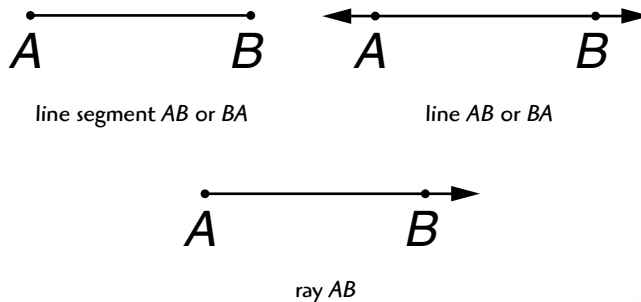




Unit 6: Geometry

Everyday Mathematics uses children's experiences with the everyday world to help them envision 3-dimensional (3-D) shapes. In previous grades, children were asked to identify 2-dimensional (2-D) shapes and their parts, such as edges and corners (vertices). They had several hands-on experiences with pattern blocks, geoboards, and templates. They also classified and named polygons, or closed figures consisting of line segments (sides) connected endpoint to endpoint.

In Unit 6, children will explore points, line segments, rays, and lines and the relationships among them, along with the geometric shapes that can be built from them. Children will construct angles, polygons, prisms, and pyramids.



Children will also explore similarities and differences among 3-D shapes and regular polyhedrons within the context of a Shapes Museum. They will discover real-life examples of lines that are parallel, or lines that never meet, such as railroad tracks.



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There is a great deal of specialized vocabulary involved when working with geometry. However, the emphasis in this unit is not on memorizing the vocabulary but rather on using it to examine relationships among and classifications of geometric figures.

Please keep this Family Letter for reference as your child works through Unit 6.

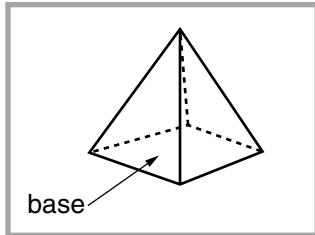
Vocabulary

Important terms in Unit 6:

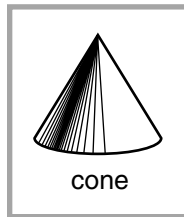
2-dimensional (2-D) shape A shape that lies completely within a plane, or flat surface.

3-dimensional (3-D) shape An object that does not lie completely within a single flat surface; an object with thickness, as well as length and width.

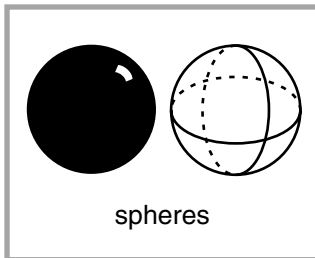
base A flat surface (face) whose shape is the basis for classifying some 3-dimensional objects.



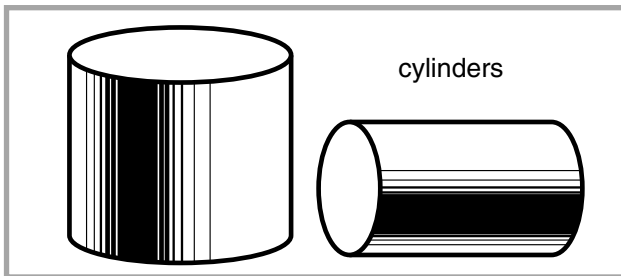
cone A 3-dimensional shape having a circular base, a curved surface, and one vertex. An ice cream cone is a common object shaped like a cone.



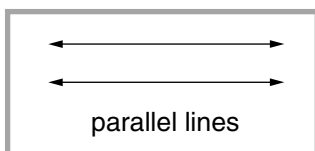
sphere A 3-dimensional shape whose curved surface is, at all points, a given distance from its center point. A ball is shaped like a sphere.



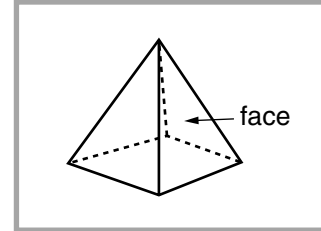
cylinder A 3-dimensional shape having a curved surface and parallel circular bases that are the same size. A can is a common object shaped like a cylinder.



parallel Never meeting; everywhere the same distance apart.

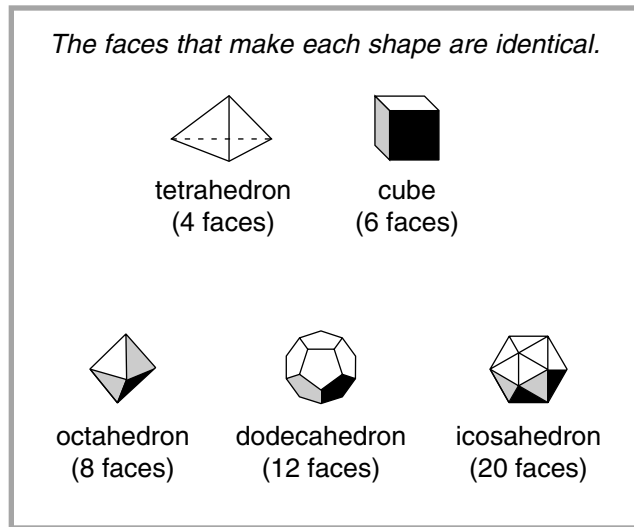


face A flat surface on a 3-dimensional shape.

