

NCPS Science Unit Map - Grade 8

Parent Curriculum Guide

These scientific and engineering practices are developed in each unit throughout the year:

- Asking questions (for science) and defining problems (for engineering)
- Developing and using models
- Planning and carrying out investigations
- Analyzing and interpreting data
- Using mathematics and computational thinking
- Constructing explanations (for science) and designing solutions (for engineering)
- Engaging in argument from evidence
- Obtaining, evaluating, and communicating information

Science Topic	Student Learning Expectations
Heredity and Evolution	<p>Students will understand that reproduction is a characteristic of living systems and it is essential for the continuation of every species.</p> <p>Through class discussion and explorations students will</p> <ul style="list-style-type: none"> ● identify the mechanisms through which organisms change over time. ● predict the genotype and phenotype of offspring resulting from mating. ● research and explore the role DNA plays in contributing to inherited traits.
Earth's Place in the Universe	<p>Students will discover that patterns of the apparent motion of the sun, the moon, and stars in the sky can be observed, described, predicted, and explained with models.</p> <p>Through class discussion and explorations students will</p> <ul style="list-style-type: none"> ● develop and use models of the Earth-sun-moon system to describe the cyclic patterns of lunar phases, eclipses, and seasons. ● analyze and interpret data to determine scale properties of objects in the solar system.
Forces and Interactions	<p>Students will understand the behavior of objects based on the interaction of forces.</p> <p>Through class discussion and explorations students will</p> <ul style="list-style-type: none"> ● plan investigations to provide evidence that the change in an object's motion depends on the sum of the forces

	<p>on the object and the mass of the object.</p> <ul style="list-style-type: none">● develop authentic examples of force and motion interactions.
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