

COURSE: Exploration of Invention and Entrepreneurship

Designed for learners in Grades 6 - 8.

COURSE DESCRIPTION

This course helps activate STEM, Invention, and Entrepreneurship learning to instill problem-identification, problem-solving and creativity skills inspiring young people to become innovators, inventors, and entrepreneurs. Students will find inspiration as they explore what makes something an invention and study the history of some inventions that have shaped our way of life.

LESSON SEQUENCE AND LEARNING TARGETS

Lesson One: What Is An Invention?

- ☐ I can define 'invention'.
- ☐ I can identify objects within the school setting that are inventions.
- ☐ I can categorize inventions.
- ☐ I can understand and talk about what makes something an invention.

Lesson Two: Everyday Objects

- ☐ I can identify and document problems students encounter with everyday objects.
- ☐ I can begin identifying problems in their own lives.
- ☐ I can document problems and processes.

Lesson Three: Product Research

- ☐ I can learn more about identified problems.
- ☐ I can begin researching problems in their own lives.
- ☐ I can document research findings.

Lesson Four: Research Debrief

- ☐ I can develop multiple solutions for a problem.
- ☐ I can use feedback to select one solution that I can start designing.
- ☐ I can document the ideation process and feedback.
- ☐ I can give helpful feedback to others on their ideas.
- ☐ I can describe other's problems and possible solutions to others.

Lesson Five: Reverse Engineering

- ☐ I can describe how the components of

Lesson Six: Product Development

- ☐ I can brainstorm ideas collaboratively in a small group.
- ☐ I can work

Lesson Seven: Applying for a Patent

- ☐ I can explore different scenarios of the

Lesson Eight: Logo Design

- ☐ I can identify elements of logos including symbols, color, positive and

mechanical toys work together to produce movement.

- ☐ I can draw a model of what they believe is causing the wind-up toy to move.
- ☐ I can compare an original hypothesis with what is actually happening inside of a wind-up toy.
- ☐ I can use tools to disassemble the wind-up toy while adhering to safety rules.

collaboratively in a small group to design solutions while considering criteria and constraints.

- ☐ I can create a model of a developing solution through 3D design.
- ☐ Gather and analyze feedback to make improvements to their design.

patent process and understand that steps change depending upon different conditions.

- ☐ I can model a situation involving applying for a patent to their peers.
- ☐ I can describe the process of applying for a patent in the United States.

negative space, and abstract figures.

- ☐ I can convey their groups' shared characteristics using symbolism and art.
- ☐ I can draft a first drawing of a possible logo for an invention

Lesson Nine: Pitch Practice

- ☐ I can clearly describe and present an invention to my peers and teachers.

Lesson Ten: Product Presentation

- ☐ I can create marketing materials to share a product idea to a larger audience.