



U.S. SPACE MISSIONS

GEMINI 4

Part of Project Gemini, Gemini 4 launched on June 3, 1965. Project Gemini was part of the U.S. space program to explore space. The project followed Project Mercury, which introduced manned space flight. The Gemini missions were important, as they had two astronauts on board each flight.

The astronauts on Gemini 4 were Edward White and James McDivitt. The Gemini 4 mission performed many things for the first time:

- The first flight to go over one day. It was important for scientists to know if humans could stay in space long enough to travel to the moon.
- The first flight to be managed from the new Mission Control Center in Houston, Texas.
- The first flight to try and meet up with another spacecraft. While this was not successful, it gave scientists valuable information.
- Most importantly, Gemini 4 was the first flight where an astronaut would leave the capsule and go into space. Called a space walk, this was a dangerous, but important, objective of the mission. On June 3, for 20 minutes, Edward White left the capsule and floated in space. He was attached to the capsule by a cord. White took photographs of Earth during his space walk.

Gemini 4 splashed down safely on June 7, 1965 after four days in space. It had orbited the earth 66 times.



Astronauts Edward White and James McDivitt



Launch of Gemini 4

Q&A

How many astronauts were on board Gemini 4?

What is it called when an astronaut leaves the command module and floats in space??

What year was Gemini 4 launched?

How many days was the Gemini 4 in space?



Astronaut Edward White during his space walk.

Name _____

Date _____

WHAT IS A PLANET?

There wasn't a definition written for planet until 2006! According to the official definition, a planet is a celestial body moving in an orbit around a star that has no other bodies of similar size near it. When telescopes were invented and people began to look at the sky, they noticed some things they could see in the sky looked like stars, but acted differently. They appeared to be in different places at different times of the year. We later came to realize that these were the planets in our solar system.

We currently have eight planets and five dwarf planets in our solar system. A dwarf planet is an object that orbits around a star but is not powerful enough to have moved other objects away from it. Before 2006, there was another planet called Pluto. When scientists wrote out the definition of a planet, they realized Pluto did not fit. Pluto was renamed a dwarf planet in 2006.

Look at the astronomy words below. Use books or the internet to write a definition for each word.

star

orbit

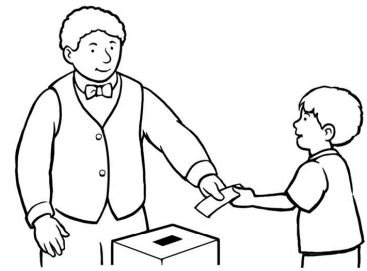
mass

satellite

moon

dwarf planet

Singular Possessive Nouns



A possessive noun shows ownership. Most singular possessive nouns are made by adding 's to them.

Rewrite each sentence to include a singular possessive noun.

1. She dropped the toy of the baby. She dropped the baby's toy.
2. He painted the house of my dog. _____
3. I wore the cap of my friend. _____
4. The class of Mr. Gee is in the hall. _____
5. The singing of Mom woke me up. _____
6. I washed the windows of the car. _____

Complete each sentence by adding a **singular possessive noun**
Add articles as needed.

1. Mrs. Brooks shook the president's hand.
2. I went with _____ sister to the zoo.
3. She threw _____ ball over the fence.
4. He searched through _____ rooms for the book.
5. Carlos rode _____ bicycle around the block.

How well can you follow directions?

Start with the string of numbers labeled "A". Follow the first set of directions and put the answer in the first box provided. Then cross out the numbers in string "A" that are used in the first set of directions. Write the unused numbers in string "A", in the same order, in the boxes provided. Continue with the next string of numbers (B, C, D, etc.) and set of directions (2, 3, 4, etc.).

A

9	4	2	9	8	5	4	1	0	3	6
---	---	---	---	---	---	---	---	---	---	---

EX. 1. Add the second number and fifth number. $(4 + 8)$

B

12	9	2	9	5	4	1	0	3	6
----	---	---	---	---	---	---	---	---	---

2. Multiply the third number and sixth number.

C

--	--	--	--	--	--	--	--	--	--

3. Multiply the fourth number and eighth number.

D

--	--	--	--	--	--	--	--	--	--

4. Add the last three numbers.

E

--	--	--	--	--	--

5. Subtract the fourth number from the second number.

F

--	--	--	--	--

6. Subtract the third number from the first number.

G

--	--	--	--

7. Add the first number, second number and fourth number.

H

--	--

8. Subtract the last number from the first number.

answer

--

Day 5

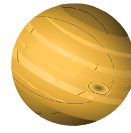
Reading	Do some online research to answer this Solar System Quiz!
Writing	Imagine what you would like a million of, write about what you would do with it.
Grammar Practice	Learn about the difference between these homophones and fill in the sentences correctly.
Math	Plus and minus have run away! Fix the equations so that they are complete.



Solar System Quiz

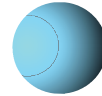
Draw a line from the fact to the object in the solar system.

1. The brightest object in the sky.



Jupiter

2. The biggest planet in the solar system.



Uranus

3. The coldest planet in the solar system.



Venus

4. The planet with the most life forms.



Mercury

5. The planet nearest the sun.



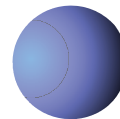
Sun

6. Hottest planet in the solar system.



Earth

7. The planet with the nickname "The Red Planet."



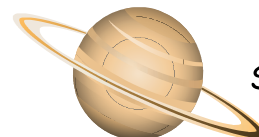
Neptune

8. Planet farthest from the sun.



Mars

9. This planet is so light, it could float in water.



Saturn

ANSWERS: 1. Sun 2. Jupiter 3. Uranus 4. Earth 5. Mercury 6. Venus 7. Mars 8. Neptune 9. Saturn

Fill-in-the-Blank

If I Had a Million...

What would you like one million of?
Fill in the blanks below to show what
you would do with it!

Example: If I had a million cats I would teach them how to fetch and dance. And then, I would open a cat circus, the first in the world, for all my friends to see. I would give Sasha 15 cats, and she would open a cat cafe so people who didn't have cats could come and play.



