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♥ Marie



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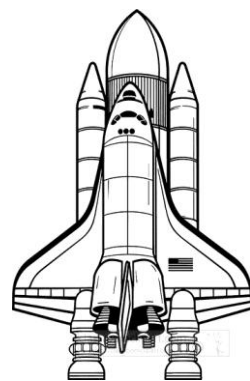
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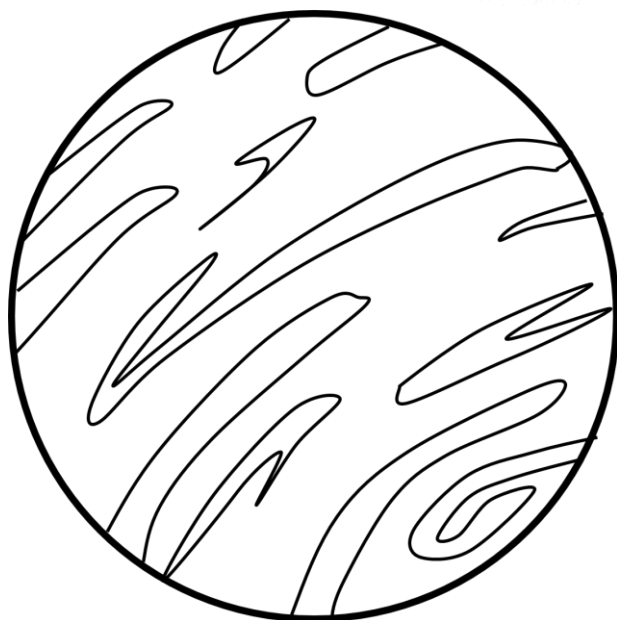
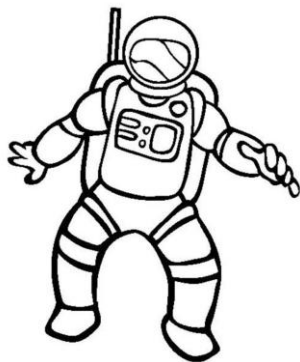
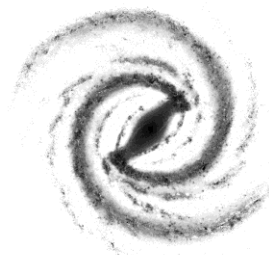
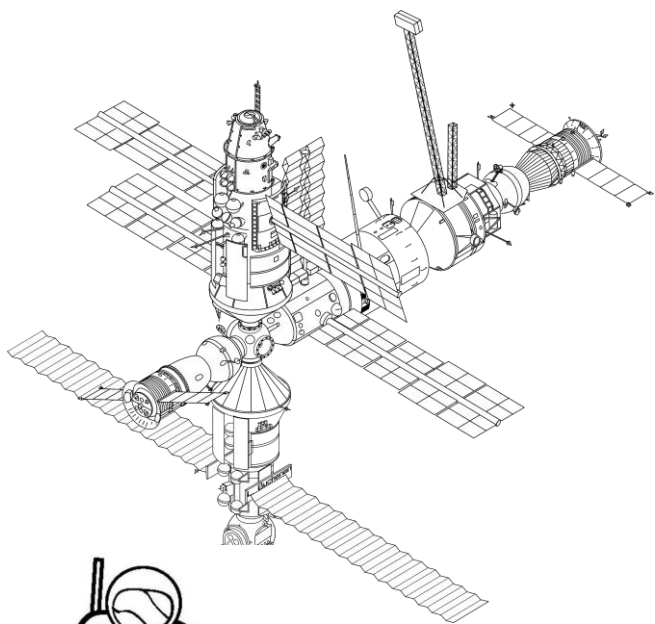
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# ASTRONOMY WORKBOOK

"The heavens declare the glory of God; and the firmament shows His handiwork."  
Psalms 19:1



# What is Astronomy?

Refer to pages 14-24 to assist you in answering the questions.



