

Understand space exploration

- Successfully complete a simulated space mission
- Use technology to solve problems within the mission
- Communicate appropriate mission results through a press conference

Understand the structure and function of cells

- Explain how cells are the building blocks of all living things
- Compare/Contrast unicellular and multicellular organisms
- Distinguish between plant and animal cells based on structure
- Compare/Contrast life processes of living organisms to cells
- Model the stages of cell division

Understand that every organism has a set of genetic instructions that determines its inherited traits

- Explain that chromosomes are located in the nucleus
- Demonstrate why a pair of chromosomes is needed for a trait to be expressed (alleles)
- Distinguish between the reproduction process of various living things
- Identify the ways in which Mendel contributed to genetics
- Apply Mendelian concepts of genetics
- Demonstrate how genes combine to determine characteristics
- Describe mutations' effects on a traits expression

Understand the similarities and differences that characterize diverse living things

- Describe the six kingdom classification systems for living things
- Describe the divisions of classification of living organisms
- Explain how to use a dichotomous key
- Characterize viruses and bacteria
- Explain AIDS can be transferred and prevented
- Characterize protists and identify samples in pond water
- Characterize and identify various animals using dissection of various animals

Understand the measurement of matter

- Measure the mass of an object
- Distinguish between mass and weight
- Measure the volume of an object
- Use water displacement

Understand the application of scientific inquiry to solve problems

- Design an investigation that follows the scientific method
- Conduct an experiment
- Analyze and communicate results at a science fair(s)

Enrichment:

Dissection of various organisms, Proper microscope use, Hands-on Activities, Challenger Field Trip, Science Fair Projects, Exploring Science Projects (ESP), Access to Science Lab, Safety in use of Science Equipment