If I had a million _____ I would _____
plural noun

And then, I would _____

I would give _____ a number _____ same plural noun as previous
name of person

and they would _____

There, Their, or They're?

Complete each sentence with **there**, **their**, or **they're**.

The words **there**, **their**, and **they're** are often confused.

There is used to refer to a place. Example: Fred is over there.

Their means belonging to them. Example: This is their cat.

They're is a contraction meaning they are. Example: I hope they're coming.

They went to visit _____ aunt.

Please put your coats _____ .

Kim likes eggs only when _____ hard-boiled.

_____ house is almost one hundred years old!

Have you been _____ yet?

_____ looking for _____ lost cat.

Tomorrow, _____ throwing a graduation party.

_____ going to Hawaii for summer vacation.

_____ is no more milk left.

What did you see over _____ ?

On Sunday, _____ family plays tennis.

Eva played with _____ new puppy.



Runaway Signs

The plus and minus signs have run away! Now these equations are missing the **plus** and **minus sign**. Write the correct sign in each box.

$8 \square 12 = 20$

$42 \square 10 = 32$

$11 \square 6 = 5$

$12 \square 12 = 24$

$7 \square 9 = 16$

$55 \square 20 = 75$

$100 \square 75 = 25$

$87 \square 2 = 85$

$67 \square 22 = 45$

$20 \square 22 = 42$

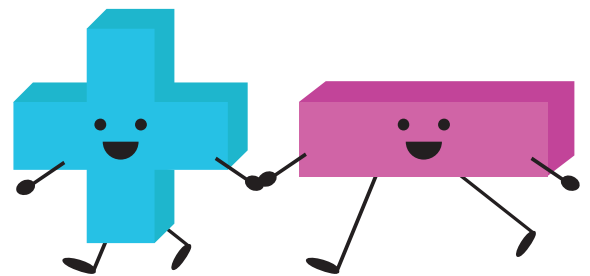
$34 \square 13 = 21$

$56 \square 16 = 40$

$150 \square 50 \square 20 = 120$

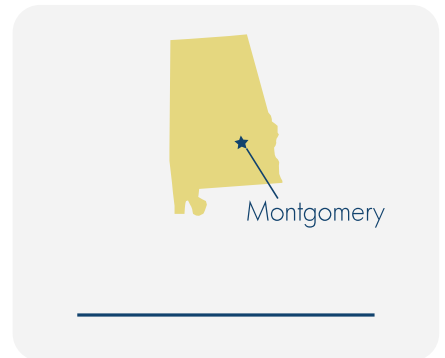
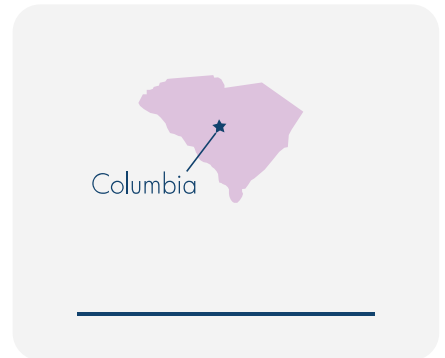
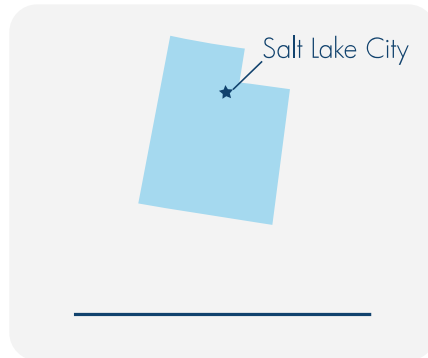
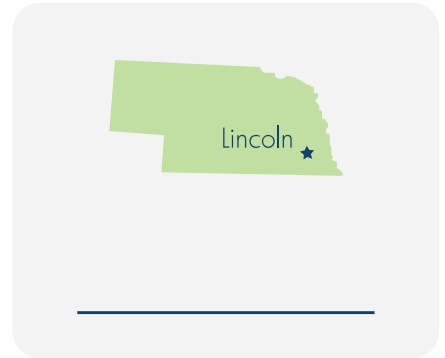
$12 \square 12 \square 20 = 4$

$20 \square 32 \square 4 = 56$



What's That State? 1

Use a map to help you identify the states by their shapes.
You can also use the state capitals as clues.