What is astronomy? (page 14)

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Who is an astronomer? (page 14)

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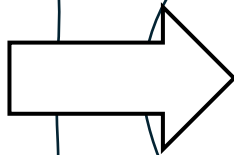
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A large, empty rounded rectangular box with a thin black border, intended for a drawing or additional notes.

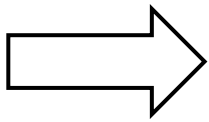
What is a constellation? (page 17) \_\_\_\_\_

Trivia: What did God place in the sky over the city of Bethlehem to show that the savior had come? Draw it in the circle.

A large, empty circle with a thin black border, intended for drawing the constellation mentioned in the trivia question.

What is gravity? (pg. 18) \_\_\_\_\_

Trivia: Draw the object in our solar system with the most gravity. (pg.18)



What is gravitational pull? (pg. 18)

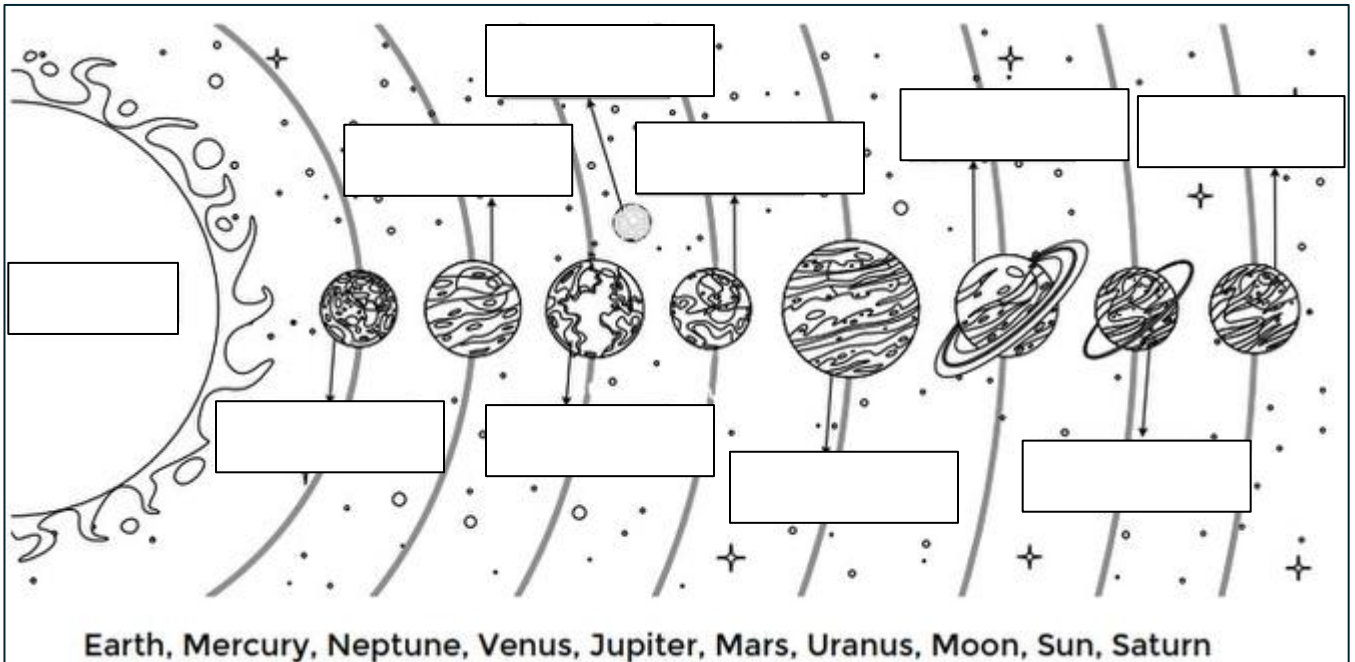
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\_\_\_\_\_

Label our Solar System using the word bank below. (pg. 19)

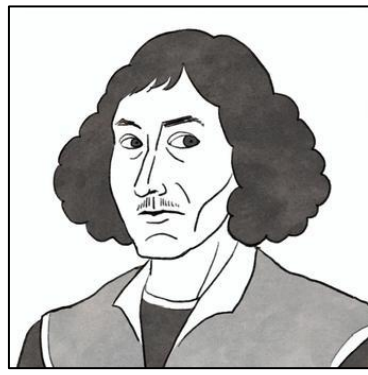


BONUS: CREATE A Mnemonic for the order of the planets from the sun.

