

# 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

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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

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- 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

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- 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**

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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**

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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**

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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

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