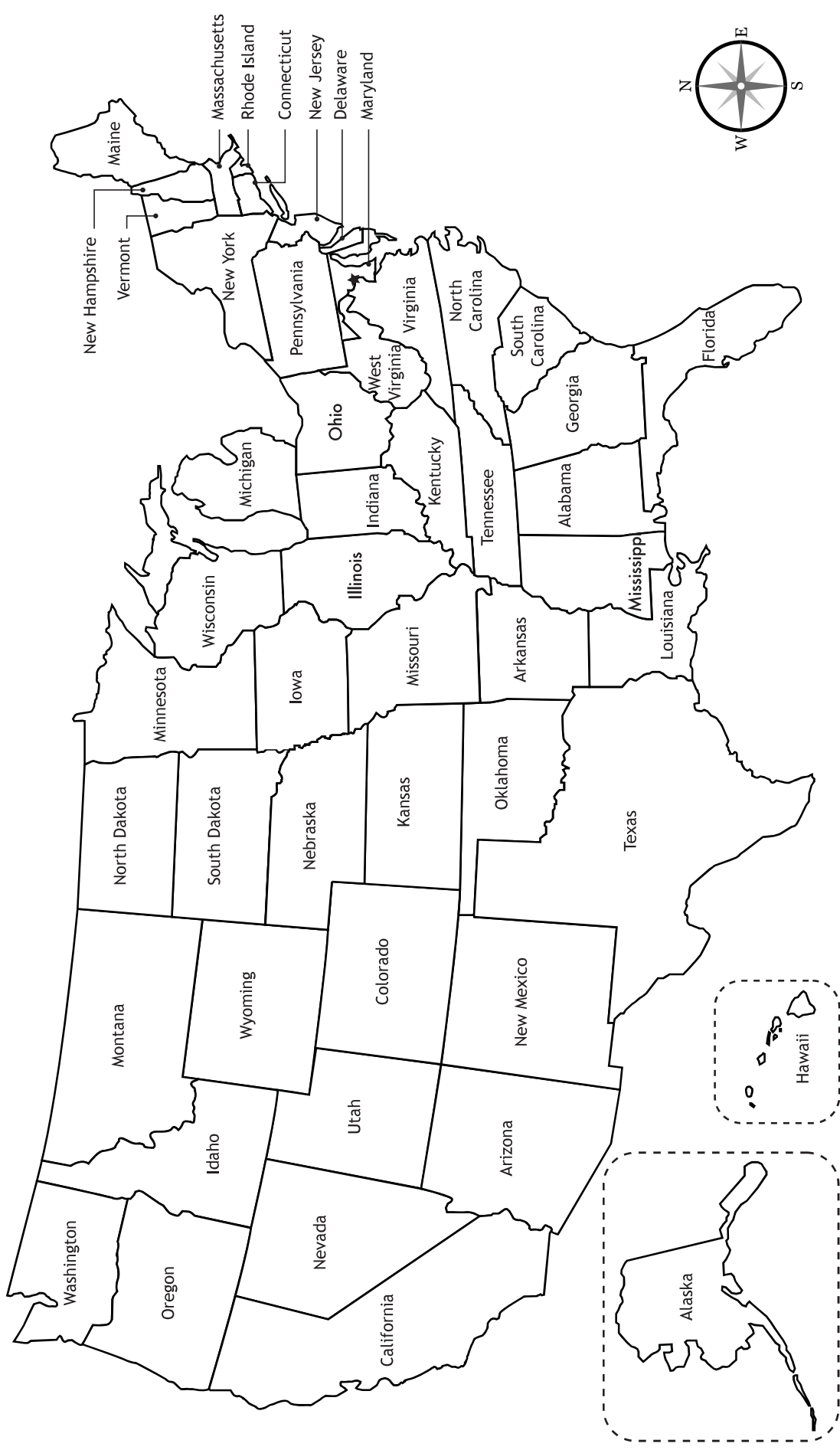


Color the States!

Color the state where you live **red**.

Color the states you have visited **green**.

Color the states you want to visit **blue**.



Note: Alaska and Hawaii are not to scale.

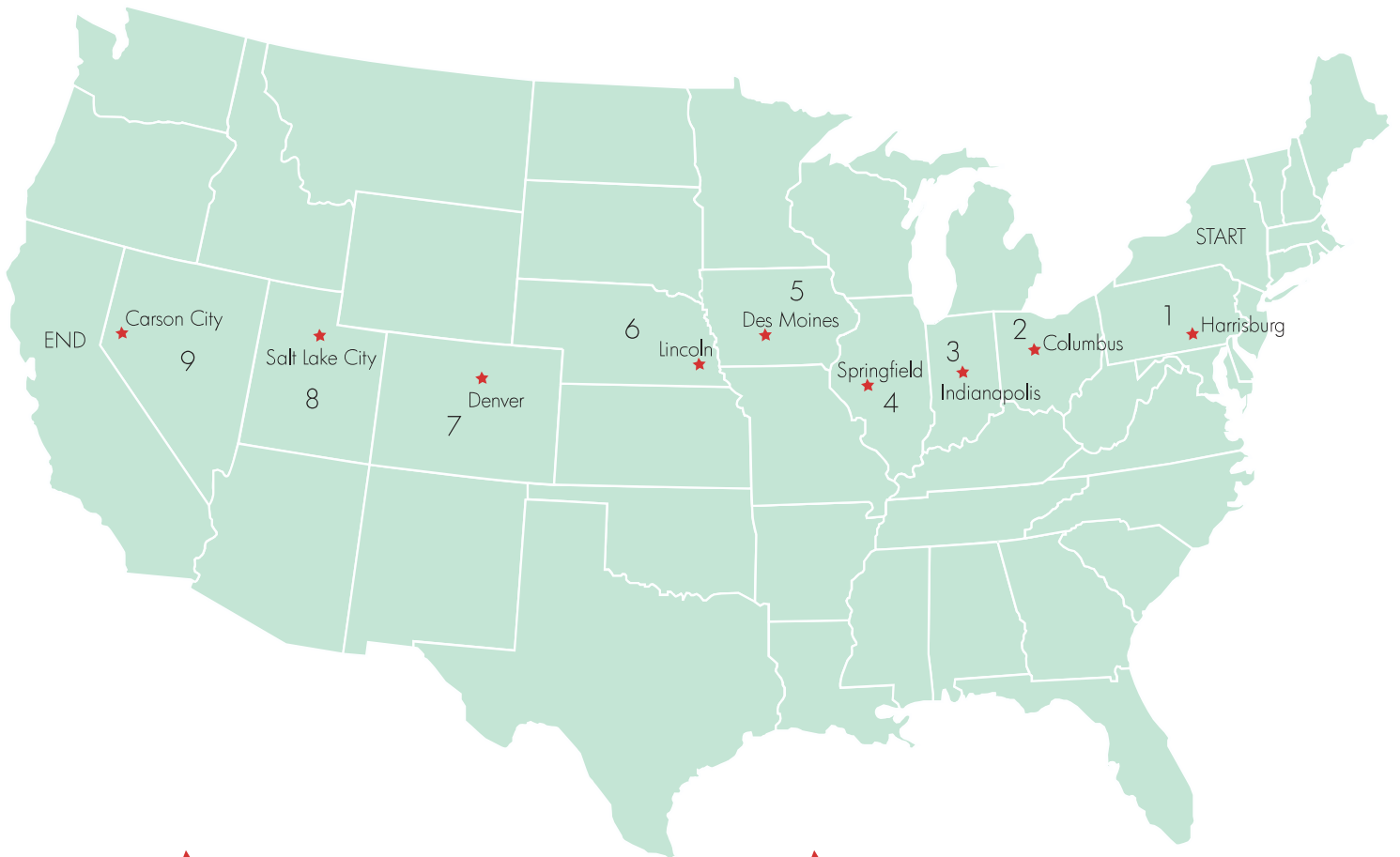
Color the States!