M	V	E	M	J	S	U	N

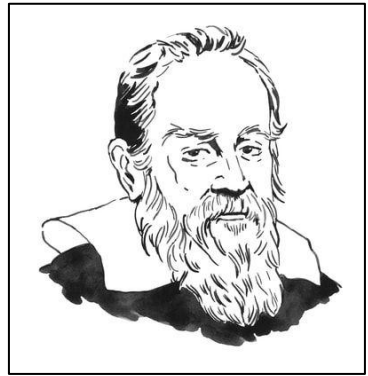
Who was it that believed that the Earth revolved around the Sun? (pg. 20)

\_\_\_\_\_ →



Who was it that used telescopes to study the planets and the stars? (pg. 20)

\_\_\_\_\_ →



What does NASA stand for? (pg. 20) \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

**Match the word to the correct definition. (pg. 21)**

**NATURAL SATELLITE**

An object in space that travels in circles around another object.

**SATELLITE**

A satellite made by man and sent into space to orbit the Earth.

**ARTIFICIAL SATELLITE**

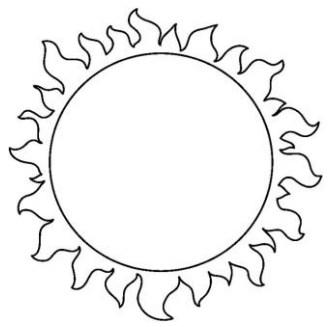
A satellite that was made by God. Our moon would be an example.

Draw a tool that an astronaut would need to study outer space. (pg. 20)

# The Sun

Refer to pages 26-42 to assist you in answering the questions.

Write three facts about the sun.  
(pg. 26-28)



#1

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#2

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#3

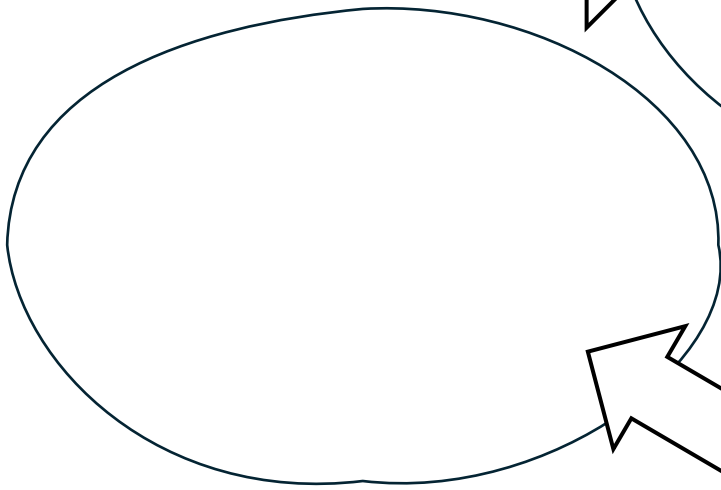
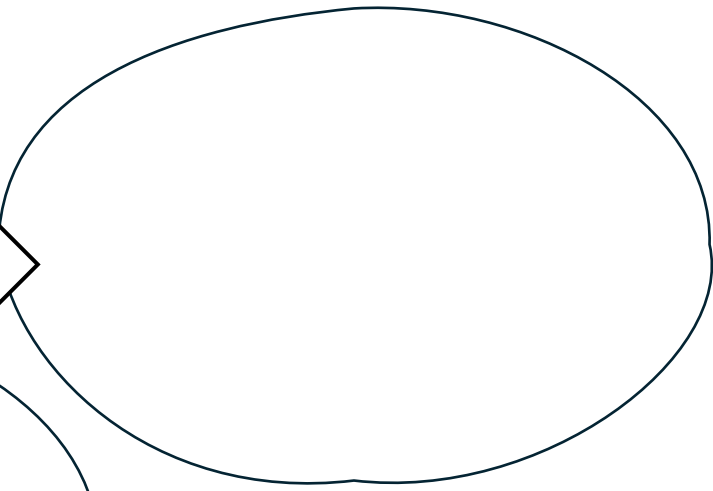
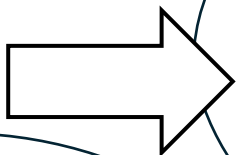
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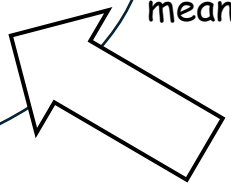
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Draw a picture to show what it means for an object to revolve or orbit. (page 30)



