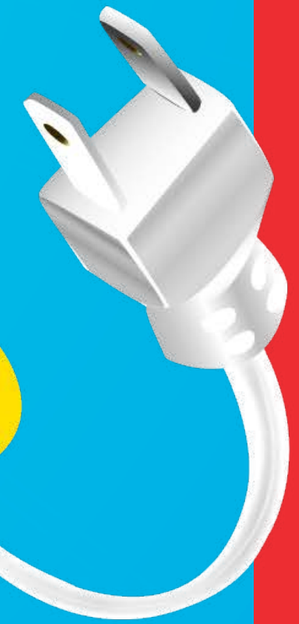
The BOWERS kidseum

PRESENTS

KIDSEUM AT HOME

Creative fun and learning for the entire family, all from the comfort of home!



Introduction to SPACE ENCOUNTERS

FAMILIES WILL LEARN ABOUT OUTER SPACE AND ALL THE CELESTIAL BODIES THAT INHABIT IT.

THEY WILL ALSO LEARN ABOUT MODES OF TRANSPORTATION ASTRONAUTS USE AND OTHER TECHNOLOGIES.

1 SPACE SCAVENGER HUNT

AGES

5-11 years old

SKILL LEVEL

Beginner

DESCRIPTION

Children will learn about the sun, moon and planets in our solar system by searching for them around their homes. They will sketch out what they find so they can compare planets

MATERIALS

Pencils	Erasers
Colored Pencils / Crayons	Handout*
Answer Key*	Fun Fact Notes*

Note: (*) Parents can print the handout and fun fact notes provided. If no printer is available, select fun facts can be handwritten and children can sketch on blank paper.

1. As your parents hide notes about the planets around your home, children can gather pencils, erasers, crayons or colored pencils and a copy of the handout provided.
2. When ready, go around and start looking for the hidden notes.
3. Each time you find a note, draw a sketch of the planet you've found and write down 2 fun facts you learned.
4. Continue the game until you have found them all.

Space Scavenger Hunt

We have been sent on a mission to find other planets and astral bodies inside our home! Get your space helmets on and let's start our adventure.

The BOWERS Kidseum
AT HOME

Mercury:

Fact 1: _____

_____

Fact 2: _____

_____

Sketch

Mars:

Fact 1: _____

_____

Fact 2: _____

_____

Sketch

Venus:

Fact 1: _____

_____

Fact 2: _____

_____

Sketch

Jupiter:

Fact 1: _____

_____

Fact 2: _____

_____

Sketch

Earth:

Fact 1: _____

_____

Fact 2: _____

_____

Sketch

Saturn:

Fact 1: _____

_____

Fact 2: _____

_____

Sketch

The BOWERS Kidseum AT HOME

Uranus:

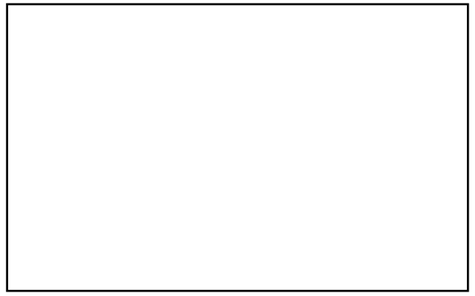
Fact 1: _____

_____

Fact 2: _____

_____

Sketch



Moon:

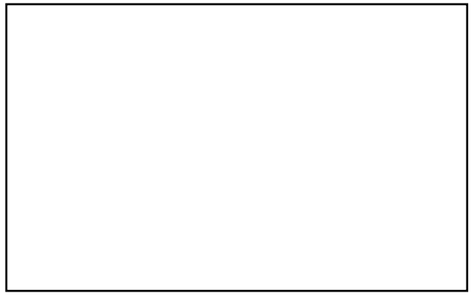
Fact 1: _____

_____

Fact 2: _____

_____

Sketch



Neptune:

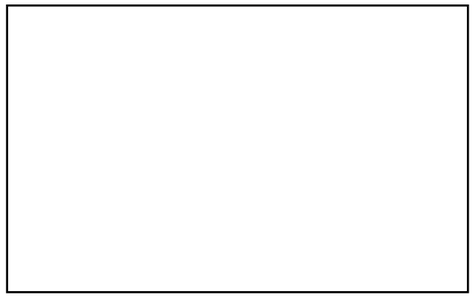
Fact 1: _____

_____

Fact 2: _____

_____

Sketch



Sun:

