Transportation Technology

Content Area: **Technology**
Course(s): **Tech and Eng Design Lab 1, 2**
Time Period: **December**
Length: **5 Weeks**
Status: **Published**

Transfer

Transportation Technology

Enduring Understandings

The process of modeling a transportation method allows speculation and solutions to solve problems.

Exploring futuristic transportation possibilities opens doors to solving a science-based design challenge.

Essential Questions

What is the design process and how is it applied to problem solving?

What is transportation?

How has transportation evolved? How will it be in the future?

What type of transportation would best solve a specific problem?

Content

Vocabulary

design loop**,** transportation, rail, road, air, combustion engine, electric engine, steam engine, gravity, magnet,

north pole, south pole, attraction, repulsion, wheel & axle, glide, friction, speed, brakes, payload, MPH, transportation issues, fuel, alternative fuels.

Learning Objectives

Justify the use of the design process and correlate it to problem solving.

Decide what characteristics qualify for transportation.

Recognize past transportation methods and interpret where it is heading.

Design and create a transportation method that solves a problem.

Resources

Standards

TECH.8.1.8	Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.
TECH.8.1.8.A	Technology Operations and Concepts: Students demonstrate a sound understanding of technology concepts, systems and operations.
TECH.8.1.8.A.4	Graph and calculate data within a spreadsheet and present a summary of the results
TECH.8.2.8	Technology Education, Engineering, Design, and Computational Thinking - Programming: All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.
TECH.8.2.8.A.1	Research a product that was designed for a specific demand and identify how the product has changed to meet new demands (i.e. telephone for communication-smart phone for mobility needs).
TECH.8.2.8.B.1	Evaluate the history and impact of sustainability on the development of a designed product or system over time and present results to peers.
TECH.8.2.8.B.2	Identify the desired and undesired consequences from the use of a product or system.
TECH.8.2.8.B.3	Research and analyze the ethical issues of a product or system on the environment and

	report findings for review by peers and /or experts.
TECH.8.2.8.C.1	Explain how different teams/groups can contribute to the overall design of a product.