

First Grade 2020 Science Unit #1: Engineering and Technology

Content Area: **Science**
Course(s): **Science 1, Generic Course**
Time Period: **Marking Period 1**
Length: **Approximately 6-8 weeks**
Status: **Published**

Established Goals/Standards

CAEP.9.2.4.A.1	Identify reasons why people work, different types of work, and how work can help a person achieve personal and professional goals.
CAEP.9.2.4.A.4	Explain why knowledge and skills acquired in the elementary grades lay the foundation for future academic and career success.
K-2-ETS1-1	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.
K-2-ETS1-1.ETS1.A	Defining and Delimiting Engineering Problems
K-2-ETS1-2.ETS1.B	Developing Possible Solutions
K-2-ETS1-3.ETS1.C	Optimizing the Design Solution

Essential Questions

- How can engineers develop possible solutions to a problem?
- How can engineers solve problems?
- How can you optimize the design solutions?
- How could an engineer get an idea from nature to make technology?
- How do engineers solve problems?
- How do engineers use technology?
- What is an Engineer?

Enduring Understanding

- An engineer is a person who uses math and science to solve problems.
- Because there is always more than one possible solution to a problem, it is useful to compare and test designs.
- Engineers can look at the shape and function of things in nature to help make technology.
- Engineers can make designs through sketeches, drawings, or physical models. These representations are useful in communicating ideas for a problem's solutions to other people.
- Engineers solve problems by asking questions about the problem. They ask questions to make sure they know why a problem happens.
- Engineers solve problems by asking questions, making observations, and gathering information about a situation to change, improve, or solve a problem.

- Engineers use technology to solve problems and make our lives easier.

Content

Student will be able to:

- 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
- 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
- analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs

Assessment

End of Unit Assessment given by printed version or online version using the following:

teacher Assessment book

HMHCO.com online assessments

Also, assessments given throughout each unit using self checks, unit reviews at end of each unit in student workbook, and during labs.

Resources

HMC Science Dimensions Teacher's Guide

HMC Non-Fiction leveled readers

Science kits materials for Units 1-6

HMC Science Dimensions Student workbooks

HMC online component for students and teachers (ED) (HMHCO.com) which includes online version of units, videos, assessments, downloadable worksheets, projects, and hands-on activities.

Teacher Assessment Book (also on HMHCO.com)

Evidence Notebooks

You Tube

Mystery Science

Science Spin

Non-Fiction Books from school library

Scholastic News First Grade Level

Mailbox Magazine activities

Teacher's Helper activities

weekly STEM activities

-

-