

CARTER LOMAX

6TH GRADE SCIENCE SYLLABUS



Department Commitment Statement

We commit to make Science curriculum equitable and accessible for all students by providing instruction and guidance to help all students become lifelong critical thinkers and explorers.

PROJECTS WE WILL STUDY

- 1st 9 Weeks** = Forces at Work- Roller Coaster Design: Students will design and build a marble run roller coaster that demonstrates their understanding of force, motion, and energy concepts.
- 2nd 9 Weeks** = Earth's Movement: Students will use their knowledge of plate tectonics to create a model that demonstrates how a geological event has changed the Earth's surface over time.
- 3rd 9 Weeks** = Chemstagram: Students will create a database of chemistry information and present a STEM proposal for the development of a new smartphone app.
- 4th 9 Weeks** = Bio-World Museum: Students will create an exhibit and act as a guide, providing information about their organism and its environment.

POWER FOCUS AREAS AND DUE DATES

- Energy** September 29, 2022
The student will compare and contrast potential and kinetic energy and describe how energy is transformed from one type to another.
- Forces, Motion, and Speed** October 25, 2022
The student is expected to identify and describe the changes in the motion of an object when acted upon by unbalanced forces. The student is expected to use this knowledge to calculate the average speed of an object and graph changes in motion.
- Plate Tectonics** November 7, 2022
The student will understand the structure of Earth, the rock cycle, and plate tectonics. The student is expected to identify major tectonic plates and describe how plates tectonics cause major geological events.
- Elements/Compounds/Chemical Changes** January 6, 2023
The student will know the difference between elements and compounds. The student will be able identify the formation of a new substance by using evidence of a possible chemical change.
- Physical Properties of Matter** February 1, 2023
The student will know that matter has physical properties that can be used for classification. The student will compare metals, nonmetals, and metalloids using these properties. The student will be able to calculate density to identify an unknown substance.
- Characteristics of Organisms** February 28, 2023
The student will know organisms within a taxonomic group share similar characteristics. These characteristics allow them to interact with the biotic and abiotic parts of their ecosystem.
- Classification of Organisms** March 30, 2023
The student will know all organisms are classified into domains and kingdoms. Students will also recognize that the broadest taxonomic classification of living organisms is divided into currently recognized kingdoms.
- Ecosystems** April 26, 2023
The student will know all organisms are classified based on similar characteristics into taxonomic groups. The student will understand and be able to describe the biotic and abiotic parts of an ecosystem in which organisms interact. Students will be to diagram levels of organization within an ecosystem.

The Solar System and Gravity

May 17, 2023

The student will understand the organization of our solar system and the relationships among the various bodies that comprise it. The student will be able to describe the physical properties, locations, and movements of the solar system. The student will understand that gravity is the force that governs the motion of our solar system.

ADDITIONAL FOCUS AREAS AND DUE DATES

Safety

October 3, 2022

The student will understand the importance of safety in the science classroom. The student will be able to identify and apply the different safety rules and will be able to explain how they are responsible for safety in the science classroom.

Energy Resources

October 31, 2022

The student will research and discuss the advantages and disadvantages of using coal, oil, natural gas, nuclear power, biomass, wind, hydropower, geothermal, and solar resources.

Energy Transfer

December 6, 2022

The student will investigate methods of thermal energy transfer, including conduction, convection, and radiation. The student will verify through investigations that thermal energy moves in a predictable pattern from warmer to cooler until all the substances attain the same temperature such as an ice cube melting.

Inclined Planes

January 19, 2023

The student will investigate how inclined planes can be used to change the amount of force to move an object.

Physical Properties of Minerals

February 15, 2023

The student will test the physical properties of minerals, including hardness, color, luster, and streak.

Layers of the Earth & Classification of Rocks

March 24, 2023

The student will build a model to illustrate the compositional and mechanical layers of Earth, including the inner core, outer core, mantle, crust, asthenosphere, and lithosphere. The student will classify rocks as metamorphic, igneous, or sedimentary by the processes of their formation.

Recognize the Most Common Elements

April 24, 2023

The student will recognize that a limited number of the many known elements comprise the largest portion of solid Earth, living matter, oceans, and the atmosphere.

Space Explorations

May 17, 2023

The student will describe the history and future of space exploration, including the types of equipment and transportation needed for space travel.

GRADING POLICY IN SCIENCE

Project 70%

Power Focus Areas 21%

Additional Focus Areas 9%

Final percentage grade	Letter grade
90 - 100	A
80- 89	B
75-79	C
70-74	D
0 - 69	OT (<i>Off-Track</i>)

CONTACT INFORMATION

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