Look at the states you colored **green**. Why did you visit these states?

Look at the states you colored **blue**. Why do you want to visit these states?

Road Trip!

Samantha and Jordan are going on a road trip from New York to California. They are going to stop at the capital of every state they pass through. Can you name the states they will pass through?



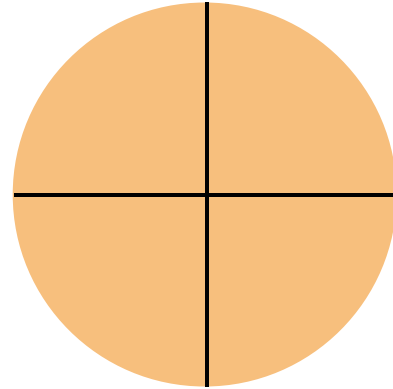
- ★ 1 _____
- ★ 2 _____
- ★ 3 _____
- ★ 4 _____
- ★ 5 _____

- ★ 6 _____
- ★ 7 _____
- ★ 8 _____
- ★ 9 _____

Make a Solar System Mobile

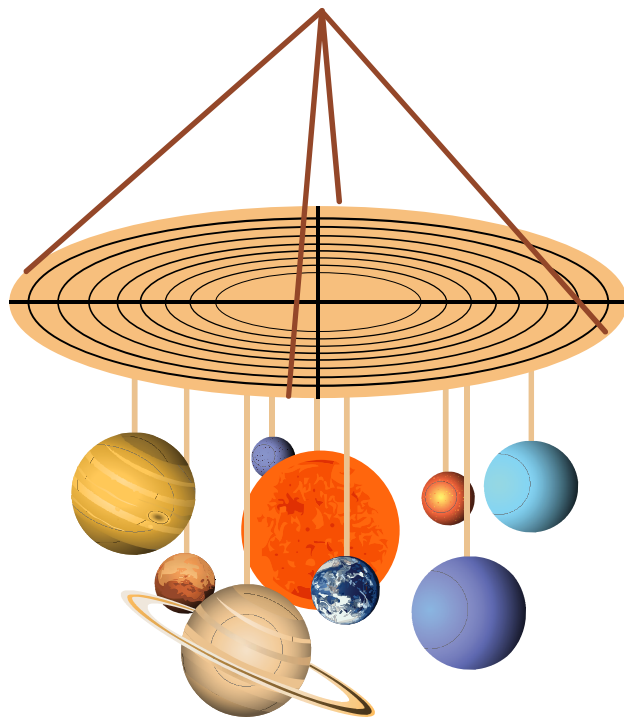
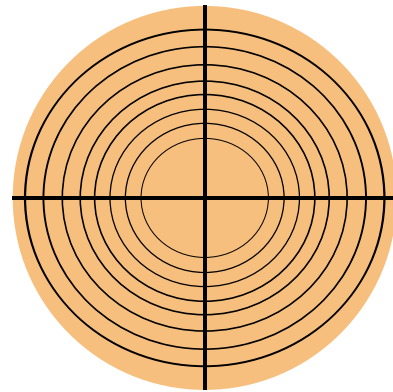
You will need:

- String or yarn
- Tape or glue
- Scissors
- Hole punch or large nail
- Cardboard circle (one from a pizza works great)



1. Print out the sun and 8 planets on the following pages. Cut out each planet. (If you want, print out two of each planet and glue them together so that each planet has two sides.) Attach a piece of string to each with a piece of tape.

2. Draw a cross down the center of a round piece of cardboard. Then, using a compass, draw 8 circles, each bigger than the last. These will be the orbits of your planets.



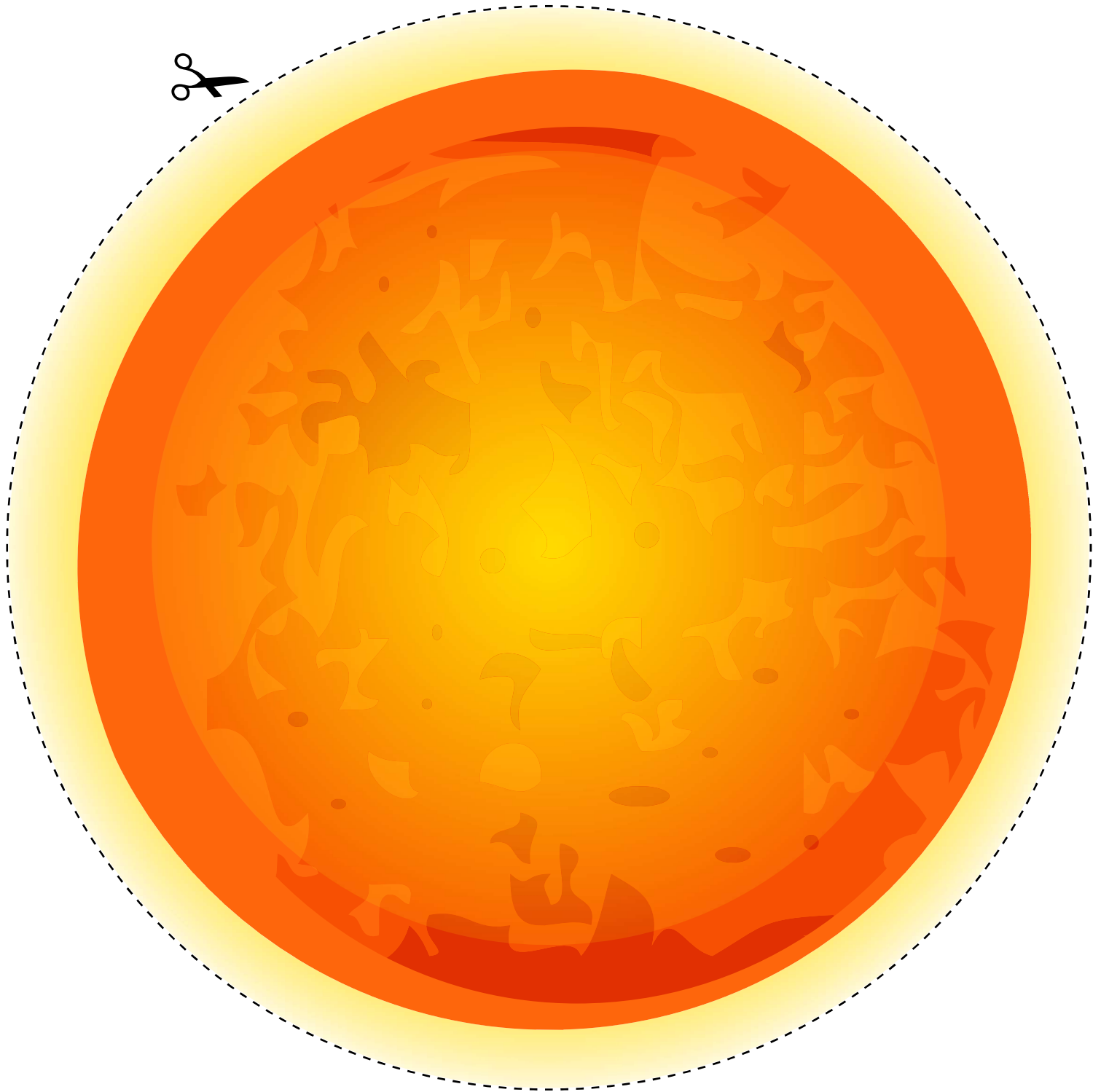
3. With a hole punch or a large nail, make holes in the middle of the cardboard for the sun. Then punch a hole on each orbit, spacing them out. Attach the sun in the middle, and each planet on its orbit in this order, from closest to the sun to farthest: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune.

