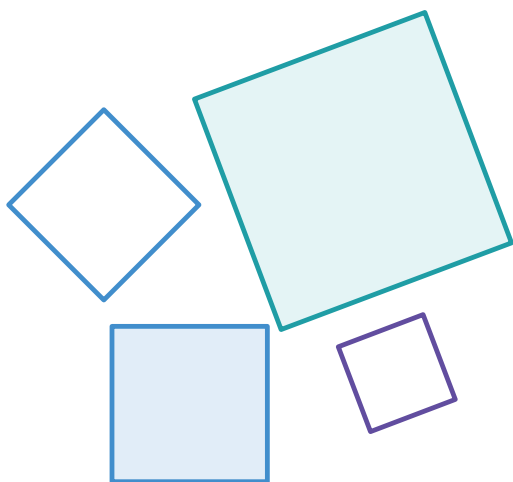**prisma rectangular** Un cuerpo geométrico con 6 caras rectangulares.
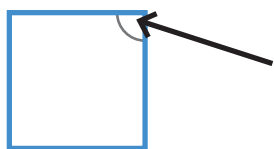

S

solid shape

cuerpo geométrico

English	Español

sphere

esfera

square A type of rectangle with 4 equal sides and 4 square corners.

cuadrado Un tipo de rectángulo con 4 lados iguales y 4 esquinas de ángulo recto.

square corner Corners that look like the place where 2 sides of a square touch.
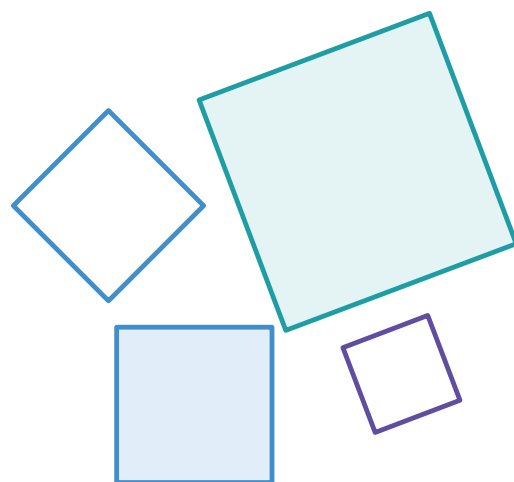
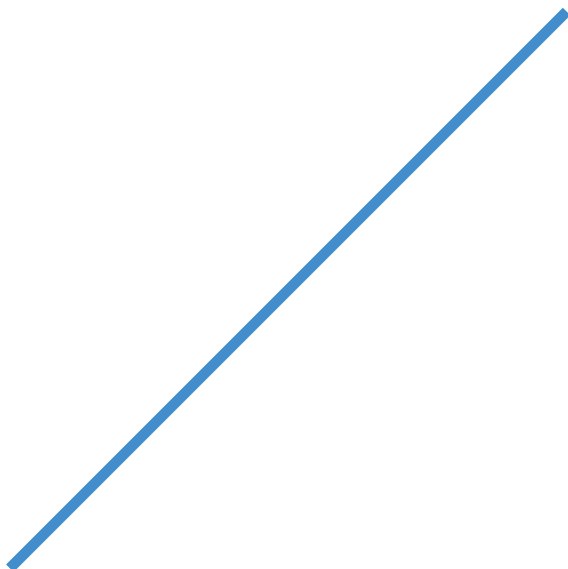**esquinas de ángulos recto** Esquinas en las que aparentemente se encuentran 2 lados de un cuadrado.
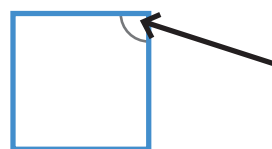
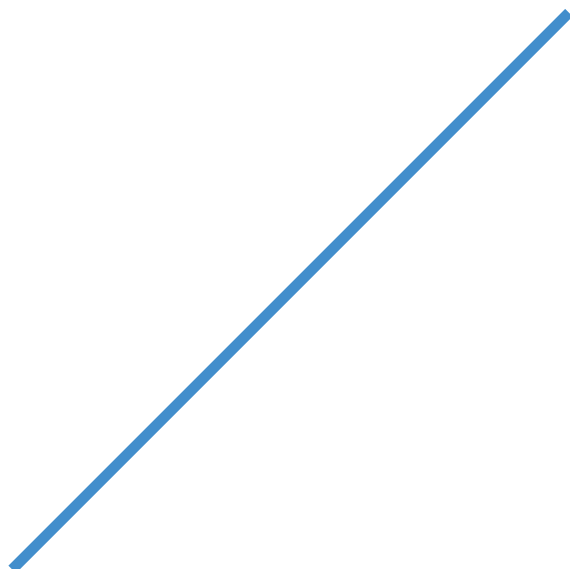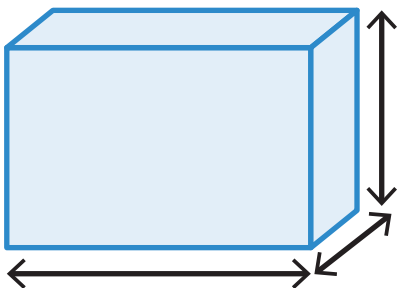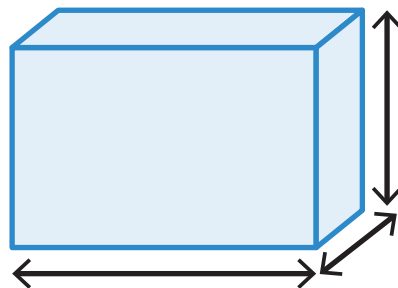| English	Español
straight	**recto**

