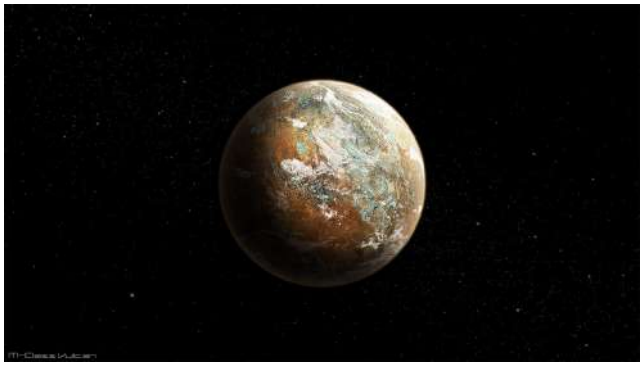
Solar System Project



<u>READING NEWS!!!</u> Since the beginning of time scientist have long wondered if there were any other planets in the universe that could support life. Finally, there has been a breakthrough by you and your team of Hampton astronomers. You reported back to mission control that your planet was discovered just pass Neptune and now our solar system has 9 planets! You and your crewmates have explored your planet and discovered new life forms! You and your team are finalizing your research and will be traveling back to Earth to share models, pictures, facts and other various pieces of important information about the new planet.

Upon your arrival back to Earth, your crew will make a poster summarizing all you have discovered about your planet and the life on it. All the crew members will work together on it. The group commander will make sure that all the required information is included. You will then create a 3D model that shows the entire Solar System, in order, WITH YOUR NEW PLANET IN THE MODEL. Finally, you and your crew will hold a press conference for NASA, the news and other media outlets to report your findings and show your solar system model.

WE ARE EXCITED TO HEAR ABOUT THEIR DISCOVERY!!!

The majority of the **<u>research</u>** for this project will be completed in class with the assistance of Coach Cohen. **<u>You will receive 3 grades for this project</u>**. The list below describes what the 3 grades are:

1) Poster Board
2) 3-D Model
3) Presentation

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STEP 1 (POSTER BOARD):

Once you have finished "exploring" your planet, you will need to report the following information that you discovered about your planet, information may be displayed on poster paper, trifold board and/or multi-media program (example: PowerPoint, Google Slide, etc):

1) Name of planet, year discovered & name of astronauts who discovered it (You)
2) Where/how it got its name
3) Size of your planet
4) Color of your planet
5) Composition of your planet/what is it made up of?
6) Average temperature on the planet?
7) How far away is your planet from the sun?
8) What is the atmosphere made of?
9) Geographic Features of your planet (Mountains, continents, oceans, etc.)
10) How many moons does your planet have? What is the names of the moon(s)?
11) How long does it take your planet to revolve around the sun? (Hint: How many days is in the year? *Example: It takes Earth 365 days to revolve around the sun*)
12) How long does it take your planet to rotate on its axis? (Hint: How many hours is in the day? *Example: It takes Earth 24 hours to rotate on its axis*)
13) Surface features (Continents, Mountains, Oceans, Volcanos, etc…)
14) Economic potential of your planet (gold, oil, gas, valuable minerals, food, etc…)
15) Potential impact of life on the planet/threats? (*Example: Earth has tornados, tsunamis, hurricanes, acid rain, World Wars, etc…)*
16) How "life forms" survive on your planet (*Example: Diet/what they eat, how they breathe, etc...)*

TIPS TO HELP YOU COMPLETE STEP 1:

- USE YOUR IMAGINATION! BE AS CREATIVE AS YOU CAN! THERE ARE ENDLESS POSSIBILITIES!!!!!!
- Groups can decide for themselves who will do what in describing their planet. It is the group commander's responsibility to see to it that the planet is described adequately.
- Posters may contain writing, drawings, designs or anything else you think will make it look good and tell people about your mission. You may write/draw directly on the poster, or you can work on paper and attach the paper to the poster. You may cut things out of magazines, newspapers, etc., or print things from the computer and attach them to the poster.
- Posters may include samples collected from your planet, (rocks, life forms, artifacts, whatever), **but these are not required.**
- You may even include a short video of your "encounter" with the humans/aliens that you met, **but these are not required**
- Once you have found out all the answers to the questions above add some extra interesting facts about your planet.