4. To hang your solar system mobile, make four holes on the edge of the cardboard circle and tie on four pieces of string, then tie them together.

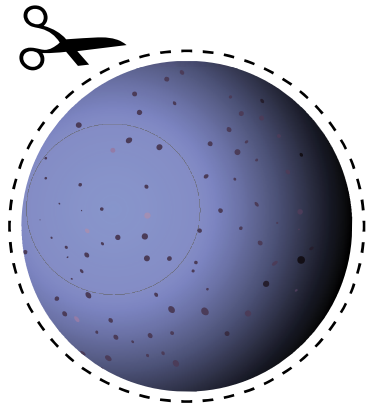
Make a Solar System Mobile

The Sun

The sun is much too big to show in accurate proportion to the planets, so we will just make it the biggest. Without the warmth and light of the sun, nothing could survive on our planet.



Make a Solar System Mobile



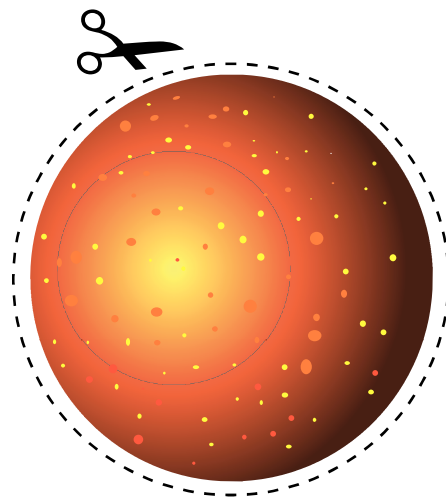
Mercury

Mercury is the closest planet to the sun. The surface of this barren planet is covered with craters. These craters have been created by thousands of years of being hit with asteroids and comets. There is no atmosphere on Mercury.

Venus

Venus is second closest to the sun. It is the hottest planet in the solar system.

It is the brightest of all the planets, and is also known as the evening star and the morning star.



Make a Solar System Mobile



Earth

The Earth is the third planet from the sun, and the fifth largest of the eight planets in our solar system. It was formed 4.5 billion years ago, and life appeared on its surface within 1 billion years. Earth is home to millions of species, including humans — and that means you!

