



Dear Parents,

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

How can I use the relationship of multiplication and division to solve comparison problems?

- Model, represent, and solve word problems involving multiplicative comparison situations.
- Know relative sizes of measurement units within a system (*including km, m, cm; kg, g; lb, oz; l, ml; hr, min, sec*) and convert measurements from a larger unit to a smaller unit, generating a conversion table.

Why do I need a variety of strategies for operations with whole numbers?

- Use a variety of strategies to solve multi-step word problems with whole numbers involving the four operations.
- Add and subtract multi-digit whole numbers with a variety of base ten strategies and recording systems.
- Multiply and divide multi-digit numbers using a variety of strategies, explaining their calculations through illustrations, equations, arrays and/or area models.

How can I use equivalency to compare fractions?

- Recognize, create, and explain why fractions are equivalent using visual fraction models.
- Compare two fractions and record the comparisons using the symbols $<$, $=$, $>$.
- Use equivalent fractions to add two fractions with denominators of 10 and 100.
- Use decimal notation for fractions with denominators of 10 or 100.
- Compare two decimals to hundredths by reasoning about their size.

How are whole number operations related to fractions?

- Add and subtract fractions with like denominators; add and subtract mixed numbers with like denominators.
- Solve word problems involving addition and subtraction of fractions (*referring to the same whole and having like denominators*) using visual fraction models (*including line plots*) and equations.
- Multiply a fraction by a whole number and solve word problems involving multiplication of a fraction by a whole number using visual fraction models and equations.

How can I use what I know about two-dimensional figures to help me explore angle measurement?

- Recognize angles as geometric shapes formed when two rays share a common endpoint.
- Understand concepts of angle measurement and how an angle is measured with reference to a circle. Measure and sketch angles in whole-number degrees using a protractor.
- Solve addition and subtraction problems involving angles.
- Classify two-dimensional figures based on *attributes* (including parallel or perpendicular lines and angles).
- Recognize and draw lines of symmetry and line-symmetric figures.
- Identify and draw points, lines, line segments, rays, angles, and perpendicular and parallel lines.

In Science, your child will answer questions through exploration of ideas and concepts about *Energy*:

What is energy? How is energy transferred?

- The faster a given object is moving, the more energy it possesses.
- Energy can be moved from place to place by moving objects or through sound, light, or electric currents.
- Energy is present whenever there are moving objects, sound, light, or heat.
- When objects collide, energy can be transferred from one object to another, thereby changing their motion.
- In collisions, some energy is typically also transferred to the surrounding air, and as a result, the air gets heated and sound is produced.
- Light also transfers energy from place to place.
- Energy can also be transferred from place to place by electric currents, which can be used locally to produce motion, sound, heat, or light.
- Currents may have been produced to begin with by transforming the energy of motion into electrical energy.

How can energy be used to solve a problem?

- The expression “produce energy” typically refers to the conversion of stored energy into a desired form of practical use.
- Energy and fuels that humans use are derived from natural sources, and their use affects the environment in multiple ways.
- Some resources are renewable over time, and others are not.