

### Course Description:

Mathematics Grade 4 (2 of 2) focuses on modeling and solving within a variety of topics. These topics include fractions, geometric shapes, angles, and measurement. The course also explores comparing fractions, converting fractions to decimals, representing fractions on a number line, adding and subtracting fractions, and multiplying fractions. The instruction also focuses on identifying geometric shapes and angles; measuring time, length, weight, and volume; and applying these skills to real-world scenarios and word problems.

### Course Objectives:

- Identify, explain, and write equivalent fractions.
- Compare two fractions with different numerators and denominators using the symbols  $>$ ,  $=$ , and  $<$ .
- Convert fractions with denominators of 10 or 100 to decimal notation and vice versa.
- Add and subtract fractions using models, manipulatives, number lines, properties of operations, and decomposing fractions.
- Add and subtract mixed numbers and fractions.
- Go from modeling problems with things and pictures to using algorithms and equations.
- Multiply a fraction by a whole number and vice versa.
- Identify and draw points, lines, line segments, rays, and angles in 2-D figures.
- Draw and classify 2-D figures based on given angles measurements.
- Measure and draw angles in degrees using a protractor.
- Know and compare the sizes of measurements within customary units and metric units.
- Convert measurements in same system into smaller or larger units.
- Find the perimeter and area of a rectangle using the formula.
- Solve problems with rectangles that have the same perimeter but different areas or the same area but different perimeters.
- Apply math to everyday problems.
- Talk about and make sense of math ideas using mathematical language

### Required Materials:

Required:

- camera
- measuring cup with metric units
- paper
- pencils
- protractor
- ruler, tape measure, or yard/meter stick with standard and metric units
- scale the weighs in metric units

Optional:

- drawing program or app
- 1-liter plastic bottle
- permanent marker
- program or app for writing

- several objects to weigh including a box of 4 sticks of butter (1 lb. in weight) in a large, zippered plastic bag, a can of beans that weighs close to 16 oz. and slice of bread (approximately 1 oz. in weight)
- scale that measures in ounces and pounds
- stopwatch or clock with a second hand

### Course Overview:

This course is made up of 12 units. Each unit has five lessons. Lesson are made of up activities that include the following types of learning:

- **Direct Instructions** provide modeling of new skills and concepts. These are not graded activities.
- **Guided Practices** allow for practice of a skill with support. These are graded activities only on a completion basis.
- **Independent Practices** allow for practice of a skill without support. These are graded activities.
- **Checkpoints** test mastery of skills from lessons. These are graded activities.
- **Unit Reviews** allow for practice of skills prior to taking unit exams. These are not graded activities.
- **Unit Exams** test mastery of skills from the unit. These are graded activities.
- **Projects** provide an opportunity for practice of more complex skills across several activities or lessons within a unit. These activities require a final graded submission.