### Engineering, Technology, and Application of Science
**Essential Standard:** Students will understand and use scientific and engineering practices to conduct investigations and solve problems.

**Learning Targets:**
- Ask questions, make observations and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.
  (MLS: 1.ESS1.A, NGSS: K-2-ETS1-1)
- Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.
  (MLS: 1.ESS1.B, NGSS: K-2-ETS1-2)
- Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.
  (MLS: 1.ESS1.C, NGSS: K-2-ETS1-3)

### Life Science
**Unit 1: Plants and Animals**
**Estimated Teaching Window:** September-November

**Essential Standard:** Students will observe and understand the function of external structures of animals and plants in their life cycles including inheritance and variation of traits.

**Learning Targets:**
- Use materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs.
  (MLS: 1.LS1.A, NGSS: 1-LS1-1)
- Make observations to construct an evidence-based account that young plants and animals are like, but not exactly like, their parents.
  (MLS: 1.LS3.A, NGSS: 1-LS3-1)

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**Learning Targets:**
- Ask questions, make observations and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.
  (MLS: 1.ESS1.A, NGSS: K-2-ETS1-1)
- Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.
  (MLS: 1.ESS1.B, NGSS: K-2-ETS1-2)
- Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.
  (MLS: 1.ESS1.C, NGSS: K-2-ETS1-3)

### Physical Science
**Unit 2: Energy (Light and Sound)**
**Estimated Teaching Window:** January-February

**Essential Standard:** Students will demonstrate an understanding of light and sound including their significance to communication.

**Learning Targets:**
- Plan and conduct investigations to provide evidence that vibrating materials can make sound, and that sound can make materials vibrate.
  (MLS: 1.PS4.A.1, NGSS: 1-PS4-1)
- Plan and conduct investigations to provide evidence that changes in vibration create changes in sound.
  (MLS: 2.PS4.A.1, Not in NGSS)
- Make observations to construct an evidence-based account that objects in darkness can be seen only when illuminated.
  (Not in MLS, NGSS: 1-PS4-2)
- Plan and conduct investigations to determine the effect of placing objects made with different materials in the path of a beam of light.
  (Not in MLS, NGSS: 1-PS4-3)
- Use tools and materials to design and build a device that uses light or sound to solve the problem of communicating over a distance.
  (MLS: 1.PS4.C.4, NGSS: 1-PS4-4)

**Essential Standard:** Students will demonstrate an understanding of patterns and cycles of the Sun, Moon, and stars.

**Learning Targets:**
- Describe the presence of the Sun, Moon, and stars in the sky over time.
  (MLS: 1.ESS1.A.1, Not in NGSS)
- Use observations of the Sun, Moon, and stars to describe patterns that can be predicted.
  (MLS: 1.ESS1.A.1, NGSS: 1-ESS1-1)

### Earth and Space Science
**Unit 3: Sun, Moon, and Stars**
**Estimated Teaching Window:** March-May

**Essential Standard:** Students will understand and use scientific and engineering practices to conduct investigations and solve problems.

**Learning Targets:**
- Ask questions, make observations and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.
  (MLS: 1.ESS1.A, NGSS: K-2-ETS1-1)
- Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.
  (MLS: 1.ESS1.B, NGSS: K-2-ETS1-2)
- Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.
  (MLS: 1.ESS1.C, NGSS: K-2-ETS1-3)