Draw a picture to show what it means for an object rotate. (pg. 31)

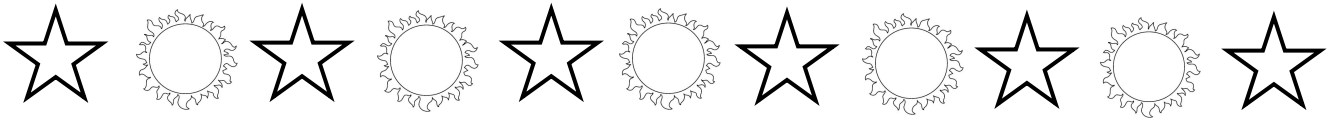


Match the word to the correct definition. (pg. 32)

**SOLAR FLARE** Dark spots on the sun that are cooler than the rest of the sun.

**AURORAS** Fire darting out from the sun, which is much larger than any planet in our solar system. They throw electrical energy towards Earth.

**SUNSPOTS** Colorful electrical lights that appear in the far north or south that are caused by the energy sent to Earth by solar flares.



Write ONE fact about light. (pg. 34)



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**FILL-IN-THE-BLANK (pg. 35-38)**

Fill in the blank using the word bank below.

<b>SUN</b>	<b>BLACK</b>	<b>WHITE</b>	<b>ATMOSPHERE</b>	<b>MOON</b>
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- 1.) The \_\_\_\_\_ is a layer of mist and gases that surrounds Earth.
- 2.) All the colors combined make \_\_\_\_\_ light.
- 3.) \_\_\_\_\_ objects absorb more light energy than white objects.
- 4.) A solar eclipse is when the sun is hidden behind the \_\_\_\_\_.
- 5.) Looking directly at the \_\_\_\_\_ can cause permanent eye damage.

# Mercury

Refer to pages 44-51 to assist you in answering the questions.

What is Psalm 111:2? (page 44)

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Why do we not know as much about Mercury as other planets? (pg. 44 )

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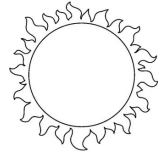
**MERCURY FACTS:** Write three facts about Mercury. (pg. 44-45)

#1	#2	#3
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Draw revolution.

Draw rotation.

The planets revolve around the sun in an elliptical orbit. Draw an elliptical orbit around the sun. (pg. 45)



### TERRESTRIAL VS. GASEOUS PLANETS

Read the statements in each box. If the statement is true, color it yellow. If the statement is false, draw a big X over it. (pg. 46)

Mercury is about the same size of our moon.

A terrestrial planet is a solid planet.

There are 5 terrestrial planets in our solar system.

Mercury, Venus, Earth, and Mars are terrestrial planets.

You cannot stand on gaseous planets.

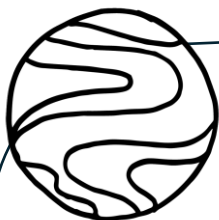
Asteroids are fiery balls of lava that aliens fly.

