

## Mathematical Practice Grade 3

In Grade 3, students will use mathematical practices: (1) use appropriate units, measure an object or time interval, and add or subtract measurements; (2) use a variety of representations to represent a number or a measurement; (3) use a variety of representations to represent a number or a measurement; (4) use a variety of representations to represent a number or a measurement.

(1) Students will use appropriate units, measure an object or time interval, and add or subtract measurements. For example, students will use a variety of representations to represent a number or a measurement. They will use a variety of representations to represent a number or a measurement. They will use a variety of representations to represent a number or a measurement. They will use a variety of representations to represent a number or a measurement.

(2) Students will use a variety of representations to represent a number or a measurement. They will use a variety of representations to represent a number or a measurement. They will use a variety of representations to represent a number or a measurement. They will use a variety of representations to represent a number or a measurement.

### Operations and Algebraic Thinking

- Represent and solve problems involving multiplication and division.
- Understand properties of multiplication and the relationship between multiplication and division.
- Maa

Operations and Algebraic Thinking

3.OA

Represent and solve problems involving multiplication and division.

1. Use objects to represent a multiplication or division equation, e.g.,  $5 \times 7 = 35$  or  $35 \div 5 = 7$ . For example, describe a context in which a total number of objects can be expressed as  $5 \times 7$ .
2. Use objects to represent a multiplication or division equation, e.g.,  $56 \div 8 = 7$  or  $7 \times 8 = 56$ . For example, describe a context in which a number of shares or a number of groups can be expressed as  $56 \div 8$ .
3. Use objects to represent a multiplication or division equation, e.g.,  $100 \div 10 = 10$  or  $10 \times 10 = 100$ . For example, describe a context in which a number of objects can be expressed as  $100 \div 10$ .
4. Determine the unknown number that makes the equation true in each of the equations  $8 \times ? = 48$ ,  $5 \times ? = 35$ ,  $6 \times ? = 42$ .

Understand properties of multiplication and the relationship between multiplication and division.

5. Apply properties of multiplication and division. Examples: If  $6 \times 4 = 24$  is known, then  $4 \times 6 = 24$  is also known. (Commutative property of multiplication.)  $3 \times 5 = 15$  can be found by  $3 \times 5 = 15$ , then  $15 \div 3 = 5$ , or by  $5 \times 3 = 15$ , then  $15 \div 5 = 3$ .

## Number and Operations in Base Ten

## 3.NBT

Use place value understanding and properties of operations to perform multi-digit arithmetic.<sup>4</sup>

1.  $10 \quad 100.$
2. F  $1000$
3. M  $10 \quad 0 \quad ( \quad \times 70, \times 0 )$

2. Measure the area of a rectangle with side lengths of 4 units and 6 units. Show your work. Use a unit square to measure the area. Write an equation to find the area. For example, draw a bar graph in which each square in the bar graph might represent 5 pets.

**Represent and interpret data.**

3. Draw a bar graph to represent the data. For example, draw a bar graph in which each square in the bar graph might represent 5 pets.

4. George has 4 hamsters, 3 guinea pigs, and 2 rabbits. Draw a bar graph to represent the data. For example, draw a bar graph in which each square in the bar graph might represent 5 pets.

**Geometric measurement: understand concepts of area and relate area to multiplication and to addition.**

5. Measure the area of a rectangle with side lengths of 4 units and 6 units. Show your work. Use a unit square to measure the area. Write an equation to find the area. For example, draw a bar graph in which each square in the bar graph might represent 5 pets.

6. Measure the area of a rectangle with side lengths of 4 units and 6 units. Show your work. Use a unit square to measure the area. Write an equation to find the area. For example, draw a bar graph in which each square in the bar graph might represent 5 pets.

## Geometry

## 3.G

## Reason with shapes and their attributes.

- Understand a square can be divided into four congruent right triangles (e.g., by the diagonals, by a line through the center parallel to one side, or by lines connecting the midpoints of opposite sides), and a rectangle can be divided into two congruent right triangles (e.g., by a diagonal). Recognize that a square is a special case of a rectangle. Understand that a square, a rectangle, a parallelogram, a trapezoid, and a kite are all quadrilaterals.
- Partition a shape into four parts with equal area, and describe the area of each part as  $\frac{1}{4}$  of the area of the shape.