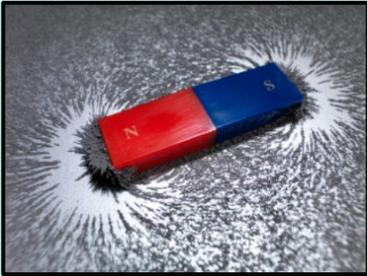




Harford County Public Schools - GRADE 3 Science Curriculum

[Next Generation Science Standards \(NGSS\)](#)

Access Grade Level Standards by clicking on Unit Titles below:

	Quarters 1-2 Earth Space Science	Quarters 2-3 Physical Science	Quarters 3-4 Life Science
Unit Title & Standards	 <p><u>Weather and Climate</u> (Earth Systems: Weather & Climate)</p>	 <p><u>Forces and Interactions</u> (Motion and Stability: Forces & Interactions)</p>	 <p><u>Life Cycles and Traits & Ecosystem Change</u> (Structure & Processes: Growth & Development; Heredity: Traits; Ecosystems: Survival, Adaptation, Habitats)</p>
Unit Overview & Essential Question	<p>The Grade 3 Earth Space Science Unit focuses on weather patterns and climates of regions across the world. Students will organize and use data to describe typical weather conditions expected during a particular season and how these patterns of weather determine the climate regions of the Earth. By applying their understanding of weather-related hazards, students will make a claim about the merit of a design solution that reduces the impact of such hazards.</p> <p>Unit Essential Question: <i>How do patterns of weather impact human lives?</i></p>	<p>The Grade 3 Physical Science Unit focuses on the effects of balanced and unbalanced forces on the motion of an object and the cause-effect relationships of electric or magnetic interactions between two objects not in contact with each other. Knowledge of magnetic interactions and magnets assist engineers in solving simple design problems.</p> <p>Unit Essential Questions: <i>What do all forces have in common? How are forces used in everyday life?</i></p>	<p>The Grade 3 Life Science Unit focuses on how plants and animals grow and develop through similar life cycle stages, use inherited and acquired traits to survive or not survive given their environment and variations within species and how environmental changes impact organisms' ability to survive.</p> <p>Unit Essential Question: <i>What determines whether an organism will survive?</i></p>

Lesson Experience Topics

Experience 1: *Predicting Local Weather* –

Meteorologists use tools and weather patterns to monitor and predict the weather.

Experience 2: *Global Climates* - Climate describes the ranges of an area's typical weather conditions and the extent to which those conditions vary over years to centuries. These areas are global climate zones or regions.

Experience 3: *Natural Hazards and Engineering Design Challenge – Reducing the Impacts of Severe Storms* – Earth experiences natural weather-related hazards that impact humans and the environment. Engineers solve problems by using their science knowledge of weather, climate, and natural hazards with their expertise in the engineering design process to design solutions to reduce the impact of weather-related hazards to protect humans and the environment.

Experience 1: *Balanced and Unbalanced Forces* – Forces have both strength and direction and can cause changes in an object's motion, speed, and direction.

Experience 2: *Patterns and Pendulums* – Patterns in object's motion can be observed and can predict an object's future motion.

Experience 3: *Electric and Magnetic Interactions* – Objects in contact exert forces on each other. Electric and magnetic forces between a pair of objects do not require that the objects be in contact.

Experience 4: *Engineering Design Challenge – Maglev Transportation Systems* – Engineers solve problems using their science knowledge of forces and magnets with their expertise in the engineering design process to design a magnetic levitation transportation system.

Experience 1: *Life Cycles and Traits* – All plants and animals have four major phases in their life cycles: Birth, Growth/Development, Reproduction, Death. Living things/organisms have traits that are inherited, acquired, and those influenced by the environment.

Experience 2: *Survival, Habitats and Fossils* - An organism's traits determine its ability to survive, variations among individuals in the same species help them survive, animals form groups, the characteristics of an organism's environment help it survive and fossils provide evidence of an organism's environment.

Experience 3: *Engineering Design Challenge – Animal Crossings* – Environmental engineers solve problems for animals by using their science knowledge of plants, animals, and habitats with their expertise in the engineering design process to design animal crossings to allow species to survive.