No man has ever traveled to Mercury. However, there have been 2 unmanned spacecraft that flew by Mercury. What were the names of the two spacecrafts?

\_\_\_\_\_ and \_\_\_\_\_

### DESIGN A SPACECRAFT

Design a spacecraft that could travel to Mercury to collect photos and general information but also be able to withstand the immense heat of the sun. Label or write notes to explain your design. Be creative.



# Venus

Refer to pages 54-61 to assist you in answering the questions.

What is Psalm 92:5? (page 54)

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**VENUS FACTS:** Write three facts about Venus. (pg. 54-55)

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\_\_\_\_\_



Can you describe the atmosphere on Venus? Write about it and draw it.

\_\_\_\_\_

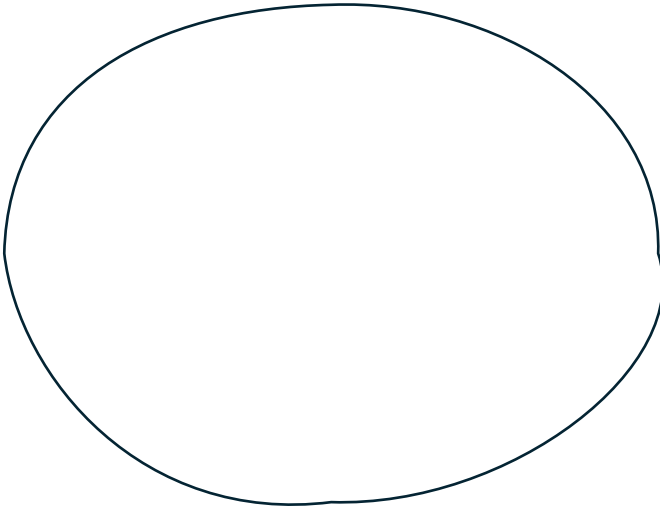
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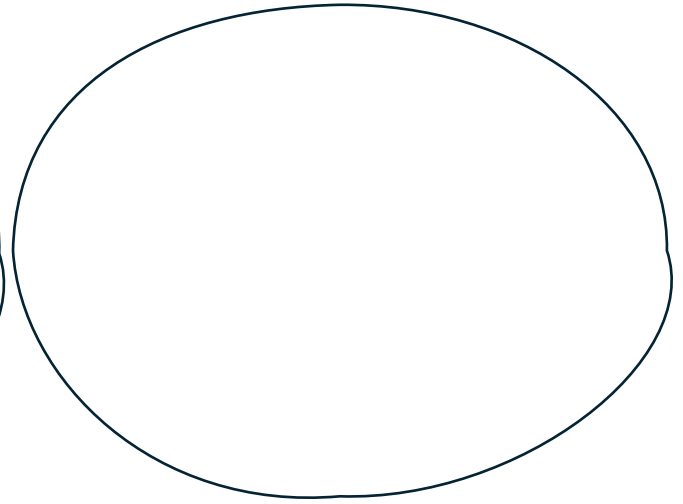
\_\_\_\_\_

\_\_\_\_\_

Write one fact about Venus'  
rotation. (pg. 57)



Write one fact about Venus'  
revolution. (pg. 57)



### FILL-IN-THE-BLANK

Use the word bank to fill in the blanks. You will complete definitions, statements, and facts.

morning	Radar	Venus	Galileo	sun
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- 1.) \_\_\_\_\_ was the scientist who discovered that Venus appears to change shape from day to day. (pg. 58)
- 2.) Venus reflects light from the \_\_\_\_\_. (pg. 59)
- 3.) \_\_\_\_\_ is the second brightest object in the night sky. Our moon is the brightest. (pg. 59)
- 4.) Venus is often called the \_\_\_\_\_ star. (pg. 60)
- 5.) \_\_\_\_\_ sends out signals and then waits for those signals to bounce off of something and come back. (pg. 60)

