

# **6th Grade Cross-Curricular Program**

VALLEY  
CATHOLIC  
MIDDLE  
SCHOOL

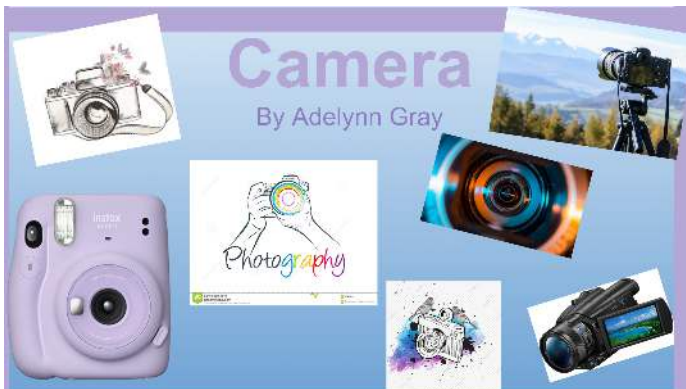


# Quarter 1: Engineering Through History

**Introduction:** Sixth graders start their year by learning about South American civilizations in Social Studies and the engineering design process in STEM. This project links those ideas together and starts teaching and familiarizing students with conducting safe and appropriate research, distilling clear and focused information from that research, and properly citing sources. By the end of this project students will have a greater understanding of invention and innovation as time-taking processes, not moments of instantaneous inspiration, and appreciate the contributions of indigenous and non-European inventors.

**Purpose:** The purpose of this assignment is for students to understand the processes of both invention and innovation and how people from different time periods and cultures contributed to our quality of life today. By conducting research and producing a slideshow, students will demonstrate understanding and implementation of correct and appropriate research and citations.

## Example Projects:



What is it used for?	What problem does it solve?
Used to capture everything in life : <ul style="list-style-type: none"><li>• nature</li><li>• Places</li><li>• People</li><li>and many other things</li></ul>	<ul style="list-style-type: none"><li>• Being able to savor memorable things</li><li>• Look at things more closely</li><li>• Able to go back and look later</li></ul>

### My Future Camera

- Levitating
- Clear
- Keyboard on screen to type in coordinates

- Can go up to 150 feet
- Goes to the things you want and takes picture for you

### Timeline

Event	Date
Camera obscura	500 BC - 1600 CE
First photograph	1827
Johannes Kepler named the first drawing with light, a photograph	1604
Photojournalism	1848 - 1865

# Quarter 1: Engineering Through History

Skills	Subjects	Description	Revision
Research	Social Studies	Research ancient civilizations' culture/tools (achievements)	N/A
	STEM	Research evolution of engineering	
Writing	English	Formatting citations in their product (slideshow)	Teacher feedback w/ written content on product to guide revision between first and second presentations.
Product	STEM	Slideshow showing a chosen product from South American ancient civilizations and the connections between past, present, future.	Slideshow design and written content revision between first and second presentations.
Presentation	Religion	General presentation skills practice	After feedback from first presentation, students will have time in Study Skills to practice for second presentation
	Social Studies	First presentation (w/ teacher feedback for STEM)	
	STEM	Final presentation in STEM	
Lab	Science	-Radiometric dating -Dig kits/fossil artifact kits	N/A



# Quarter 2: Rainforest Deforestation Project

**Introduction:** In the second quarter, sixth graders begin to learn about rainforest deforestation, its impacts, and the multitude of factors contributing to it. They conduct research on a deforestation problem in Social Studies class, use the design process in STEM to create a solution to that problem and design a prototype for it, and present their work in both classes respectively. Students see the impact of deforestation through erosion and greenhouse gas labs conducted in Science class, and show their understanding of the interconnectedness of this issue by writing a narrative piece in English class from the POV of someone close to the deforestation issue.

**Purpose:** The purpose of this assignment is for students to learn the layers and intricacies behind large global problems. Through their research, students will be able to put themselves in the shoes of someone impacted by, or impacting, the deforestation of the rainforest and write a narrative from their perspective.

## Example Projects:



# Quarter 2: Rainforest Deforestation Project

Skills	Subjects	Description	Revision
Research	Social Studies	Research issues surrounding deforestation: farming, ranching, logging and mining.	N/A
Writing	English	Narrative writing assignment: narrative written from POV of different humans impacting the rainforest	Students will have the opportunity to have a rough and final draft w/ teacher feedback
Product	STEM	Design Process to create a solution using visual/working prototype, infographic, and slides	Engineering Design Process includes testing an iteration piece for reflection/revision
	Social Studies	-Layers of the Rainforest Diorama -Choice Project: Students choose between slides/website/canva presentation for deforestation research	N/A
Presentations	STEM	Present their visual/working prototype, infographic, and slides (w/ teacher feedback for Social Studies)	Practice in small groups in Study Skills and evaluate each other before final presentations in SS and STEM
	Social Studies	Present deforestation research	
Lab	Science	Weathering and Erosion, Greenhouse Effect and/or Biodiversity and Food Web Lab	N/A



## Quarter 3: Mars Project

**Introduction:** Quarter three introduces sixth graders to the concepts of gravity, the atmosphere, and water in science class, and the Mars Project loops in every subject over the course of the quarter. Students research the challenges the Martian atmosphere, gravity, and soil infertility will pose to any future colonists. They write a five-paragraph essay, complete with works cited page, identifying key challenges in these areas. Students then bring their findings to STEM class where they design solutions to these problems and present their findings to the class.

**Purpose:** The purpose of this assignment is for students to understand and utilize responsible research methods, how to inform an audience about a topic using information gathered during research, and present findings clearly. Students must use the findings from their research paper to produce an infographic and 5-10 minute presentation with accompanying slideshow as a team, illustrating solutions to the problems they found during their research.

### Example Projects:



# Quarter 3: Mars Project

Skills	Subjects	Description	Revision
Research	English	Research three challenges to human colonization of Mars: atmosphere, availability of food & water, and gravity.	Students evaluate their sources using the Web Eval form and revise if needed
Writing	English	"Challenges to Human Colonization of Mars" research essay with works cited page	Feedback given by teacher on paragraphs before final draft is turned in
Product	STEM	Visual Prototype, infographic/poster, team slideshow showing solution to problems settling Mars presents, & how to improve life on Mars.	Revisions and iteration completed through time frame revisions scheduled through the project deadlines
Presentations	STEM	5-10 min presentation on explaining the process and solution teams designed. Utilizing the products created for the project.	Revisions and iteration completed through time frame revisions
Lab	Science/PE	-Calculating mass vs weight on every planet -How gravity impacts bone density, and muscle composition lab	N/A



## Quarter 4: Greek and Roman Fair

**Introduction:** The fourth and final quarter of sixth grade sees the beginning of the Greek and Roman unit. The culmination of this unit will be the Greek and Roman fair held during school on Friday June 10<sup>th</sup>. Students are required to attend this event as it serves as the Social Studies final exam for this semester. We spend several weeks in class learning about the history, geography, and cultures of Greece and Rome to give students a solid foundation for their project. Students will have time in their classes to work on the project, but will also need to do additional work and research at home.

**Purpose:** The purpose of this assignment is to give students the skills needed to do independent research, form their own ideas about information they read, write a polished research paper, create a 3D demonstration of their research, and give an effective presentation. Through completing this project, students will more deeply explore a specific topic related to the content covered in Social Studies this quarter.

### **Example Projects:**





# Quarter 4: Greek and Roman Fair

Skills	Subjects	Description	Revision
Research	Social Studies	Select and research specific topics about ancient Greece or Rome	N/A
Writing	Social Studies	Create research rough draft for Greek & Roman Fair topic	Students will have the opportunity to have a rough and final draft w/ teacher feedback
	English	Revise rough draft and create final draft of paper	
Product	Social Studies	Create a 3D model (with help from Art with scale)	Website testing and review in STEM
	STEM	Create a website about their topic	
Presentations	Social Studies	Students will present their research and model with the class and in a fair-like environment with the school	Students will have to opportunity to receive teacher feedback before final fair presentation
Other	Science, Math, PE, etc.	Science, Math and PE can support students who pick topics related to those subjects	N/A