Mars

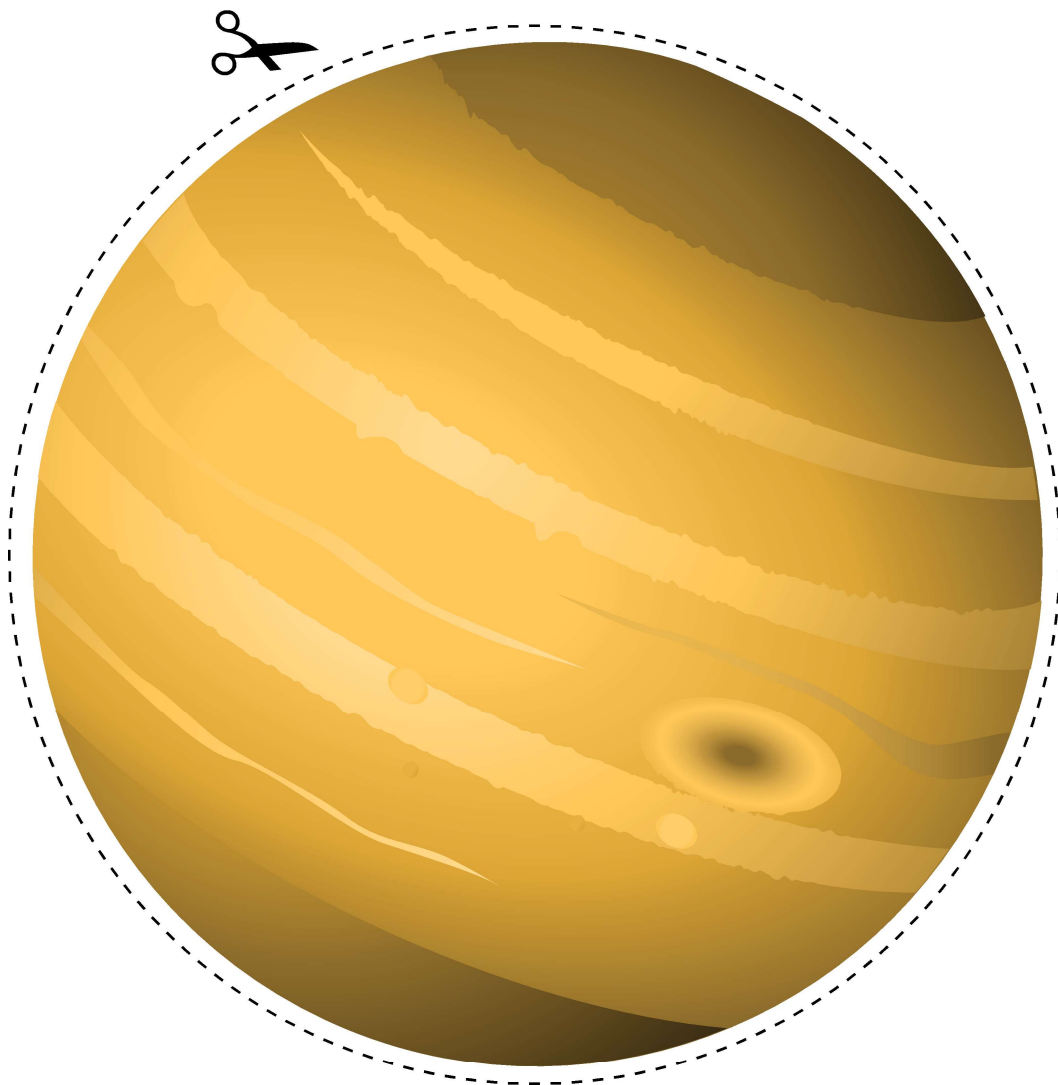
Mars has three moons, and has the nickname "The Red Planet." Mars is the only planet whose surface can be seen in detail from the Earth. Mars is the fourth closest planet to the sun.



Make a Solar System Mobile

Jupiter

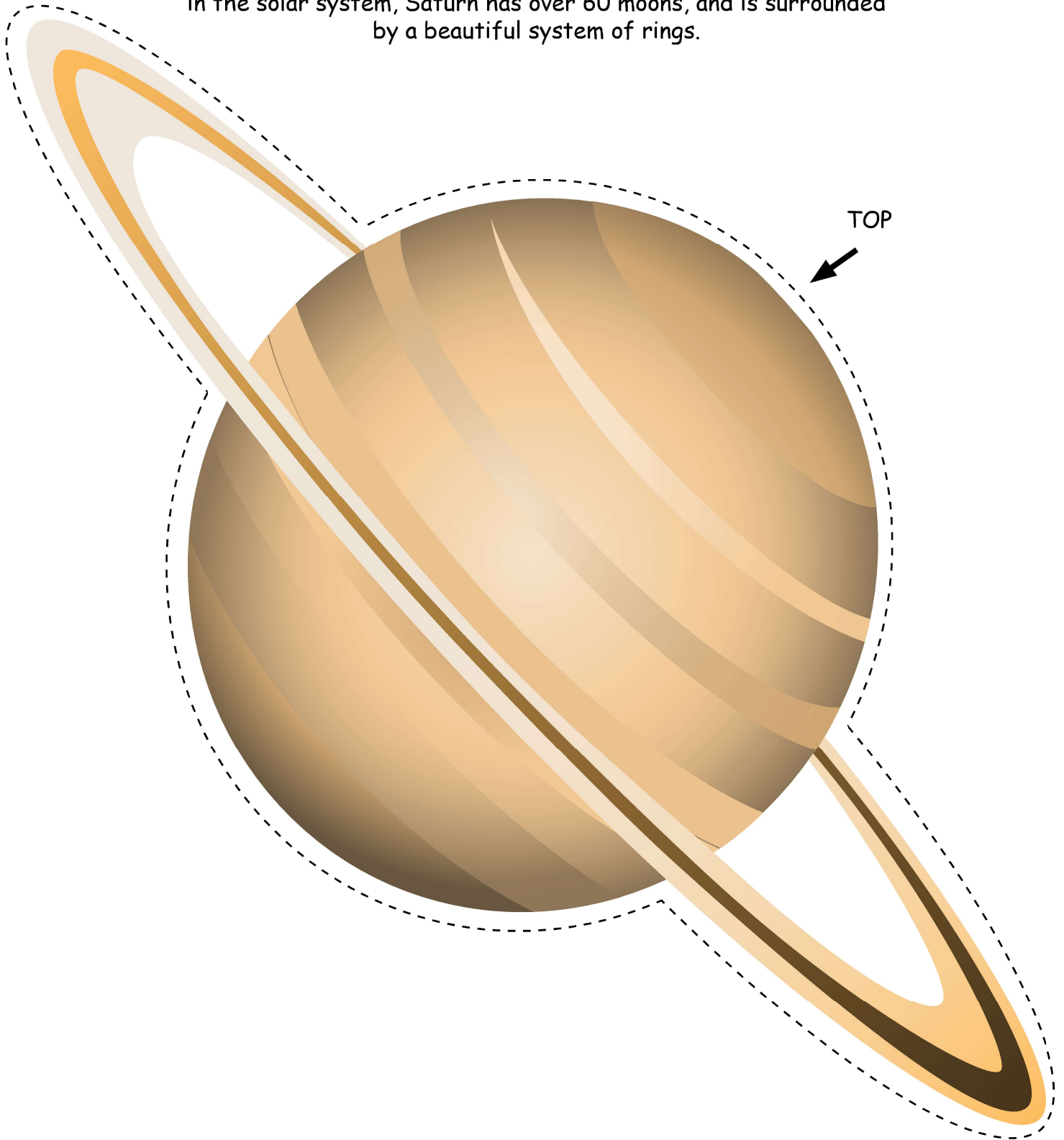
Jupiter is the largest planet in the solar system, and the fifth closest planet to our sun. If you weigh 100 pounds on Earth, you would weigh 264 pounds on Jupiter. Jupiter rotates faster than any other planet. It rotates so quickly that the days are only 10 hours long. The great red spot on Jupiter is a storm that has been going on for over 300 years.