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STEP 2 (MODEL):

Once you have completed putting together your information for your presentation, NASA would also like for you to create a 3-D model of the *new* solar system that includes our Sun, the original 8 planets AND your newly discovered 9th planet. THERE ARE NO LIMITATIONS TO THE MODEL; YOU CAN USE ANYTHING YOU LIKE! But remember, the sun and planets must be proportionate and demonstrate a clear understanding of the size and scale of the planets in our solar system.

1) You must have the Sun and all 9 planets (8 original planets & your new planet)
2) The sun needs to be the biggest object. Try to keep the planets in proportion. (*Example: Earth should not be larger that Jupiter, etc...*)
3) All objects must be labeled correctly and clear/easy to read (*Refer to the model hanging in my classroom*)
4) You should be able to give 3 facts about each object in the Solar System. (*You can include the facts on your project or on index cards.*)
5) The planets should be colored correctly. Follow the color patterns below:
   - **Mercury:** Color the planet yellow. Color over the yellow with light brown.
   - **Venus:** Color the planet yellow. Color over the yellow with light brown.
   - **Earth:** Color the land – brown or green, water – blue, clouds – white.
   - **Mars:** Color the ice caps white. Color the rest of the planet orange. Color over the orange with light red.
   - **Jupiter:** Color the planet orange, yellow, red, and light brown. Make the Great Red Spot dark red.
   - **Saturn:** Color the planet yellow and light orange. Color the rings light yellow.
   - **Uranus:** Color the planet blue-green.
   - **Neptune:** Color the planet blue. Color the clouds white. Make the Great Dark Spot dark blue.
   - **Your Planet:** However you saw it when you "discovered" it.

TIPS TO HELP YOU COMPLETE STEP 2:

- You may use anything you like to do the project. A coat hanger, a box, dowel rods/skewers, Styrofoam balls, food, whatever you would like!
- You may use any supplies I MIGHT have, but the majority of supplies will need to be brought from home. Your groups need to figure out what you would like to use as a visual and get the supplies needed.
- If you need supplies or help with the project, be sure to ask me! I will help however I can, but don't wait until the last minute
- You may work on the model in class, since this is a group project OR you may choose to split the project. (1 astronaut complete step 1 & 1 astronaut complete step 2).

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STEP 3 (PRESENTATION):

Now it's time! NASA and all news/media channels will hold a press conference on **FRIDAY MAY 11th, 2018** for you and your team of astronauts to present all of your findings. The press conference will be 5–8 minutes, this is not a very long time so please be sure to highlight the most important information.

TIPS TO HELP YOU COMPLETE STEP 3:

- Each astronaut will need to speak during the presentation. I will expect everyone to have a part. You will need to decide as a group who will say what.
- Make sure you answer all the questions from step 1 & 2 in your presentation.
- I have had students dress up in the past. This is not a requirement but it does make the presentations extremely fun
- Remember to be as creative as you want!

Poster Board and Model Rubric

CATEGORY	4	3	2	1
Proportion/Scale	All of the planets are roughly proportional to each other. Most of the planets are proportional to each other. There are a couple of mistakes with the proportions of the planets. Planets are not correctly proportioned. (Mars should not be larger that Jupiter.)	All of the planets are roughly proportional to each other. Most of the planets are proportional to each other. There are a couple of mistakes with the proportions of the planets. Planets are not correctly proportioned. (Mars should not be larger that Jupiter.)	All of the planets are roughly proportional to each other. Most of the planets are proportional to each other. There are a couple of mistakes with the proportions of the planets. Planets are not correctly proportioned. (Mars should not be larger that Jupiter.)	All of the planets are roughly proportional to each other. Most of the planets are proportional to each other. There are a couple of mistakes with the proportions of the planets. Planets are not correctly proportioned. (Mars should not be larger that Jupiter.)
Knowledge Gained	Student can accurately answer all questions related to facts in the poster and/or model, and processes used to create the poster.	Student can accurately answer most questions related to facts in the poster and/or model, and processes used to create the poster.	Student can accurately answer about 75% of questions related to facts in the poster and/or model, and processes used to create the poster.	Student appears to have insufficient knowledge about the facts or processes used in the poster and/or model.
Graphics - Relevance	All graphics are related to the topic and make it easier to understand. All borrowed graphics have a source citation.	All graphics are related to the topic and most make it easier to understand. All borrowed graphics have a source citation.	All graphics relate to the topic. Most borrowed graphics have a source citation.	Graphics do not relate to the topic OR several borrowed graphics do not have a source citation.