

Worksheet 5-5— Lesson Plan

Format

(adapted with permission)

Subject: How does technology impact Science	Teacher: Lori Baldwin, Rick Alm, Julie Kauer
Lesson Name: Space Travel Day 1 Barbara Morgan	Location: Classroom
Class: Freshman Earth Science	Unit Context: Technology and Science
Date: 03/10/09	

Activities
Barbara Morgan to introduce Space Travel and her personal experiences.

Write a paragraph summarizing key point that meant something to you.

Big6™ Skills

TD ~ Write a paragraph from Barbara's presentation, summarizing key point that meant something to you.

ISS ~ Barbara Morgan

L&A ~ Have Barbara Morgan introduce Space Exploration and the correlation with technology using her experiences with space travel.

Synthesis ~ Student Paragraph

Evaluation ~ Teacher Evaluation of Students paragraphs.

Idaho Science Standards
Objective: Goal 5.2 Understand the Relationship between Science and Technology
Objective 1 Explain how science advances technology.

Learning Context: Students are learning from an Idaho teacher/astronaut, that has been a key public figure for NASA, the importance of technology in science.

Materials/Resources: Barbara Morgan

Evaluation: Write a paragraph summarizing key point that meant something to you.

Notes:

The Definitive Big6™ Workshop Handbook, page 78

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Worksheet 5-5— Lesson Plan

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Subject: How does technology impact Science?	Teacher: Lori Baldwin, Rick Alm, Julie Kauer
Lesson Name: Space Travel Day 2 Rocketry	Location: Classroom
Class: Freshman Earth Science	Unit Context: Technology and Science
Date: 03/11/09	

<p>Activities</p> <p>Review Scientific Method</p> <p>Conduct a controlled experiment launching a Alka-Seltzer rockets and demonstrate to students how to record and analyze the data in a graph.</p> <p>Conduct an Experiment and graph the data.</p>	<p>Big6™ Skills</p> <p>TD ~ Using the scientific method, students will graph the distance of their rocket against the ratio of water in their container.</p> <p>U of I ~ Conduct experiments and record data on graphs.</p> <p>Synthesis ~ Graphs</p> <p>Evaluation ~ Graph the distance of their rocket against the ratio of water in their container, using correct graphing formulas.</p>	<p>Idaho Science Standards</p> <p>Objective: Goal 5.2 Understand the Relationship between Science and Technology</p> <p>Objective 2 9-10.B.5.2.2 Explain how technology advances science. (655.01a) CL:E Content Limit: Use common pieces of technology as the foundation for items that lead students to see the Role technology has in advancing science.</p>
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Learning Context: Students will utilize the scientific method used to learn principals of modern rocketry.

Materials/Resources: Alka-Seltzer, Film Canisters, Water, Graph Paper, Pencils

Evaluation: Teacher evaluation of graphs.

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Subject: How does technology impact Science?	Teacher: Lori Baldwin, Rick Alm, Julie Kauer
Lesson Name: Space Travel	Location: Classroom
Day 3 LiLI Resources	
Class: Freshman Earth Science	Unit Context: Technology and Science
Date: 03/12/09	

<p>Activities</p> <p>Have teacher/librarian introduce LiLI science databases to students.</p> <p>Have students conduct research on the Planet they have picked from our Solar System to decide what a probe would need to be able to survive the conditions of that planet.</p> <p>Type one page paper with citations to hand in at the end of the hour.</p>	<p>Big6™ Skills</p> <p>TD ~ Students will pick a planet in our solar system and write a one page paper with citations using information found from a LiLI science database to learn about their planet and decide what a probe would need to be able to survive the conditions of that planet.</p> <p>ISS ~ Students must determine which LiLI source to use.</p> <p>L&A ~ Locate article within LiLI source to find information on planet.</p> <p>Synthesis ~ Write a one page summary from findings with citations.</p>	<p>Idaho Science Standards</p> <p>Objective: Goal 5.2 Understand the Relationship between Science and Technology</p> <p>Objective 2 9-10.B.5.2.2 Explain how technology advances science. (655.01a) CL:E Content Limit: Use common pieces of technology as the foundation for items that lead students to see the Role technology has in advancing science.</p>
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Learning Context: Students are going to learn about the conditions of the planet they have picked from our solar system to help them construct a rocket in the next lesson.

Materials/Resources: Julie Kauer Teacher Librarian, Media Center Computers, Word Processor

Evaluation: Teacher will evaluate knowledge from summaries from rockets in next lesson.

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Subject: How does technology impact Science?	Teacher: Lori Baldwin, Julie Kauer, Rick Alm
Lesson Name: Space Travel	Location: Classroom
Day4 Construct a Nose Cone	
Class: Freshman Earth Science	Unit Context: Technology and Science
Date: 03/13/09	

<p>Activities</p> <p>Give students their two liter bottles, and their nose cones.</p> <p>Tell students they will be constructing a nose cone to cap their two litter bottle that would survive their solar system planet they typed a paper on yesterday.</p> <p>Evaluate Nose Cones</p> <p>Launch Water Bottle Rockets with Nose Cones.</p>	<p>Big6™ Skills</p> <p>TD ~ Students will construct a nose cone to go over a 2 liter bottle that demonstrates they know the conditions of the planet they want to send their probe to for exploration.</p> <p>ISS ~ Students need to brainstorm items they could use for nose cone.</p> <p>L&A ~ Students must locate materials for nose cone.</p> <p>Uof I~ Students use information from paper from LiLI databases to gather appropriate materials.</p> <p>S ~ Students construct nose cone for rockets, and present the features on that cone specific to the planet they are going to.</p> <p>E ~ Peers and Teachers evaluate the nose cone through class discussion to determine if it would survive on that planet.</p>	<p>Idaho Science Standards</p> <p>Objective: Goal 5.2 Understand the Relationship between Science and Technology Objective 3 9-10.B.5.2.3</p> <p>Explain how science and technology are pursued for different purposes. (656.01b)</p> <p>CL:E</p> <p>Content Limit: Items should address the role of technology in applying science to improve some aspect of human life, and the role of science in answering questions and extending knowledge.</p>
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Learning Context: Students are going to apply their knowledge learned from LiLI to construct A rocket nose cap that shows they understand the conditions of the planet they researched.

Materials/Resources: Nose cone materials to be determined by student, two liter bottles, air compressor, water.

Evaluation: Peers and Teachers evaluate the nose cone through class discussion to determine if it would survive on that planet.