



3D Satellite

Name: _____

Project

Due Date: April 7th, 2016

Objective: Students will demonstrate their understanding their choice of satellite, either a "natural satellite (moon)" or a "Man-made Satellite." Students will identify the properties of the "Moon" or the functionality and purpose of the "Man-made Satellite."

Requirements to receive FULL CREDIT

1. Must be turned in on time, **NO LATE WORK ACCEPTED** for full credit.
2. Model must be 3 dimensional (viewable from most angles)
3. Must include either a "Natural Satellite (MOON)" or "Man Made (Artificial) Satellite" with accurate information regarding your choice of satellite
4. Must include a Placard (information display) representing either:
 - A) **Natural Moon:** 8-10+ facts/information about the moon. Possible ideas to include are: planet it belongs to, size, chemical composition of surface and atmosphere, density, additional moons orbiting same planet, date of discovery, or any other interesting details for the viewer. Write up can be in paragraph or bullet form. Extra Credit option available (see rubric).
 - B) **Man Made Satellite:** Explain the specific use of your manmade satellite (communications, gps, weather, telescope, etc...). Also, a component list of the different parts and their specific functions. Lastly, include the distance from the surface of the planet required to orbit the planet and not fall out of the sky due to gravity. List of component/function is ok. Extra Credit option available (see rubric).
5. Construction must be sturdy enough to transport to and display in the classroom.



Grading: The project is worth **50 points**. **Projects are 20% of your grade**. To receive full credit, **ALL** of the above requirements must be met with a quality effort. Missing any components listed above (see rubric for accurate requirements) or making a model lacking the 3 D aspect of the project will result in a reduced score. Extra credit options are available for each project. See rubric on the reverse side for grading information.

Materials: This project is to be completed at home with the use of common household materials or with inexpensive craft store materials. Use recycled materials if available. Please be creative and crafty but make something sturdy so it can be successfully transported to school to be shared and graded.

Restrictions:

- Overall size of Model can be no larger than 30cm x 30cm x 30 cm.
- Placard/Satellite information must be typed or neatly printed in ink (no pencil or ball point pen).
- Models may NOT use foods that are perishable, attract ants, spoil, or create a mess in the classroom.
- All models must be complete, accurate, neat, and on time to receive full credit.

Transporting to Class: Bring your model to class during the week of April 4 - 7 (Monday - Thursday). If you are going to be out of town past the 7th, please arrange a due date with the teacher. - **5 points for each day late**.

Name: _____ Period _____ Date _____

3D Satellite Model Project Rubric

Project Choice: Moon / Satellite

Assignment	Points	Poor	Average	Excellent
Construction and Design of Satellite Model	/15	0-5 points Model is 2 D or drawn on a flat surface. Model is of poor construction and/or is incomplete.	6 - 10 points Model is 3 dimensional but is not viewable from most sides. Model is complete but is flimsy or falling apart.	11-15 points Model is 3 dimensional and can be viewed from most angles. Model is intact and sturdy. Model clearly represents the intended satellite of choice.
Accuracy of Satellite Model	/15	0 - 5 point Distinct features of satellite are missing or are modeled with little accuracy. Moon lacks round shape. Man-made satellite lacks complexity.	6 - 10 points Distinct (moon) features are represented with minor inaccuracies. Man-made satellite lacks realistic features or has limited components/ features.	11 - 15 points Distinct surface features are accurately depicted (moon). Man-made satellite offers a variety of components and components are noticeable on the structure.
Satellite Information Placard	/7	0-3 points Satellite placard is incomplete and/or written with pencil or ball point pen. Limited facts (4-5) or components (1-2) are available. Sentences lack depth in content or are poorly written/below grade level.	4-5 points Satellite placard is there but only offers (6-7) facts. Man-made satellite only offers 3-4 component/features. Explanations of features are limited and/or are unclear. Sentences are at grade level but lack depth in content.	6-7 points Satellite placard is full of information/facts (8-10+) and is written/typed at or above grade level. Sentences are insightful and do not repeat facts. Man-made satellite offers a variety of components /features and each is purposefully explained.
Display of Information	/5	0-1 point Information is displayed but is sloppy or is displayed a part from the model. Display is ripped, smudged, or displayed haphazardly. Not viewable with the model or requires holding to view.	2-3 points Information is displayed neatly but has a few noticeable mistakes/ errors. Display is not attached to the model but is viewable as a component of model.	4-5 points Information is carefully crafted and displayed. Information is a part of the model and/or is easily viewable with model. Display of information is neatly positioned for viewer.
Overall Effort and/or Creativity	/8	0-3 points Overall effort to match the real object or realism of model is limited. Creativity is lacking and/or model was quickly thrown together. Model is incomplete.	4-6 points Effort is at grade level but details are limited or overlooked. Model shows effort and is complete. Minor mishaps in construction are viewable.	7-8 points Effort is at or above grade level. Model clearly took effort to create and complete. Model shows realism and quality is displayed throughout. The work of an all-star!
Extra Credit Options	A) Moon model explains in detail if the moon is or is not habitable. Evidence supports your position either way, discussing why or why not. 5 extra (Moon) points		B) Man-made satellite model offers a full cost analysis to build and launch into orbit. Price is broken down in detail and is an accurate/realistic breakdown. 10 extra (Man-made) points	

Total _____/50

Comments: