



## Junior High Science: Quarter 3: 2023/2024

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Email me at any time if you have any questions or concerns.

Hello Jr High Parents and Guardians,

Happy New Year!

Welcome to the 3rd quarter of junior high science! The 6th grade students are going to be learning about the energy of a food web and what happens to the food web when a threat occurs. They will then move into air masses and how they affect our weather. The 7th grade students will be diving into genetics/heredity. They will not only learn about general genetics, but will continue with incomplete dominance and codominance, and then will move on to polygenic traits, genomes, sex chromosomes, and mutations. They will also compare and contrast sexual and asexual reproduction. The 8th grade students finished the science fair and did amazing work! The 8th grade students will now dive into matter and its interactions which will also include chemical reactions and the Law of Conservation of Mass.

**The NGSS standards that will be covered during the third quarter are....**

**6th, 7th & 8th: Scientific method and design process:** NGSS: MS-ETS1: Engineering Design; Scientific Method: Science and Engineering Practices

**The students will be using the scientific method and engineering design process while actively engaging in our middle school program: Science Career Adventures.**

**6th:MS-LS2-3. Develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem**

**Crosscutting Concepts Energy and Matter:**The transfer of energy can be tracked as energy flows through a natural system.

**MS-ESS2-5. Collect data to provide evidence for how the motions and complex interactions of air masses results in changes in weather conditions**

**Crosscutting Concepts: Cause and Effect**

**Water (Hydrologic )Cycle:**

**MS-ESS2-4. Develop a model to describe the cycling of water through Earth's systems driven by energy from the sun and the force of gravity.**

**7th:NGSS:**

**MS-LS3-1. Develop and use a model to describe why structural changes to genes (mutations) located on chromosomes may affect proteins and may result in harmful, beneficial, or neutral effects to the structure and function of the organism.**

**MS-LS3-2. Develop and use a model to describe why asexual reproduction results in offspring with identical genetic information and sexual reproduction results in offspring with genetic variation. [Clarification Statement: Emphasis is on using models such as Punnett squares, diagrams, and simulations to describe the cause and effect relationship of gene transmission from parent(s) to offspring and resulting genetic variation.]**

**8th :Matter and Its Interactions and Energy: Practices: Developing and Using Models; Analyzing and Interpreting Data; CC: Scale, Proportion, and Quantity; Patterns; Cause and Effect.**

**MS-PS1-2. Analyze and interpret data on the properties of substances before and after the substances interact to determine if a chemical reaction has occurred.**

**MS-PS1-4. Develop a model that predicts and describes changes in particle motion, temperature, and state of a pure substance when thermal energy is added or removed.**

**MS-PS3-4. Plan an investigation to determine the relationships among the energy transferred, the type of matter, the mass, and the change in the average kinetic energy of the particles as measured by the temperature of the sample.**

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