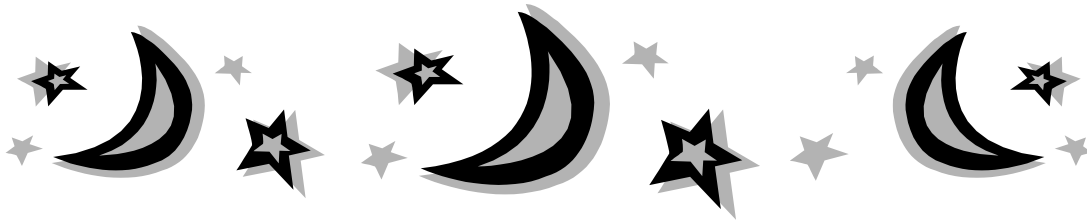


Star Station

Stardate: Sometime in the not-to-distant future

The Challenge: The president has announced that the first space colony will be built on the moon. The stations were to be self-sufficient for one year. She has decided to accept proposals from many teams to design the “Space Station Habitat.” Seven teams selected to present proposals are in this science class.



Part 1

Initial Planning Stage:

- ★ Brainstorm with your group
- ★ Create a list of what living things (humans, animals, plants) need to survive – write your list in your Space Journal
 - Food
 - Water
 - Shelter
 - ????????
 - ????????
- ★ Use the research materials in the classroom to help make your list. Make a note in your journal of the source of information in case you need to refer to it later.

Part 2

Continued Planning Stage:

- ★ Brainstorm with your group
- ★ Generate a list of what you need to know about the moon – write your questions in your Space Journal
 - Atmosphere
 - Geography
 - Temperature
 - Length of day & night
 - ????????????
- ★ Use the research materials in the classroom to answer your questions in your Space Journal. Make a note in your journal of the source of information in case you need to refer to it later.
 - Your text book
 - Other books
 - Internet
 - Handouts



Part 3

Final Planning Stage:

- ★ Based on what you now know about the moon & the requirements for life, create a list of what will be needed to survive on the moon for 1 year. Write this list in your Space Journal

Part 4

Initial Design Stage:

- ★ Now that you know what is necessary for living on the moon, design a station / habitat suitable for 50 humans living on the moon for 1 year. There will be no trips back to Earth during this time. The habitat must be completely self-sustaining.
 - Brainstorm ideas in your group first – write down notes & ideas in your Space Journal
 - Come to consensus (this means you all agree) on what must be in the habitat
 - Use plain white paper to make a “rough draft” or preliminary design of the habitat.
 - Discuss what will work in this habitat and what must be changed
 - Revise the habitat as needed
 - Keep ALL copies of designs. Staple these together.
 - Repeat the drawing & revision process until the group is satisfied that a good design has been created.



Part 5

Final Design Stage:

- ★ Use the art paper, map pencils, and a ruler to make a quality drawing of your space habitat.
 - Label all parts of the habitat
 - Use color to show the different parts of the habitat
 - Neatness is important

Part 6

Presentation Stage:

- ★ You must be able to convince NASA and the president that your habitat will truly support life for an extended period of time. To do this you must include a **written description** of your station / habitat with your drawing.
 - It must include:
 - A description of ALL conditions necessary for human survival on the moon
 - An explanation of how the station / habitat meets those conditions for survival
 - A description of factors included in the habitat that are not necessary for life, but were included to make the year-long stay as pleasant as possible
 - A cover sheet for your written proposal with the names of the Design Team & the name of the habitat

Evaluation

These are the rubrics that will be used to assess your project.
Use them to guide your work. Refer to them often to make sure
you are “on track.”

<i>Part 1: Initial Planning Stage</i>					
	<i>Exemplary (100)</i>	<i>Proficient (90)</i>	<i>Beginning (80)</i>	<i>Incomplete (70)</i>	<i>Missing (0)</i>
<i>Space Journal Response</i>	Evidence of much thought and research. Extensive list of ideas. Many resources used to gather information.	Evidence of some thought and research. Significant list of ideas. Several resources used to gather information.	Evidence of some thought and research. Inaccurate information recorded. Few resources used to gather information.	Evidence of limited effort in generating ideas and gathering information. Few or no sources used to gather information. Inaccurate information.	No response.
<i>Total Points:</i>					
<i>Part 1 Grade</i>					
<i>Part 2: Continued Planning Stage</i>					
	<i>Exemplary (50)</i>	<i>Proficient (45)</i>	<i>Beginning (40)</i>	<i>Incomplete (35)</i>	<i>Missing (0)</i>
<i>Space Journal Response – What you need to know</i>	Evidence of much thought. Extensive list of ideas.	Evidence of some thought. Significant list of ideas.	Evidence of some thought. Inadequate list of ideas,	Evidence of limited effort in generating ideas. Very limited list of ideas.	No response.

