



# Harford County Public Schools - GRADE 1 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



#### The Earth in Space

(Space Systems: Patterns & Cycles)

\*Includes a Planetarium Experience  
[Planetarium Program at HCPS](#)



#### Light and Sound

(Waves: Light & Sound)



#### Life: Structures and Functions

(Structure & Processes: Biomimicry, Growth & Development; Heredity: Traits)

#### Unit Overview & Essential Question

The Grade 1 Earth Space Science Unit focuses on patterns and cycles that occur in the sky. Students will observe, predict, and describe patterns of the movement of objects (moon, stars, and sun) in the sky. Students will also compare the daytime sky to the nighttime sky.

**Unit Essential Question:** *What patterns exist in the daytime and nighttime sky?*

The Grade 1 Physical Science Unit focuses on how light and sound travel in waves which can be used to communicate over distances. An understanding of the states of matter and how light and sound pass through each state of matter is foundational to the unit. Students will design and create technologies that use light and sound to communicate over distances.

**Unit Essential Question:** *How do light and sound travel over distances?*

The Grade 1 Life Science Unit focuses on how plants and animals use their external structures to survive and how engineers use biomimicry to design technologies to solve problems and improve existing technologies.

**Unit Essential Question:** *How do plants and animals grow, change, and use their external parts to help them survive?*

#### Lesson Experience Topics

**Experience 1: *The Sky*** – The daytime sky appears different than the nighttime sky and the earth’s rotation creates day & night.  
**Experience 2: *Patterns in the Sky*** - The sun and moon have predictable patterns and the sun is the ONLY star that we see in the daytime.  
**Experience 3: *Length of a Day*** - The amount of sunlight is not the same every day of the year.  
**Engineering Experience: *Engineering Design Process*** – Engineers solve real-world problems using creativity, math, and science to develop and improve designs.

**Experience 1: *What’s the Matter?*** – There are three states of matter (Solids, Liquids, Gases).  
**Experience 2: *Sound – Did you hear that?*** Sound travels in waves through different states of matter; sound can be used to communicate over a distance.  
**Experience 3: *Light – Did you see that?*** Light travels in waves through different states of matter; light can be used to communicate over a distance.

**Experience 1: *Plants, Plants, Plants*** - Plants grow, change, and use their external parts to help them survive.  
**Experience 2: *Animals, Animals, Animals*** – Animals grow, change, and use their external parts to help them survive.  
**Experience 3: *Engineering Design Process (EDP)*** – Engineers use their creativity and science knowledge of plants and animals’ external structures to design a technology that mimics the way plants and animals protect themselves in nature.