Public Schools of the Tarrytowns

Grade 4 Math Curriculum

Third Trimester

March

Investigating Shapes and Angles

Week 25, 3 Weeks

Essential Questions:

What is rotational symmetry?
Do I understand the relationships among sides and angles in quadrilaterals?

Skills:

Identify and create figures that have line and turning (rotational) symmetry.
Use fractions to describe how much of a turn is made to achieve turning (rotational) symmetry.
Become familiar with directions on a compass.
Use numbers to represent direction and amount of turn.
Use hands of a clock to visualize angles.
Construct different triangles and quadrilaterals.
Explore properties of triangles and quadrilaterals.
Construct rigid and non-rigid shapes.

Working with Fractions

Essential Questions:

How do I use models to determine the sums and differences of common fractions?
What are mixed numbers?
How do I decide where fractions are placed on a number line?
What is the relationship between fractions and decimals?

Skills:

Use models to show addition or subtraction of commonly used fractions.
Write number sentences to represent addition and/or subtraction of fractions.
Use visual models and equivalent forms to compare commonly used fractions.
Interpret data represented in a circle graph.
Explore addition of mixed numbers.
Estimate location of fractions on a number line.
Explore addition and subtraction of fractions with different denominators.
Estimates sums and differences for two fractions with different denominators.
Understand place value in the base-ten number system.
Relate decimals to fractions that have a denominator of 10 or 100.
Read and write decimals through hundredths.
Recognize and generate equivalent fractions.

April

Investigating Decimal Fractions

Week 28, 5 Weeks

Essential Questions:

How is the place value system related to decimals?
What are decimal fractions and why are they important in the world of money and measurement?

Skills:

Understand the place-value structure of the base-ten number system and be able to read, write, represent, and compare decimal fractions through the hundredths place.
Write fractional amounts as common fractions and as decimal fractions.
Read and write decimals through the thousandths place.
Add and subtract decimals through the thousandths place.
Use models and equivalent forms to judge the size of decimals.
Understand how thousandths relate to measurements of real-world examples.
Develop and use strategies to estimate decimal sums and differences.
Describe, extend, and make generalizations about decimal patterns.

Multiplying by 2-Digit Numbers

Essential Questions:

What are factors, multiples and products and how do they relate to 2-digit multiplication?
How can I compose and decompose numbers to generate the same number?

Skills:

Develop fluency in multiplying whole numbers.
Recognize equivalent representations for the same number and generate them by decomposing and composing numbers.
Read and interpret data on a graph.
Understand various meanings of multiplication.

May

Investigating Area

Week 33, 4 Weeks

Essential Questions:

How do I find the area of a 2-D shape?
Why is base and height important to the area of rectangles and triangles?
How do I find the perimeter of an irregular shape?
How can I find the area of rectangles and triangles?

Skills:

Understand that the area of a 2-dimensional shape is found by counting the total number of squares within a given boundary.
Develop strategies for estimating and finding perimeters and areas of irregular shapes.
Understand attributes such as base, height, and area of rectangles and triangles.
Develop, understand, and use formulas (A = L x W) to find the area of rectangles and related triangles.
Recognize geometric ideas and relationships and apply them to situations in everyday life.
Carry out simple conversations within a system of measurement.

Select appropriate methods for computing with whole numbers from among mental computation, estimation, calculators, and paper and pencil.

Using Decimal Fractions

Essential Questions:

How are fractions and decimals related?

Skills:

Recognize equivalent forms of fractions and decimals.
Understand the place-value structure of the base-ten number for decimals system.
Develop and use strategies to estimate the sizes of decimals and fractions.
Use models and benchmarks to relate decimals and fractions.
Use models to judge the size of decimals.
Compare and order decimals.
Use variety of strategies to add and subtract common decimals.
Develop and use strategies to estimate computations involving decimals.
Use models to add, subtract, and multiply decimals.
Multiply decimals by whole numbers.

Exploring Volume and Capacity

Essential Questions:

Do I understand the attributes of length, width, and height?

Skills:

Understand and identify attributes of length, width, and height.
Develop strategies to determine, estimate, and find volumes of rectangular solids and irregular shapes.
Use appropriate standard units to express volume.
Build shapes to determine volume.
Become familiar with standard units in the customary and metric system of measurement.

June

Working with Weight

Week 37, 2 Weeks

Essential Questions:

How are the metric units of measurement related?

Skills:

Understand attributes of weight, capacity, and volume.
Carry out simple conversions within a measuring system.
Understand the need for measuring with standard units.
Develop and use strategies to estimate computation of fractions and decimals.
Use equivalent forms to add and subtract fractions and decimals.
Develop fluency in computing with whole numbers.
Develop and use strategies to estimate results of whole-number computation.

Thinking Visually

Essential Questions:

Can I trace and draw paths?
What are some types of symmetry?
Can I visualize transformations?

Skills:

Describe, extend, and make generalizations about geometric and numeric patterns.
Analyze patterns and functions using words.
Model problem situations with objects and use representations such as graphs, tables, and equations to draw conclusions.
Explore networks and paths.
Recognize how geometric ideas are applied in everyday life.
Describe location and movement using common language and geometric vocabulary.
Predict and describe the results of sliding, flipping, and turning 2-dimensional shapes.
Identify and describe line and rotational symmetry in 2-dimensional shapes and designs.

Build and draw geometric objects.