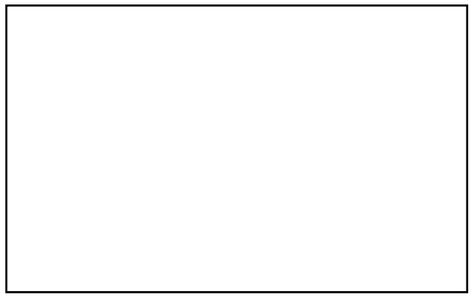
Fact 1: _____

_____

Fact 2: _____

_____

Sketch



Asteroid:

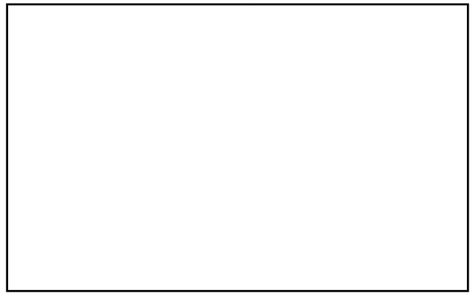
Fact 1: _____

_____

Fact 2: _____

_____

Sketch



International Space Station (ISS):

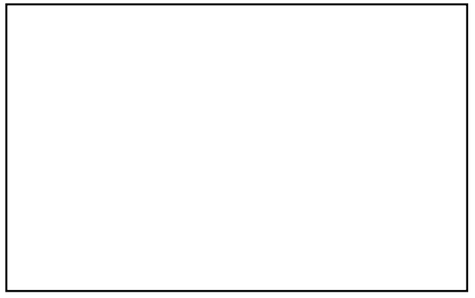
Fact 1: _____

_____

Fact 2: _____

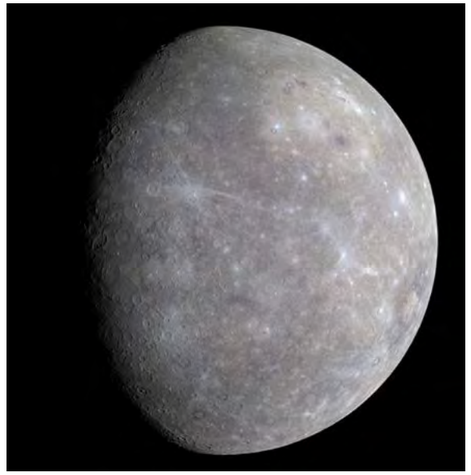
_____

Sketch



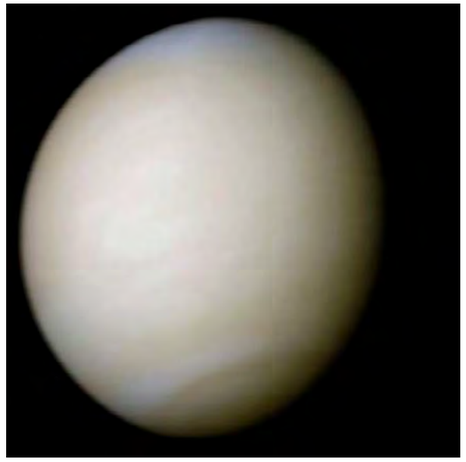
Fun Facts:

Mercury:



- Mercury does not have any moons or rings.
- Mercury is the smallest planet in the Solar System.
- Mercury is the closest planet to the Sun.
- Your weight on Mercury would be 38% of your weight on Earth.
- A day on Mercury lasts 176 Earth days.
- A year on Mercury takes 88 Earth days.
- It's not known who discovered Mercury.

Venus:



- Venus does not have any moons or rings.
- Venus is nearly as big as the Earth.
- Venus is thought to be made up of a central iron core, rocky mantle and silicate crust.
- A day on the surface of Venus would take 117 Earth days.
- A year on Venus takes 225 Earth days.
- The surface temperature on Venus can reach 471 °C.

Earth:

- The Earth's rotation is gradually slowing.
- The Earth was once believed to be the center of the universe.
- Earth has a powerful magnetic field.
- The Earth only has one moon.
- Earth is the only planet not named after a god.
- The Earth is the heaviest planet in the Solar System.

Mars:

- Mars and Earth have about the same land mass.
- Mars is home to the tallest mountain in the Solar System.
- There are signs of liquid water on Mars.
- Mars has the largest dust storms in the Solar System.
- On Mars, the Sun appears about half the size as it does on Earth.
- Pieces of Mars have fallen on Earth.
- Mars takes its name from the Roman God of war.
- Mars has 2 moons.