Make a Solar System Mobile

Saturn

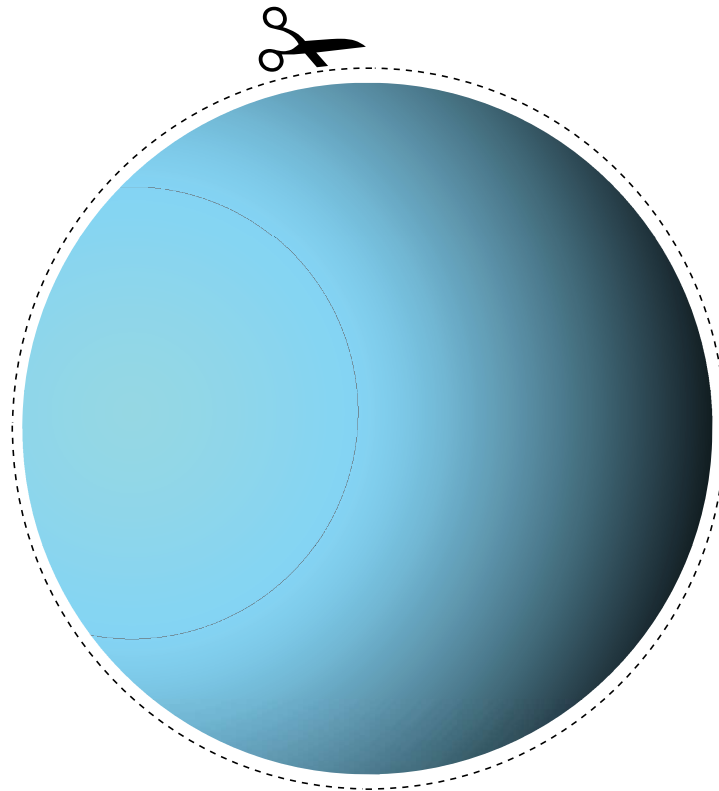
Saturn is the sixth planet from the sun and the second largest in the solar system, Saturn has over 60 moons, and is surrounded by a beautiful system of rings.



Make a Solar System Mobile

Uranus

Uranus is the seventh planet from the sun. Because of the strange way it spins, nights on some parts of Uranus can last for more than 40 years. Uranus is a very cold planet. It is made up of rock and ice and has a large rocky core. It has the nickname "Ice Giant." It is possible there are diamonds on the surface of this planet.



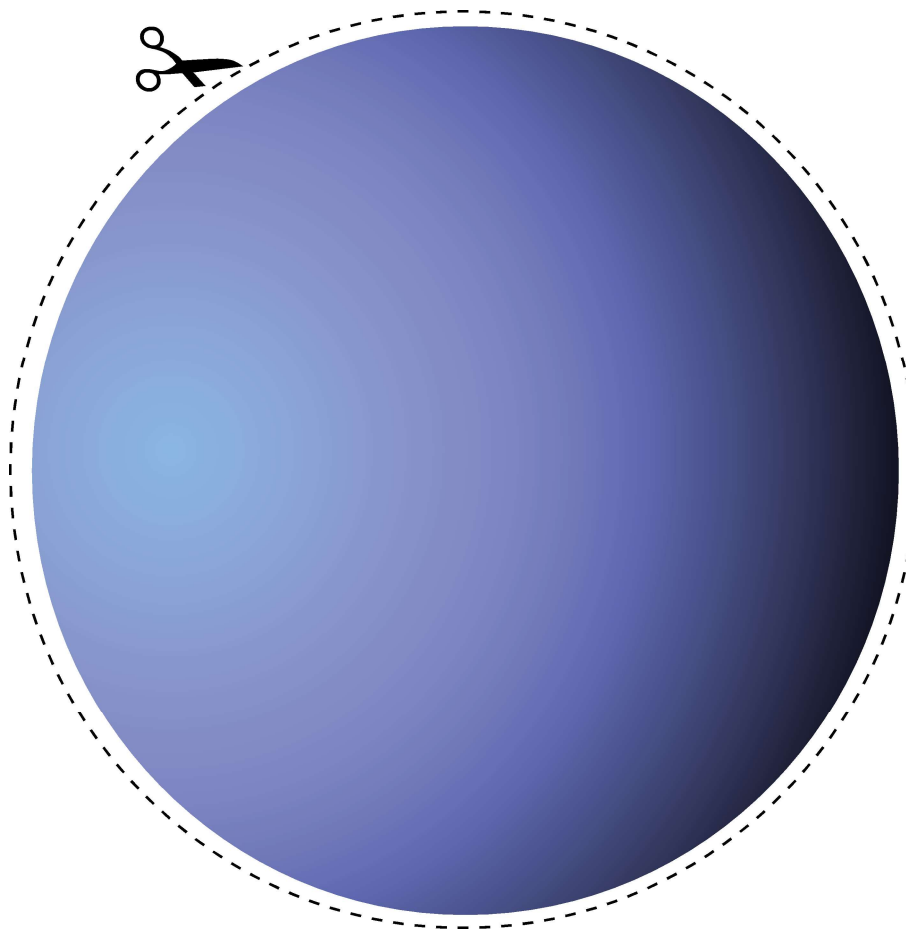
Make a Solar System Mobile

Neptune

Neptune is the eighth planet. It is the farthest planet from the sun.

It is the fourth largest planet. The interior of Neptune,
like that of Uranus, is made mostly of ice and rock.

A gas called methane causes Neptune to look blue.