# Earth

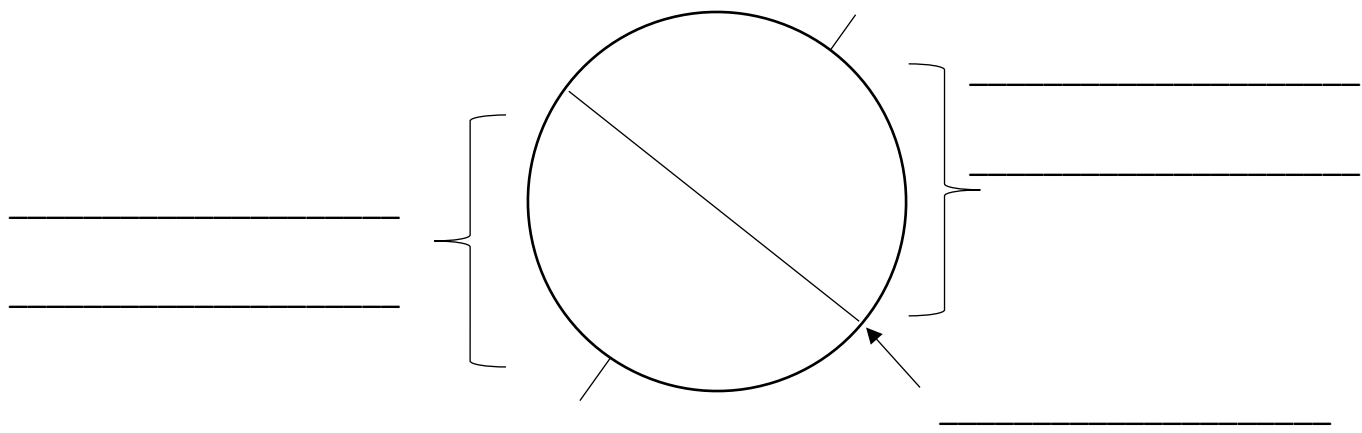
Refer to pages 66-81 to assist you in answering the questions.

## What is Genesis 1:1? (page 66)

Match the word to the correct definition by writing the letter in each blank.(pg. 67-72)

1.) MATTER (pg.67)		A. SPACE ROCKS THAT BURN UP AS THEY HIT EARTH'S ATMOSPHERE
2.) MASS (pg. 67)		B. IT IS THE STUFF THAT MAKES UP EVERYTHING AROUND YOU
3.) ROTATIONAL PERIOD (pg. 68)		C. AN ASTEROID THAT DOES NOT BURN UP ENTERING EARTH'S ATMOSPHERE AND MAKES IT TO EARTH'S SURFACE
4.) OXYGEN (pg. 69)		D. HOW LONG IT TAKES A PLANET TO MAKE A COMPLETE TURN
5.) GREENHOUSE (pg.70)		E. A HOUSE WHERE GARDENERS GROW PLANTS
6.) SHOOTING STAR (pg. 70)		F. TOP HALF OF EARTH
7.) METEORITE (pg. 70)		G. MOST IMPORTANT GAS IN OUR ATMOSPHERE. WE CAN NOT LIVE WITHOUT IT.
8.) EQUATOR (pg. 72)		H. IMAGINARY LINE THAT DIVIDES EARTH IN HALF
9.) NORTHERN HEMISPHERE (pg. 72)		I. MEASURE OF HOW MUCH MATTER IS IN SOMETHING
10.) SOUTHERN HEMISPHERE (pg. 72)		J. BOTTOM HALF OF EARTH

Our Earth has an equator at 0 degrees that cuts our planet in half creating a Northern Hemisphere and Southern Hemisphere. Label them on the globe. (pg. 72)