<p>Space Journal Response – What you found out</p>	<p>Evidence of much thought and research. Many resources used to gather information.</p>	<p>Evidence of some thought and research. Several resources used to gather information.</p>	<p>Evidence of some thought and research. Inaccurate in formation recorded. Few resources used to gather in formation.</p>	<p>Evidence of limited effort in gathering in formation. Few or no sources used to gather information. Inaccurate information.</p>	<p>No response.</p>
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<p>Total Points:</p>					
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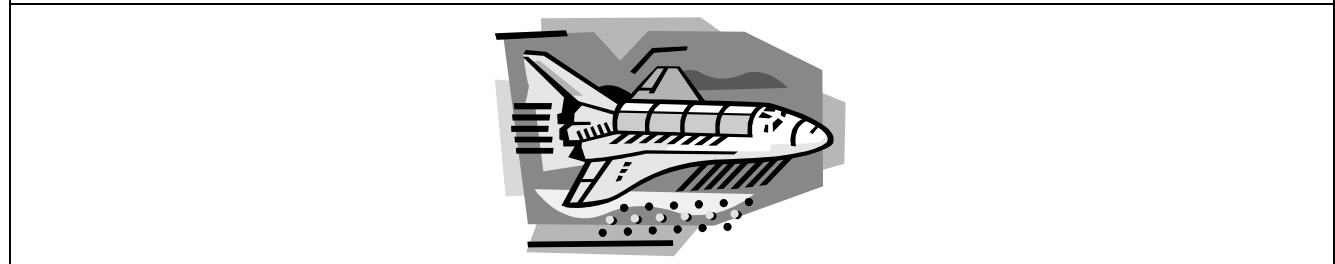
Part 2 Grade:

Part 3: Final Planning Stage

	<p>Exemplary (100)</p>	<p>Proficient (90)</p>	<p>Beginning (80)</p>	<p>Incomplete (70)</p>	<p>Missing (0)</p>
<p>Space Journal Response</p>	<p>Evidence of much thought. Extensive list of ideas. Ideas based on considerable research.</p>	<p>Evidence of some thought. Significant list of ideas. Ideas based on research.</p>	<p>Evidence of some thought. Inadequate list of ideas. Ideas based on inadequate research.</p>	<p>Evidence of limited effort in generating ideas. Very limited list of ideas. No evidence of research.</p>	<p>No response.</p>

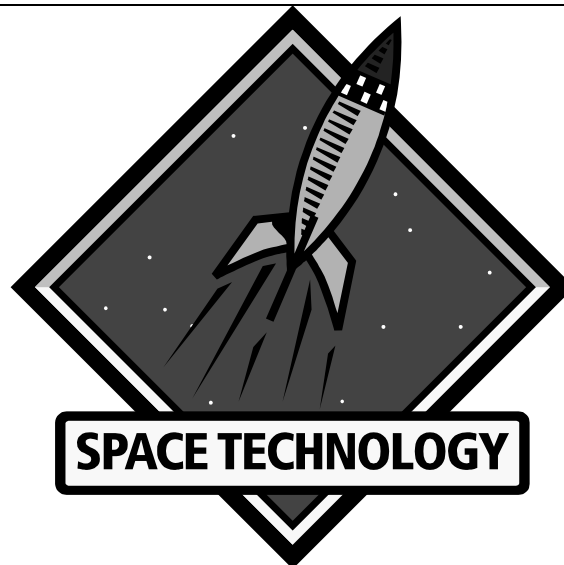
<p>Total Points:</p>					
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Part 3 Grade:



Part 4: Initial Design Stage					
	Exemplary (50)	Proficient (45)	Beginning (40)	Incomplete (35)	Missing (0)
Space Journal Response - Brainstorming	Evidence of much thought. Extensive list of ideas. Ideas based on considerable research.	Evidence of some thought. Significant list of ideas. Ideas based on research.	Evidence of some thought. Inadequate list of ideas. Ideas based on inadequate research.	Evidence of limited effort in generating ideas. Very limited list of ideas. No evidence of research.	No response.
Preliminary Designs	Evidence of much planning and revising. At least 4 preliminary designs were considered and revised.	Evidence of some planning and revising. At least 3 preliminary designs were considered and revised.	Evidence of some planning and revising. At least 2 preliminary designs were considered and revised.	Little evidence of planning and revising. One preliminary design was considered.	No preliminary designs
Total Points:					

Part 4 Grade:



Part 5: Final Design Stage – Scientific Accuracy					
	Exemplary (100)	Proficient (90)	Beginning (80)	Incomplete (70)	Missing (0)
Station / Habitat Design	All parts of the station / habitat are scientifically reasonable and accurate. Design includes all conditions necessary to sustain life. Design includes conditions not absolutely necessary for survival, but needed to make life more pleasant.	All parts of the station / habitat are scientifically reasonable and accurate. Design includes all conditions necessary to sustain life.	Most parts of the station / habitat are scientifically reasonable and accurate. Design includes all conditions necessary to sustain life.	Several parts of the station / habitat are not scientifically reasonable or accurate. Design includes most conditions necessary to sustain life.	No design.
Total Points:					
Part 5 Grade 1:					
Part 5: Final Design Stage – Details of Drawing					
	Exemplary (33)	Proficient (30)	Beginning (27)	Incomplete (24)	Missing (0)
Labeling	All parts of design clearly labeled.	Most parts of design clearly labeled.	Some parts of design labeled. Labels unclear.	Few parts of design labeled. Labels unclear or confusing.	No labels

Color	Map colors appropriately used to clearly identify different sections of the habitat.	Map colors appropriately used to identify different sections of the habitat.	Map colors inappropriately used to identify different sections of the habitat. Map colors not used.	Colors are inappropriate. Do not identify sections of the habitat. Map colors not used.	No color
Neatness	Writing is neatly printed. No obvious erasure marks.	Writing is neatly printed. 1 obvious erasure mark.	Writing is printed. 2 -3 obvious erasure marks.	Writing is hard to read. Several obvious erasure marks.	Extremely messy, cannot make out any details in design.

