

### Further investigations:

Encourage your child to estimate and measure distances and objects at home. Ask questions such as, "How far is it across the kitchen table?"

Involve your child in your own measuring activities and hobbies like sewing or carpentry are natural for this.

Create a chart of activities that you do at night (such as dinner, homework time, and TV time. Discuss the length of time each activity takes).

Cut apart cereal and other boxes to see the different shapes that make up the solid figures.

### Terminology:

**Centimeter:** A metric unit of length; 1 meter = 100 centimeters.

**Equilateral triangle:** A triangle with three equal sides and three equal angles.

**Foot:** A customary unit of length 1 foot = 12 inches

**Hexagon:** A polygon with six sides.

**Isosceles triangle:** A triangle with two equal sides and two equal angles.

**Kilometer:** A unit of measurement for length in the metric system; 1 km = 1000 meters

**Meter:** The standard unit of length in the metric system.

**Millimeter:** A metric unit of length; 1 meter = 1000 millimeters

**Parallelogram:** A quadrilateral with opposite sides that are parallel and of equal length and with opposite angles that are of equal measure.

**Plane figure:** A two-dimensional shape such as a rectangle or a square.

**Polygon:** A closed plane figure made with three or more sides and angles.

**Quadrilateral:** A four-sided polygon.

**Rectangle:** A quadrilateral with four right angles and two pairs of opposite, equal parallel sides.

**Rhombus:** A parallelogram with four equal sides and equal opposite angles.

**Scalene triangle:** A triangle with all 3 sides having different lengths.

**Solid figure:** A three-dimensional object such as a cube or a cylinder.

**Square:** A quadrilateral with four equal sides, four right angles, and opposite sides parallel.

**Triangle:** A polygon with three sides.

**Trapezoid:** A quadrilateral with one pair of parallel sides.

**Yard:** A unit of measurement in the U.S.A. (Customary) system; 3 feet = 1 yard

### Related Files:

[www.ceismc.gatech.edu/csi](http://www.ceismc.gatech.edu/csi)

## Geometry and Measurement

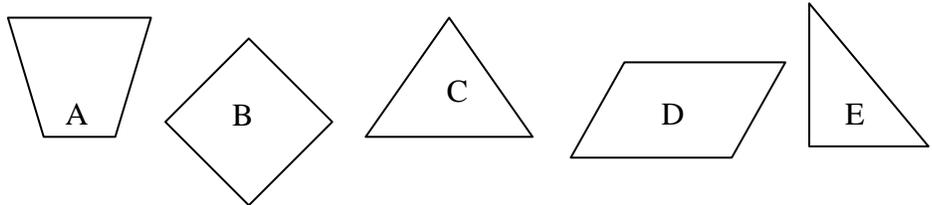
### Students will:

### Third Grade 3 of 6

- Identify and describe plane figures and solid figures based on geometric properties
- Develop an understanding of the inner-relatedness of solid and plane figures
- Investigate the outcomes when geometric figures are combined and cut apart
- Expand the ability to see geometry in the real world
- Further develop their understanding of the concept of time by determining elapsed time (to an hour, half, and quarter-hour)
- Continue to develop their abilities to recognize the appropriate unit of length needed to measure a specified item
- Compare the relationship of one unit to another within a single system of measurement
- Check by measuring to determine if estimates are accurate for length and temperature
- Determine a tool that is appropriate for measuring length
- Recognize benchmarks for commonly-used units of measure

### Classroom Cases:

- Sort shapes into groups by attributes. Identify the shape and describe it.



### Case Closed - Evidence:

A, B, and D are all quadrilaterals. A is a trapezoid, B is a square or rhombus, and D is a parallelogram. C and E are both triangles. E is a scalene triangle with one right angle and C is an equilateral triangle because all the sides are the same length.

### Clues:

Measuring seems simple, but for elementary students it can pose a real challenge. Even though students can do measurement worksheets and manipulate measurement data on paper, they may not have had much experience using rulers and other measuring tools. Sometimes students need help:

- To line up the ruler so that the end of the object is at zero.
- To measure from the zero end of a ruler.
- To use appropriate units and not combine metric and U.S.A. customary units.
- To use tools appropriate for the task: yardstick, meter sticks, rulers, and tape measures.

A vital part of your child's learning is the opportunity to discuss reasonableness of measurements, to measure several times, and to correct measuring mistakes.

Encourage your child to use pictures to represent measurement conversion.

For example,

$$3 \text{ feet} = ? \text{ inches}$$

|           |           |           |
|-----------|-----------|-----------|
| 1 foot    | 1 foot    | 1 foot    |
| 12 inches | 12 inches | 12 inches |

$$12 \text{ in.} + 12 \text{ in.} + 12 \text{ in.} = 36 \text{ inches}$$

### Book'em:

**Three Pigs, One Wolf and Seven Magic Shapes** by Grace Maccarone

**Grandfather Tang's Story** by Anne Tompert

**The Fattest, Tallest, Biggest Snowman Ever** by Bettina Ling

**The Measuring Penny** by Loreen Leedy

**The Greedy Triangle** by Marilyn Burns