

Mrs. Benavides
5th Grade Science Syllabus
2011 - 2012 School Year

1st Nine Weeks

Chapter 1: Cells

SWBAT:

- Know that cells are the basic structural and functional unit of all living things.
- Know that cell characteristics are one factor used to classify living things into groups.
- Know that some organisms are made of one cell; larger organisms are made of many specialized cells organized into structures.

Chapter 2: Plant Systems

SWBAT:

- Know that plants manufacture their own food through the process of photosynthesis.
- Know that plants have an important role in the carbon and oxygen cycles.
- Know that plants are classified into three main groups based on how they reproduce and if they have specialized structures to transport nutrients and water.

Chapter 3: Traits of Living Things

SWBAT:

- Know that all living things inherit characteristics from their parents.
- Know the genetic information needed to transfer traits is in a molecule called DNA.
- Know that some traits are very common, while others are rare.
- Know that species evolve traits that help them survive.

2nd Nine Weeks

Chapter 4: Ecosystems, Communities, and Biomes

SWBAT:

- Know that communities consist of populations of organisms that interact with each other.
- Know that biomes are regions with a characteristic climate that determines what organisms can live there.
- Know that energy an ecosystem flows from one organism to another through a food chain, which “connects” the sun with producers, consumers, and decomposers.

Chapter 5: Life in Ecosystems

SWBAT:

- Know that every species occupies a niche, which includes where it lives, and what it eats, and how it behaves.
- Know that changes in the environment are an important factor affecting population size.
- Know that human activity can alter an ecosystem, affecting the ability of its species to survive.

Chapter 6: Earth's Changing Surface

SWBAT:

- Know that water covers roughly three-fourths of Earth's surface.
- Know that mountains, canyons, valleys, and plains are among the features that form Earth's solid surface, on land as well as the ocean bottom.
- Know that Earth's land features are shaped by destructive forces, such as erosion and weathering, and by constructive forces, such as deposition.

3rd Nine Weeks

Chapter 7: Earth's Structure

SWBAT:

- Know that Earth is made of four layers: inner core, outer core, mantle, and crust.
- Know that the upper mantle and crust form the lithosphere, which is broken into plates that move across Earth's surface.
- Know that most earthquake, volcanic, and mountain-building activity occurs near plate boundaries.

Chapter 8: Using Resources Wisely

SWBAT:

- Know that alternate energy sources can extend the life of nonrenewable resources, such as fossil fuels.
- Know that the loss of nutrient-rich topsoil, a vital resource, reduces soil's ability to support plants.
- Know that reducing, reusing, and recycling are three ways for humans to conserve resources

Chapter 9: Weather and Climate

SWBAT:

- Know that climate is characterized primarily by average temperature and average precipitation.
- Know that Earth has three major climate zones: tropical, temperate, and polar.
- Know that Earth's atmosphere is divided into the troposphere, thermosphere, stratosphere, and mesosphere.

Chapter 10: Earth and its Moon

SWBAT:

- Know that Earth's seasons result from the tilt of its axis, the curve of its surface, and its revolution around the Sun.
- Know that the Moon appears to change shape because of changes in the areas lit by the Sun.
- Know that changes in the relative positions of the Sun, Moon, and Earth produce eclipses.

4th Nine Weeks

Chapter 11: Exploring Space

SWBAT:

- Know that the solar system consists of the Sun, and the planets, moons, asteroids, meteors, and comets that orbit it.
- Know that stars undergo a life cycle that spans millions of years.
- Know that a galaxy is a vast collection of stars, gases, and dust, and is classified by its shape.

Chapter 12: The Structure of Matter

SWBAT:

- Know that the atom is the basic unit of matter.
- Know that elements are matter made of one kind of atom and are classified in the Periodic Table according to their properties.
- Know that compounds are substances made of at least two elements that are chemically combined.

Chapter 13: Characteristics of Matter

SWBAT:

- Know that a chemical change causes a change in the characteristics of matter, while a physical change does not.
- Know that mixtures contain substances that are physically, but not chemically, combined.
- Know that solutions are mixtures in which particles combine at the molecular level.

Chapter 14: Changes in State

SWBAT:

- Know that matter exists in three states: solids, liquids, and gases.
- Know that matter can change from one state to another when energy is added or removed. This change is called a physical change.
- Know that changes in state include melting, freezing, deposition, sublimation, vaporization, and condensation.