T

three-dimensional Objects that have 3 dimensions that can be measured; length, width, and height.

tridimensional Objetos que tienen 3 dimensiones las cuales pueden medirse: largo, ancho y alto.
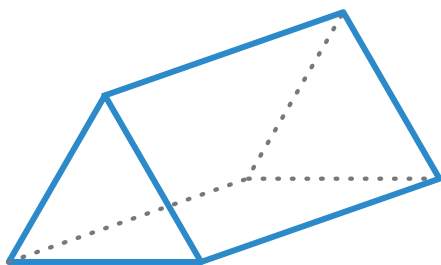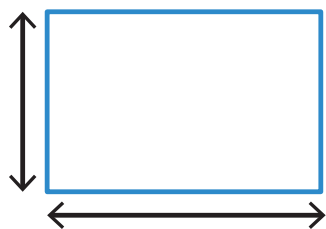
English	Español

triangle A shape with 3 sides and 3 corners.

triángulo Una figura con 3 lados y 3 esquinas.
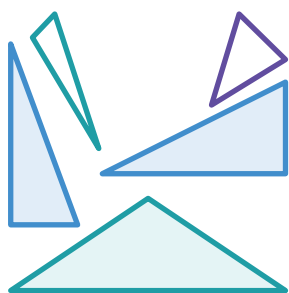
triangular prism A solid shape with 2 faces that are triangles and 3 faces that are rectangles.

prisma triangular Un cuerpo geométrico con 2 caras que son triángulos y 3 caras que son rectángulos.

two-dimensional Objects that have 2 dimensions that can be measured; length and width.
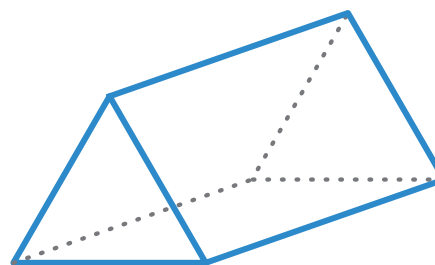
bidimensional Objetos que tienen 2 dimensiones las cuales pueden medirse: largo y ancho.