

#1 Nature of Science / Engineering Design

Content Area: **Science**
Course(s): **Science 5**
Time Period: **Undefined**
Length: **Undefined**
Status: **Published**

Unit Overview

Essential Questions

Chapter 1:

What is science?

What do scientists do?

How do scientists investigate?

How do scientists collect and interpret data?

How do scientists support their conclusions?

Chapter 2:

What is technology?

How does technology mimic living things?

What is the design process?

Content

Chapter 1:

Scientists use inquiry to learn about the world around them.

Scientists investigate problems using experiments that follow accepted procedures.

Scientists collect and interpret data using many different tools in a safe way.

Scientists support their conclusions with evidence.

Chapter 2:

Technology solves problems and provides solutions.

Technology can mimic the human muscular and skeletal systems.

The design process is a set of steps for developing products and processes that solve problems.

Skills

Chapter 1:

Describe how scientists use inquiry to learn about the world around them.

Explain how scientists investigate problems in many different ways.

Explain how scientists collect and interpret data using many different kinds of tools in a safe way.

Describe how scientists draw conclusions and support them using evidence.

Chapter 2:

Describe how technology solves problems and provides solutions.

Explain how some technology can mimic the muscular and skeletal systems.

Explain how to use the design process.

Assessments

Apply understanding of scientific methods to describe how scientists study the natural world.

Study Guide

Chapter Review

Chapter Test

Benchmark Practice

Test Prep Book

Performance-Based Assessment, Program Guide pg 48: Make a Graph, Write a Story, and/or Make a Model

STEM Activity Book

Lessons/Learning Scenarios

Chapter 1:

Lesson 1, Lesson 2, Lesson 3, Lesson 4

Inquiry, pg. 4-5: What Questions Do Scientists Ask?

Inquiry, pg. 32-33: How Does a Banana Slice Change Over Time?

Do the Math, pg. 34

Vocabulary

Study Guide

Chapter Review

Chapter Test

STEM, pg. 43

Chapter 2:

Lesson 2, Lesson 3

Inquiry, pg 46-47, How can you design a strong glue?

Inquiry, pg. 68-69, How can you make and redesign a model of a robotic arm?

Inquiry, pg. 78-79, How much weight can a model arm support?

Do the Math, pg. 34

Vocabulary

Study Guide

Benchmark Practice

Chapter Review

Chapter 2:

Culminating project- TBD

Standards

SCI.3-5.3-5-ETS1-1	Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.
SCI.3-5.3-5-ETS1-3	Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.
SCI.3-5.3-5-ETS1-2	Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.

Resources
