

**7<sup>th</sup> Grade Science**  
**Scope and Sequence 2010-2011**

**1<sup>st</sup> Six Weeks**

Scientific Investigation and Reasoning

- Safety, Equipment, and Investigations

Matter and Energy

- Identify that organic compounds contain carbon
- Recognize how large molecules are broken down into smaller molecules such as carbohydrates can be broken down into sugars

Organisms and the Environment

- Recognize that according to cell theory all organisms are composed of cells
- Differentiate between structure and function in plant and animal cell organelles, including cell membrane, cell wall, nucleus, cytoplasm, mitochondrion, chloroplast, and vacuole
- Recognize levels of organization in plants and animals, including cells, tissues, organs, organ systems, and organisms
- Compare the functions of a cell to the functions of organisms such as waste removal

**2<sup>nd</sup> Six Weeks**

Organisms and the Environment

- Identify the main functions of the systems of the human organism, including the circulatory, respiratory, skeletal, muscular
- Describe and relate responses in organisms that may result from internal stimuli such as fever or vomiting in animals that allow them to maintain balance

Force, Motion and Energy

- Contrast situations where work is done with different amounts of force to situations where no work is done such as moving a box with a ramp and without a ramp, or standing still

**3<sup>rd</sup> Six Weeks:**

Organisms and the Environment

- Identify the main functions of the systems of the human organism, including the digestive, excretory, reproductive, integumentary, nervous, and endocrine systems
- Describe and relate responses in organisms that may result from internal stimuli such as fever or vomiting in animals that allow them to maintain balance
- Investigate how organisms respond to external stimuli found in the environment such as fight or flight

Force, Motion and Energy

- Illustrate the transformation of energy within an organism such as the transfer from chemical energy to heat and thermal energy in digestion

Matter and Energy

- Distinguish between physical and chemical changes in matter in the digestive system  
\*\*\*revisit carbohydrates broken down into sugar)

Earth and Space

- Identify the accommodations, considering the characteristics of our solar system, that enabled manned space exploration
- Analyze the characteristics of objects in our solar system that allow life to exist such as the proximity of the Sun, presence of water, and composition of the atmosphere