

DESIGN THINKING

Design Thinking Projects: Examples

There are countless ways to apply the design thinking process across disciplines. No matter the subject, design projects offer a distinctive way of demonstrating student skill and learning. Here are some design project examples that my colleagues at St. Andrew's and I have applied over the years.

LANGUAGE ARTS

- Design...
 - a podcast that tells a person's story.
 - the format, shape, size, style of a book.
 - a lending library station for the school.
 - an informational book about a concept for a younger student.

SOCIAL STUDIES AND HISTORY

- Design...
 - and create a visual history poster of the arts, literature, inventions, and circumstances of a given period in history.
 - an expedition to a remote area of the planet.
 - a monument to one of the world's great inventors.
 - a museum exhibit for a particular period or theme in history.
 - a new national park located someplace in the world.

SERVICE LEARNING

- Visit, interview, plan, and identify a problem to solve for a local population in need.
- Create a phone app that solves a problem for a particular community in need.

PHILOSOPHY AND RELIGION

- Design...
 - a sacred space.
 - an imagined culture and the related religious artifacts associated with that culture.

MATHEMATICS

- Design...
 - a visual infographic with graphs and charts that uses numbers to capture an idea or answer a question.
 - a three-year budget for a proposed social enterprise project.
 - accurate scale models for design projects.
 - an instructional movie for a selected math concept.
 - uses mathematics to measure average speed and G-forces in the design of a 48' roller coaster for a marble.

SCIENCE

- Design...

a bridge to build to span a particular body of water.

a prosthetic hand that can grasp a cup and pick up a ball.

an earthquake-resistant structure that can withstand two different types of earthquakes.

a solar race car.

a 3D printer model of a neuron.

an operational submarine that surfaces and dives.

and 3D print a marine buoy for ocean research in one ocean of the world.

an inquiry-based experiment in science that tests, gathers data, and draws a conclusion to a question.

MUSIC AND PERFORMING ARTS

- Design and build a musical wind instrument.

DESIGN CHALLENGES

- Design...

a 15' zip-line delivery system for Hershey Kisses.

an aqueduct system for transporting water 6' from one container to another.

the tallest possible tower using toothpicks and gumdrops.

a school space.

architectural renderings that explore the redesign of a new area of the school.

TECHNOLOGY

- Apply CAD software to design objects for design projects.

- Design...

a stop-motion movie for a concept in a selected subject area.

a robotic program that tracks the path of the human circulatory system.

a robotic program that mimics at least five characteristics of a living organism.

VISUAL ARTS

All design projects have elements of visual design that celebrate personal expression, aesthetic acumen, and skill. The features, media, and methods of the visual arts should be part of the direct instruction, critique, and assessment of design projects and challenges.