

Re-designing the Age of Exploration

by Jonathan Coldoff

Students will be designing...

This design challenge will give students the opportunity to learn about famous explorers and explorations, then, using empathy, collaboration, and creativity, design a vessel that their end user (explorer) will use to travel from their home in Europe to places around the globe.

Through engaging in this challenge, students will learn...

CCSS.ELA-LITERACY.RI.5.1

Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.

CCSS.ELA-LITERACY.RI.5.3

Explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text.

Next Generation Science Standards.3-5.Engineering Design

- 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.
- 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.

Lesson 1

Teams of students will empathize with their user by reading a canned bio, creating an empathy map, and many POV statements. They will discuss these POV's and ultimately choose one to form a needs statement that will guide them through the next two steps of this process.

Lesson 2

With their needs statement complete, students will now determine a destination(s) for their explorer to travel. They will then learn of the tidal and wind conditions in the world's oceans, and view short videos of the conditions at sea level.

Lesson 3

Teams will build a prototype of a vessel for their explorer. Vessels need to be autonomous and meet the needs of their explorer.