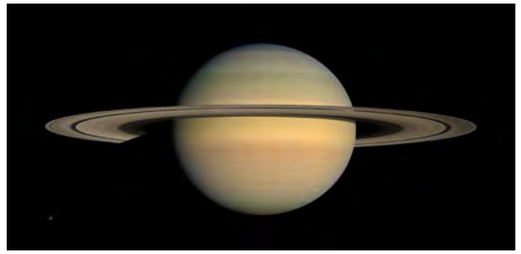
Fun Facts:

Jupiter:

- The ancient Babylonians were the first to record their sightings of Jupiter.
- Jupiter has the shortest day of all the planets, lasting only 9 hours and 55 minutes.
- Jupiter orbits the Sun once every 11.8 Earth years.
- Jupiter has unique cloud features.
- The Great Red Spot is a huge storm on Jupiter that has been raging for 350 years.
- Jupiter has 79 moons and a very thin ring.

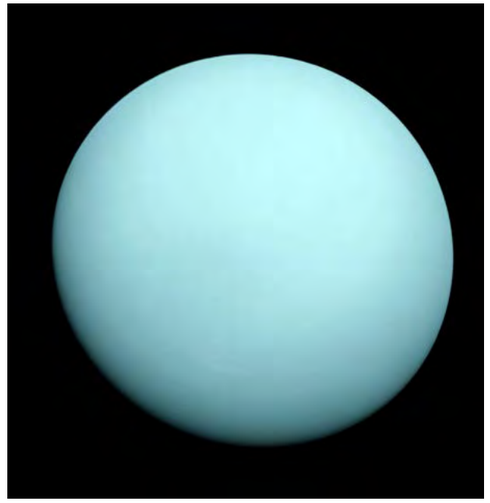
Saturn:

- Saturn can be seen with the naked eye.
- Was named after the Roman god Saturnus.
- Saturn orbits the sun once every 29.4 Earth years.
- Saturn has storms similar to those on Jupiter.
- Saturn is made up of mostly Hydrogen.
- Saturn has the most rings in the Solar System
- Saturn has 150 moons and smaller moonlets.



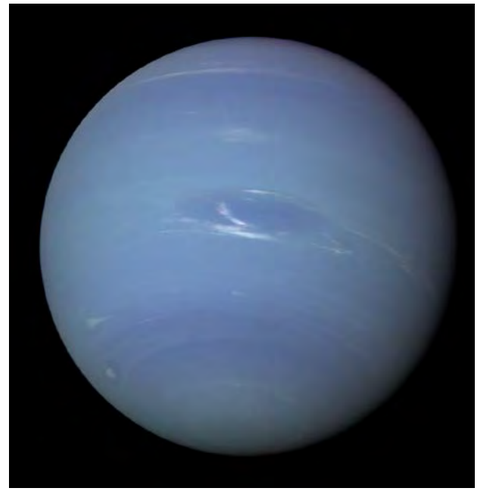
Uranus:

- Uranus was officially discovered by Sir William Herschel in 1781.
- Uranus turns on its axis once every 17 hours, 14 minutes.
- Uranus orbits around the Sun every 84 Earth years.
- Uranus is often referred to as an "ice giant" planet.
- Uranus is the coldest of any planet at -224°C.
- Uranus has two very thin rings.
- Only one spacecraft has flown by Uranus.
- Uranus has 27 moons.



Neptune:

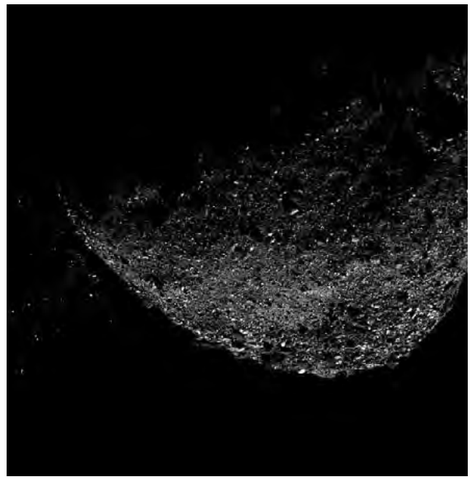
- Neptune is the farthest planet from the Sun.
- Neptune is the smallest of the gas giants and ice giants.
- A year on Neptune lasts 165 Earth years.
- Neptune was named after the Roman god of the Sea.
- Neptune has 5 very thin rings and 14 moons.
- Neptune also has storms that rage for years, the longest was 5 years.