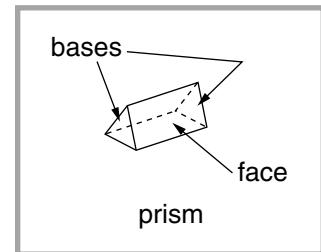


polyhedron

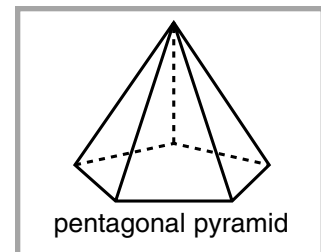
A 3-dimensional shape, all of whose surfaces (faces) are flat, as opposed to curved. Each face is a polygon. Below are five regular polyhedrons.



prism A polyhedron with two parallel flat surfaces (bases) that are the same size and shape. Prisms are classified according to the shape of the two parallel bases; the sides (faces) are parallelograms.



pyramid A polyhedron in which one face (the base) is a polygon and the other faces are triangles with a common vertex. Pyramids are classified according to the shapes of their bases.



Do-Anytime Activities

To work with your child on the concepts taught in this unit and in previous units, try these interesting and rewarding activities:

- 1 Together, read the book *The Greedy Triangle* by Marilyn Burns.
- 2 Begin a Shapes Museum at home. Label the shapes that your child collects.
- 3 Ask your child to identify 2-dimensional and 3-dimensional shapes around the house.



Building Skills through Games

In Unit 6, your child will practice numeration, multiplication, and geometry skills by playing the following games. For detailed instructions, see the *Student Reference Book*.

Number Top-It

As players pick each card, they must decide in which place-value box (from ones to thousandths) to place the card so that they end up with the largest number.

Beat the Calculator

A "Calculator" (a player who uses a calculator to solve the problem) and a "Brain" (a player who solves the problem without a calculator) race to see who will be first to solve multiplication problems.

Baseball Multiplication

Players use multiplication facts to score runs. Team members take turns "pitching" by rolling two dice to get two factors. Then players on the "batting" team take turns multiplying the two factors and saying the product.

Angle Race

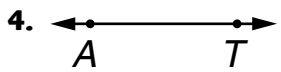
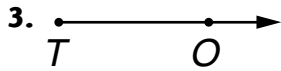
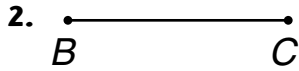
Players build angles with rubber bands and "race" to see who will be first to complete the last angle exactly on the 360° mark.



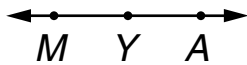
As You Help Your Child with Homework

As your child brings home assignments, you may want to go over the instructions together, clarifying them as necessary. The answers listed below will guide you through this unit's Home Links.

Home Link 6.1

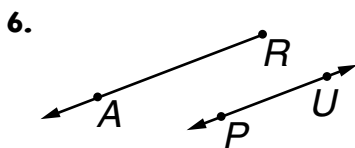
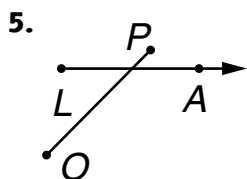
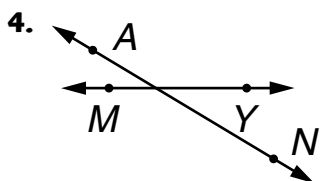
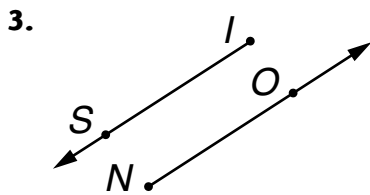
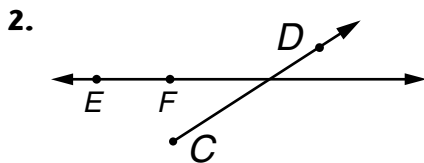
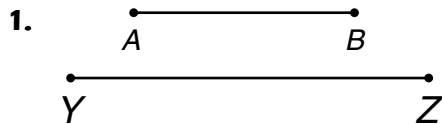


5. Sample answer:



Home Link 6.2

Sample answers:



Home Link 6.5

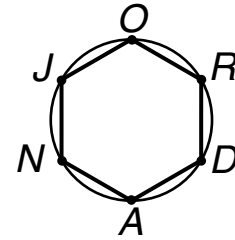
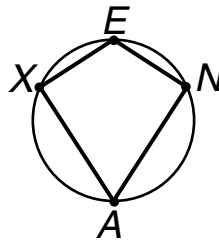
1. equal; right angles; parallel
2. right angles; equal; parallel
3. equal; parallel
4. equal; parallel
5. equal

Home Link 6.6

Sample answers:

1. 4; kite; XENA

2. 6; hexagon; JORDAN



Home Link 6.8

1. A
2. D
3. E
4. C or D
5. B

Home Link 6.9

1. a. triangle b. 2 sides c. 2 angles d. no
2. a. square b. yes

Home Link 6.11

1. (from left to right) prism; sphere; cylinder; cone; pyramid

Home Link 6.12

1. pentagonal prism
2. pentagon
3. rectangle
4. 15 edges
5. 10 vertices