# NCPS Science Unit Map - Grade 1
# 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 Topics | Student Learning Expectations |
|---|---|
| Structure and Function | Students will understand that most living things need food, water, space and air to survive. Through hands on experiences and investigations they will explore how both plants and animals have specific structures and attributes which enable them to grow and survive.<br><br>**Through class discussion and explorations students will**<br>● identify similarities and differences between organisms adapted to different environments.<br>● recognize that there are different environments around the world, each with unique characteristics.<br>● describe ways that humans adapt to different environments. |
| Waves | Students will focus on<br>● how light travels from place to place and determine the effect of placing objects made of different materials in the path of a beam of light.<br>● the relationship between sound and vibrating materials.<br><br>**Through class discussion and explorations students will**<br>● investigate materials that can cause a beam of light to change directions.<br>● explain what results when light interacts with opaque, transparent, and translucent materials, including reflective materials.<br>● investigate what causes sound.<br>● define the problem of how to send a message a long distance.<br>● design a solution to the problem of sending a message a |

| | |
|---|---|
| | short distance without speaking.<br>● use patterns of movement in objects that make sound to argue from evidence that sound is caused by vibration. |
| Patterns and Cycles | Students will be able to observe, describe, and predict some patterns of the movement of objects in the sky.<br><br>**Through class discussion and explorations students will**<br>● use observations of the sun, moon, and stars to describe patterns that can be predicted.<br>● make observations at different times of the year to relate the amount of daylight to the time of year. |