Fun Facts:

Asteroid:

- Each day, more than 100 tons of asteroids fall toward Earth.
- Most of them are destroyed as they pass through our atmosphere.
- If something DOES hit the ground, it is known as a meteorite.
- Asteroid impacts aren't as frequent today.
- Asteroids are rich in precious metals and other metals, as well as water.
- Some asteroids have moons of their own and are referred to as minor planets or planetoids.

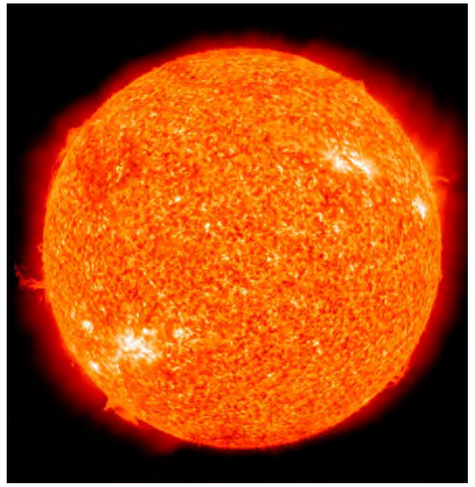


Moon:

- The dark side of the moon is a myth.
- The rise and fall of the tides on Earth are caused by the Moon.
- The Moon is slowly drifting away from the Earth.
- A person weighs 16.5% less on the Moon due to the weaker gravity.
- Only 12 people have been on the moon, all American men.
- The Moon has no atmosphere.
- The Moon also has quakes.

Sun:

- The Sun is all the colours mixed together, but appears white to us.
- The Sun is composed of hydrogen (70%) and Helium (28%).
- One million Earths could fit inside the Sun.
- The Sun will one day consume the Earth.
- The temperature of the Sun can reach up to 15,000,000°C.
- The light from the Sun takes 8 minutes to reach Earth.
- The Sun has a very strong magnetic field, which is why all the planets orbit it.



Internal Space Station (ISS):

- The International Space Station is the biggest object ever flown in space.
- It travels around the Earth completing 16 orbits per day.
- At night it can easily be seen from Earth.
- 16 countries worked together to build the Station.
- Many different types of experiments can take place both inside and outside this space laboratory
- ESA also makes the Automated Transfer Vehicle (ATV), a series of uncrewed spacecraft designed to take supplies to the ISS.
- The cargo craft delivers food, fuel, equipment and other supplies.

2 ROBOT FRIEND

The BOWERS Kidseum AT HOME

AGES

5-11 years old

SKILL LEVEL

Beginner/Intermediate

DESCRIPTION

Children will learn to make a robot friend using only found objects.

MATERIALS

Cardboard / Boxes	Glue / Tape
Scissors	Aluminum Foil
Water Bottles	Buttons* / Gems* / Bottle Caps
Construction Paper* / White	Plastic Utensils*
Cupcake Liner* / Coffee Filter*	Pencils / Erasers
Popsicle Sticks* / Twigs	Paper Cups* / Plastic*

Note: Anything with an (*) is optional. You do not need to have these materials.

1. After you have gathered all the materials, with help from parents, cut cardboard into various rectangular shapes (4 x 4-inch max) with scissors. Also, cut out some small circles and triangles (1 x 1-inch max).

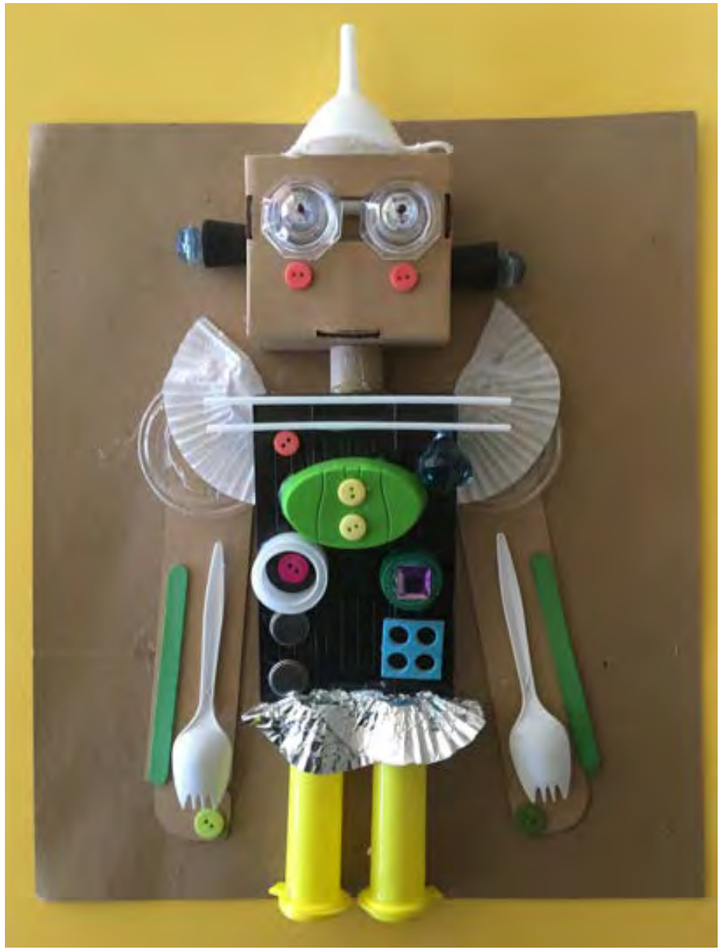
2. Once you have finished cutting, you may choose materials you would like to use for your robot, such as: cardboard, cups, plastic utensils, sticks and water bottles.

