



Gifted ELA/SS/SC Unit 6

Ethical Literacy & Innovation through the Engineering and Design Cycle

In this unit, students will explore how ethical thinking impacts literature and historical events and their impact on the modern world. Students will use the engineering and design cycle to innovate solutions to real world problems and improvements upon existing technologies.

Priority Standards

RI 9.7: Analyze various accounts of a subject told in different mediums, determining which details are emphasized in each account.

W 8.2: Write informative/explanatory texts to examine a topic and convey ideas, concepts, and info through the selections, organization, and analysis of relevant content.

SSCV 5.9-12: Analyze the impact of personal interest and diverse perspectives on the application of civic dispositions, democratic principles, constitutional rights, and human rights.

SSCV 8.9-12: Analyze how individuals use and challenge laws to address a variety of public issues.

HS-ETS1-1: Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants.

HS-ETS1-3: Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics, as well as possible social, cultural, and environmental impacts.

Big Ideas

Sound argument is supported by complex research/inquiry and effective argumentative structure.

Innovation can be applied to further push the capabilities of existing technology and/or increase the applications of previously designed structures

The engineering and design cycle is structured to help creators innovate solutions to problems. Designs and prototypes are constantly evaluated to determine how to best meet the needs of the target audience.



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Supporting Standards

RL 8.4: Determine meaning of words.

W 8.7: Conduct short research projects to answer a questions, drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.

SL 8.1: Engage effectively in a range of collaborative discussions

SSH 4. 9-12: Analyze how people and institutions have reacted to environmental, scientific, and technological challenges.

MS-ETS1-3: Analyze data from tests to determine similarities and differences among several design solutions to identify the best characteristics of each that can be combined into a new solution to better meet the criteria for success.

HS-ETS1-2: Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.

HS-ETS1-4: Use a computer simulation to model the impact of proposed solutions to a complex real-world problem with numerous criteria and constraints on interactions within and between systems relevant to the problem.

Vocabulary

Inquiry

Ethics

Innovation

Feedback

Technology

Prototype

Target Audience

Criteria

Constraints

RWE & Summative

Students will engage in a personal inquiry of weapons.

Students will produce a final prototype for a solution to a problem.

Students will create an innovation commercial.