



Dear Parents,

We are starting our year learning about Matter and Energy in the first nine weeks of 5th grade science. Students will classify matter, identify and demonstrate mixtures and solutions, explore the uses of energy, demonstrate the flow of electricity in a circuit and explore how light travels.

Student expectations for classifying matter: The student will classify matter based on measurable, testable, and observable physical properties, including mass, magnetism, physical state (solid, liquid, and gas), relative density (sinking and floating using water as a reference point), solubility in water, and the ability to conduct or insulate thermal energy or electric energy.

Students will understand that matter has physical properties that can be observed.

1. Students can classify matter based on its physical properties using tools such as balances, magnets, and electric circuits.
2. Students will be able to classify matter based on its behavior such as ability to float or sink, attraction to a magnet, solubility in water, and ability to conduct heat or electricity.

Student expectations for Mixtures & Solutions: Students will demonstrate that some mixtures maintain physical properties of their ingredients such as iron filings and sand; AND identify changes that can occur in the physical properties of the ingredients of solutions such as dissolving salt in water or adding lemon juice to water.

1. Some materials, when mixed together, maintain their physical properties such as iron filings and sand.
2. Some materials, when mixed together, undergo changes in their physical properties such as salt dissolving in water. The physical properties of the solution result from a combination of the physical properties of its parts.
3. Solutions are mixtures in which one ingredient dissolves in another and therefore must be separated through the process of evaporation.

Student expectations for Forms of Energy: In this unit, students will explore the uses of energy, including mechanical, light, thermal, electrical, and sound energy. Within these forms of energy students will also be expected to demonstrate that the flow of electricity in closed circuits requires a complete path through which an electric current can pass and can produce light, heat, and sound. Students will also demonstrate that light travels in a straight line until it strikes an object and is reflected (such as the use of mirrors or other shiny surfaces) or travels through one medium to another and is refracted (such as the appearance of an object when observed through water).

There are different types of energy including mechanical, light, thermal, electrical, and sound energy.

1. We can use different types of energy including mechanical, light, thermal, electrical, and sound energy.
2. Bicycles, stereos, computers, lamps, and toasters are useful objects that demonstrate the use of mechanical, sound, electrical, light, and thermal energy.
3. Electricity flows in a closed path to form a circuit and stops when the circuit is broken.
4. We can demonstrate that electricity can produce light, heat, and sound when flowing through a circuit.
5. Many everyday devices use electricity to produce light, heat, and sound.
6. Light travels in straight lines until reflected or refracted by another object.
7. Light is reflected when it bounces off objects such as mirrors or other shiny surfaces. The image we see in a reflection is a flipped image from the original.
8. Light is refracted, or bends, when passing from one medium to another, such as from air into water. A refracted image is a distorted or changed image from the original.

Helpful websites and STEMscope login information can be found on the Eagle Mountain Saginaw ISD website on the EMSISD Science Curriculum page. If you have any questions, please contact your fifth grade team.

We are looking forward to a great year!

The 5th Grade Science Team