3. Your robot should have a head, body, arms and legs.

4. You can glue or tape your parts onto a sheet of paper making sure to place the parts how you would like the robot to look.

5. Once the body of your robot is ready, you can start adding buttons, gems, bottle caps, cupcake liners, coffee filters, foil or construction paper to decorate your robot. For example, beads can be used for the eyes and foil can be used on the outside to make it look metallic.

6. Add any final details and set the robot aside to dry.



3 SPACESHIP BOTTLES

The BOWERS Kidseum AT HOME

AGES

5 - 11 years old

SKILL LEVEL

Beginner

DESCRIPTION

Children will make a rocket using materials that are easily found around the house.

MATERIALS

Empty Water Bottles	Scissors
Glue Bottle / Tape	Aluminum Foil
Newspaper / Magazine	Colored Paper* / White Paper
Markers / Crayons	

Note: Parents should cut the foil into large squares, big enough to cover the bottle completely. Anything with a (*) is optional you do not need to have these materials

1. After you have gathered all the materials, with help from parents, begin cutting the aluminum foil.
2. Cover the outside of the bottle with glue.
3. Put the bottle on top of the foil.
4. Roll the bottle and cover it with the foil and crumple the edges. Leave it to dry.
5. Take colored paper, white paper, newspaper or magazine paper and cut them into:
    - 3 Triangles (wings and tip)
    - 2 Circles (windows)
    - 4 Squares (thrusters)
6. Once all shapes are cut you can add them to your bottle using tape.
7. 2 triangles go on the sides for wings and 1 triangle goes on top for the tip.
8. Each circle goes on either side for windows.
9. The 4 squares go on the bottom for thrusters.
10. After it's all together they can add decorations with markers or crayon.
11. OPTIONAL: cut strips of paper and tape to the bottom end for flames.

State and National Standards

Space Scavenger

California Content State Standards:

NEXTGENSCIENCESTANDARDS.6-8.ESS.3.1 The solar system consists of the sun and a collection of objects, including planets, their moons, and asteroids that are held in orbit around the sun by its gravitational pull on them.

HISTORY-SOCIALSCIENCE.K.4.2
Students compare and contrast the locations of people, places, and environments and describe their characteristics.

Robot Friend

California Content State Standards:

CAREERTECHNICALEd.7-12.HSMT.A.9.6
Understand that manufacturing represents inter- connectedness between science and production.

HEALTHEDUCATION.3.7.2.P
Demonstrate ways to reduce, reuse and recycle at home, at school, and in the community.

Visual and Performing Arts Standards:

VISUALARTS.K.2.7
Create a three-dimensional form, such as a real or imaginary animal.

VISUALARTS.4.2.3
Use additive and subtractive processes in making simple sculptural forms.

Spaceship Bottle

California Content State Standards:

NEXTGENSCIENCESTANDARDS.K.ESS.2.2
Things that people do to live comfortably can affect the world around them. But they can make choices that reduce their impacts on the land, water, air, and other living things.

HEALTHEDUCATION.3.7.2.P
Demonstrate ways to reduce, reuse and recycle at home, at school, and in the community.

Visual and Performing Arts Standards:

VISUALARTS.K.2.6
Use geometric shapes/forms (circle, triangle, square) in a work of art.

VISUALARTS.2.2.1
Demonstrate beginning skill in the use of basic tools and art-making processes, such as printing, crayon rubbings, collage, and stencils.