5th Grade Math and Science Expectations

4th Quarter

Dear Parents,

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

How is my strategy related to the numbers within the problem?

- Divide multi-digit whole numbers using a variety of strategies, explaining their calculations through illustrations, equations, arrays and/or area models.
- Fluently (efficiently, accurately, and flexibly) multiply multi-digit whole numbers using a standard algorithm.

How can I extend my strategies of whole number operations to decimal operations?

- Understand why multiplying or dividing by a power of 10 shifts the *value* of the digits of whole number or decimal.
- Perform basic operations on decimals to the hundredths place using a variety of strategies.

How can I be strategic and accurate when adding and subtracting fractions?

- Solve word problems involving addition and subtraction of *fractions* using visual fraction models or equations.
- Add and subtract *fractions* with unlike *denominators* using equivalent *fractions* and common *denominators*.

In Science, your child will answer the following questions through exploration of ideas and concepts about *Space Systems*:

How do mass and distance affect the force of gravity between two objects?

- The gravitational force of Earth acting on an object near Earth's surface pulls that object toward the planet's center.

What causes the cycle of day and night?
How do lengths and directions of shadows or relative lengths of day and night change from day to day?

- The orbits of Earth around the sun and of the moon around Earth, together with the rotation of Earth about an axis between its *North* and *South* poles, cause observable patterns. These patterns include: day and night; daily changes in the length and direction of shadows; different positions of the sun, moon, and stars at different times of the day, month, and year.

Why do the sun, stars, and planets appear to move across the sky?
How does the appearance of some stars change in different seasons?

- The sun is a star that appears larger and brighter than other stars because it is closer to Earth.
- Stars range greatly in their distance from Earth.
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