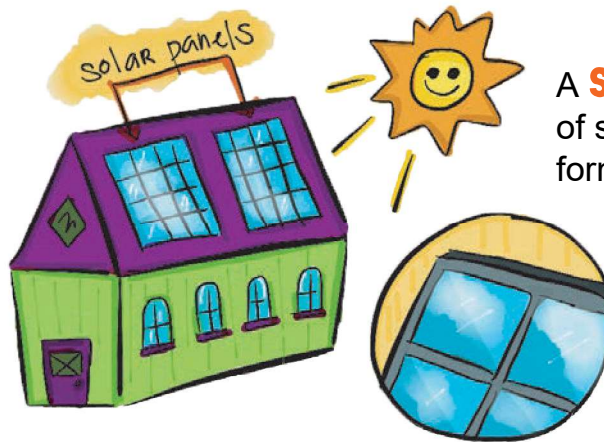


WHAT IS SOLAR ENERGY?

Solar energy comes from the sun. The sun is an important resource, as it helps sustain life. Without the sun, our planet would have no life. Through the use of technology, we are able to harness the energy from the sun to convert it to electricity.



SOLAR CELLS are tools that change light energy from the sun and other light sources into electricity. Many calculators use solar cells to power them.



A **SOLAR PANEL** is a group of solar cells connected to form a large, flat surface.

THINK AND DRAW

What do you think a car powered by the sun would look like? Draw a picture.

Design Challenge: Making a Solar Oven

In this fun activity, your child will create their very own solar oven to bake cookies or s'mores! We have given instructions which you can use to guide your child through the design thinking process. Since this is a design challenge, your child can be entirely creative with how they choose to make their oven using typical household items. However, we have also given a step-by-step procedure for making a solar oven in case your child is struggling to come up with ideas. Feel free to rely entirely on your child's creativity, take some inspiration from our procedure, or follow our procedure exactly. Be sure to engage your child by asking them questions that have them think critically about the design process.



What You Need:

- Cardboard pizza box
- Box cutter or scissors
- Aluminum foil
- Plastic wrap
- Black construction paper
- Ruler
- Cooking ingredients of your choice (Some options are s'mores or nachos. Avoid cooking raw meat or raw eggs using your solar oven.)
- Any other household items
- Pen and paper for taking notes

What You Do:

1. First, explain to your child their task in this activity. Explain to them that their job is to create a solar oven out of a cardboard pizza box in order to cook the food of their choice.
2. Ask your child what they would like to cook in their solar oven. Prepare the ingredients.
 - a. Some ideas are s'mores, nachos, and cookies (if possible, use edible cookie dough in case the oven doesn't work very well).
3. Ask your child the following questions so that they begin thinking critically about the design process:
 - a. What does your oven need in order to cook the food? (Answer: heat.)
 - b. What are some of the best objects or colors that absorb heat? (Answer: the color black is good at absorbing heat.)
4. Show your child the materials they have, but don't have them start building just yet. Instead, ask them to **brainstorm** how they will use these materials in order to create a solar oven. Have them write out or draw their ideas on a piece of paper.
5. After your child has finished brainstorming, ask them to choose the design they think will work best. Remind them of the purpose of their oven: to cook the food of their choice.
 - a. This is an important step of the design thinking process because it teaches your child to prioritize the functionality of their design over personal preferences, and it prevents them from getting too emotionally attached to one design.
6. Once your child has decided on a design, they can start **building**. Be sure to supervise and help out as needed.
7. After your child is done building, it's time to **test** it out! The best time to use your solar oven is between 11 a.m. and 2 p.m. when the sun's rays are strongest. Make sure to set the food on a dish so you don't make a mess inside the oven.
8. Depending on the food your child has decided to make, the cooking process will vary.
 - a. To make a solar s'more: Place one or two marshmallows on top of a graham cracker. Put two to three squares of chocolate on top of the marshmallow. Wait until the chocolate and marshmallow are done cooking to top them with the second graham cracker.
 - i. Ask your child why it might be a good idea to have the chocolate on top. (Answer: dark colors, like brown or black, are best at absorbing heat. If the chocolate is on top, it will absorb heat into the entire s'more.)
 - b. To make nachos: place grated cheese on top of tortilla chips and wait for the sun to melt the cheese.
9. Wait for your child's oven to cook the food. (Timing will vary depending on the oven and food choice.) Be sure to frequently check back on the oven and observe whether the food is gradually cooking.
 - a. If your child's oven eventually cooks the food, congratulate your child on their success!
 - b. If your child's oven doesn't work, help them find out what went wrong. You could ask them if they think there was a mistake with the way they constructed the oven or if they forgot to add a necessary material. Then, encourage your child to go back and repeat this process until they make an oven that works.

Here is a procedure for creating a solar oven in case your child is struggling to come up with designs:

1. Take an empty pizza box and clean out any stray bits of cheese, sauce, or crumbs.
2. Using a ruler and pencil, draw a square that is one inch from the edges of the top of the box.
3. Use a box cutter or knife to cut out three of the four sides of the square, leaving the crease-side of the box attached.
4. Make a crease along the uncut side of the square to create a flap that stands up.
5. Cut a piece of aluminum foil that is large enough to cover the inner side of the cardboard flap.

6. Wrap the foil tightly and secure with tape.
 - a. Ask your child what they think the purpose of the foil is. (Answer: aluminum foil reflects sunlight and brings heat into the oven.)
7. Line the bottom of the pizza box with black construction paper.
 - a. Ask your child why they think black paper is useful and if white paper would work as well. Why or why not? (Answer: the color black absorbs sunlight best, and therefore black paper absorbs the sun's heat. White paper would not work well because it would reflect a lot of sunlight instead of absorbing it.)
8. Cut two pieces of plastic wrap that are the same size as the top of the pizza box.
9. Use tape to secure the plastic wrap to the inside edges of the square window you cut into the box. You are creating an airtight window.
 - a. Ask your child why they think it's important to create an airtight oven. (Answer: your oven should be airtight in order to prevent any of the sun's heat from escaping it.)
10. Roll up some newspaper pages into tubes to stuff into the sides of the box. Make sure you are still able to close the lid of the pizza box.
 - a. Ask your child what they think the purpose of the newspaper is. (Answer: newspaper insulates the oven and prevents heat loss.)
11. Finally, it's time to test out your oven by cooking something!