Dear Parents,

In Mathematics, your child will work to answer the following questions through exploration of these ideas and concepts:

What patterns occur in our number system?

- Understand why multiplying or dividing by a power of 10 shifts the *value* of the digits of whole number or decimal.
- Recognize that in a multi-digit number, a digit in one place represents ten times what it represents in the place to its right and 1/10 of what it represents in the place to its left.
- Read, write, and compare decimals to thousandths; round decimals to any place by applying place value understanding.

How do I notate my thinking when decomposing numbers to divide?

- Multiply and divide multi-digit whole numbers using a variety of strategies.

How can I use visual models to represent division involving fractions?

- Solve word problems involving division of natural numbers leading to answers in the form of fractions or mixed numbers using visual fraction models or equations; Interpret a *fraction* as division of the *numerator* by the *denominator* ($a/b = a \div b$)
- Use visual fraction models to show the quotient when dividing *unit fractions* by whole numbers and whole numbers by *unit fractions* (*unit fractions* contain "1" as the numerator).

How can I apply my understanding of multiplication with whole numbers to multiplication with fractions?

- Apply and extend previous understandings of multiplication to multiply fractions using visual fraction models.
- Solve word problem involving multiplication of fractions and mixed numbers using visual fraction models or equations.
- Explain multiplication as scaling (resizing) by comparing factors of related products and examining whether fractions will increase or decrease when you multiply by a fraction greater than or less than 1.

How does volume relate to the operations of multiplication and addition?

- Recognize volume as an attribute of solid figures and understand concepts of volume measurement.
- Solve real-world and mathematical problems involving volume, and relate volume to the operations of multiplication and addition.

How can two-dimensional figures belong to multiple categories?

- Classify two-dimensional figures based on their attributes and properties, and understand how attributes of a category can belong to subcategories.

In Science, your child will answer the following questions through exploration of ideas and concepts about *Matter and Energy in Organisms and Ecosystems*:

How do organisms obtain and use the matter and energy they need to live and grow?

- Energy released from food was once energy from the sun captured by plants in the chemical process that forms plant matter.
- Food provides animals with the materials they need for body repair and growth and the energy they need to maintain body warmth and for motion. The food in almost any kind of animal can be traced back to plants.
- Plants acquire their material for growth chiefly from air and water.

How are matter and energy moved/transferred through an ecosystem?

- Organisms are related in food webs in which some animals eat plants for food and other animals eat the animals that eat plants.
- Some organisms, such as fungi and bacteria, break down dead organisms and therefore operate as decomposers.
- Decomposition eventually restores (recycles) some materials back to the soil.

How do organisms interact with their environment?

- Organisms can survive only in environments in which their particular needs are met.
- A healthy ecosystem is one in which multiple species of different types are each able to meet their needs in a relatively stable web of life.
- Newly introduced species can damage the balance of an ecosystem.
- Matter cycles between the air and soil and among plants, animals and microbes as these organisms live and die.
- Organisms obtain gases and water from the environment and release waste matter (gas, liquid, or solid) back into the environment.