Westgate Community School

# 8th Grade Science Overview 2017-2018

In this document, you will find an overview of all the units that will be covered in 8th grade science. All the units and their content has been taken from the Colorado model content standards for 8th grade science. First, you will find a general time line for the units for the year. You will then find a brief bulleted description of the unit. If you have any questions regarding the outlined curriculum, please contact Ellyse Colson at Ellyse.colson@westgateschool.org.

Science Year-long Overview:

| Quarter 1 | Quarter 2 | Quarter 3 | Quarter 4 |
|---|---|---|---|
| Unit: Scientific Method<br>Unit: Earth's Atmosphere and Climate | Unit: Solar System<br>Unit: Genetics | Unit: Human Impact on Ecosystems<br>Unit: Forces<br>Unit: Energy | Unit: Energy cont.<br>Unit: Waves |

Unit: Scientific Method
- Review process
- Discuss necessary parts of the scientific method that are necessary to develop and design experiments
- Methods to gather, analyze, and interpret data

Unit: Earth's Atmosphere and Climate
- Causes of weather- complex interactions between atmosphere, land, and water
- Sun's role in weather
- Prediction and description through complex models
- Defined climates on Earth
- how climates have changed over time in particular places

Unit: Solar System
- all objects that orbit the sun
- relative positions
- seasons
- eclipses
- the phases of the Moon

Unit: Genetics
- Reproduction and transmitting genetic information
- Offspring
- Influencing different traits down through generations

- Use observations, evidence, and data to support claims about genetic reproduction and traits of individuals
- Predict the physical traits and genetic make-up of offspring based on the genes of the parents- models, diagrams, and computer simulations

Unit: Human Impact on Ecosystems
- investigate the human impact on local ecosystems
- review important aspects of ecosystems

Unit: Forces
- Objects and motion relationship
- Direction and magnitude of forces that act on an object
- Gravity
- Explain the results in the object's change of motion
- Design an investigation to collect and analyze speed and acceleration data to determine the forces acting on a moving object

Unit: Energy
- Analyze forms of energy and energy transfer
- Forms of energy
- Forms of energy changing to other forms of energy
- Physical and chemical changes
- Conservation of mass
- Designing an experiment to show mass is conserved in a given chemical or physical change
- Identify evidence that matter is conserved

Unit: Waves
- Electromagnetic, sound, seismic, light, and water- characteristics
- Compare to each other
- Common characteristics
- Unique properties
- Use models to investigate characteristics and behaviors of waves
- Design a scientific investigation with absorption, reflection, and refraction of light