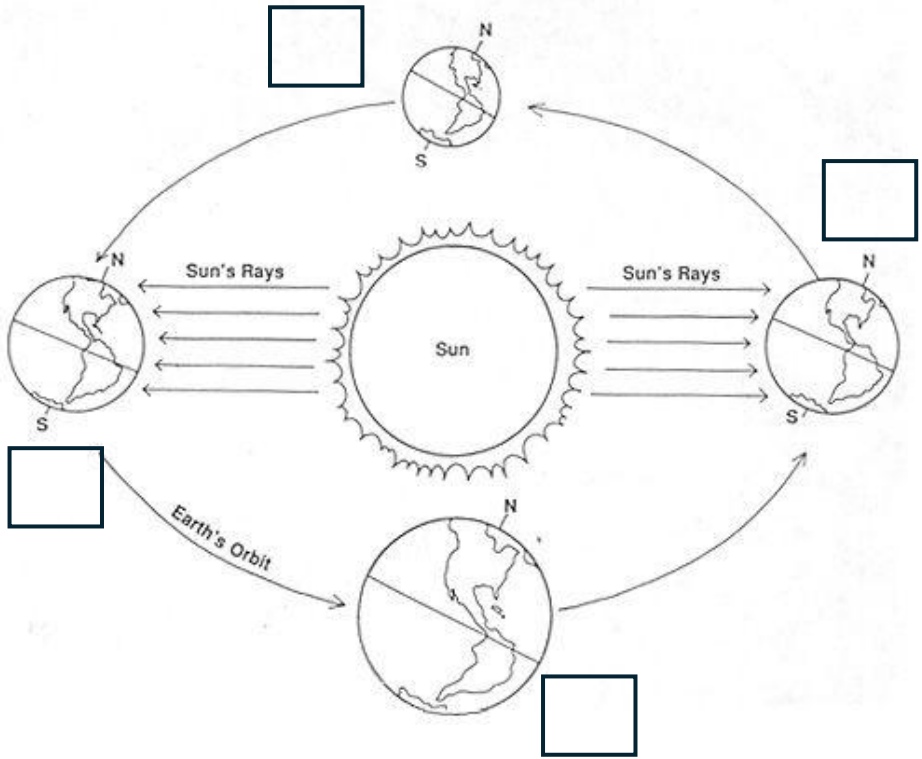


# WHAT'S THE BIG IDEA? (PG. 73)

EARTH HAS SEASONS BECAUSE ITS \_\_\_\_\_ IS \_\_\_\_\_.  
EARTH ROTATES ON ITS AXIS AS IT \_\_\_\_\_ THE SUN, BUT  
THE AXIS ALWAYS POINTS IN THE SAME DIRECTION.

Identify the seasons for the Northern Hemisphere on the diagram by matching the letter to the correct model. (pg. 73)

A.) FALL  
B.) WINTER  
C.) SPRING  
D.) SUMMER



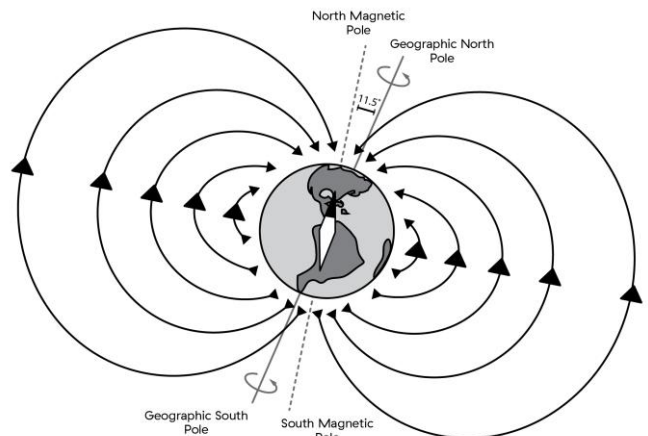
**FILL-IN-THE-BLANK**

Use the word bank to fill in the blanks. You will complete definitions, statements, and facts.

winter	warmer	longer	auroras
magnetosphere	seasons	shorter	

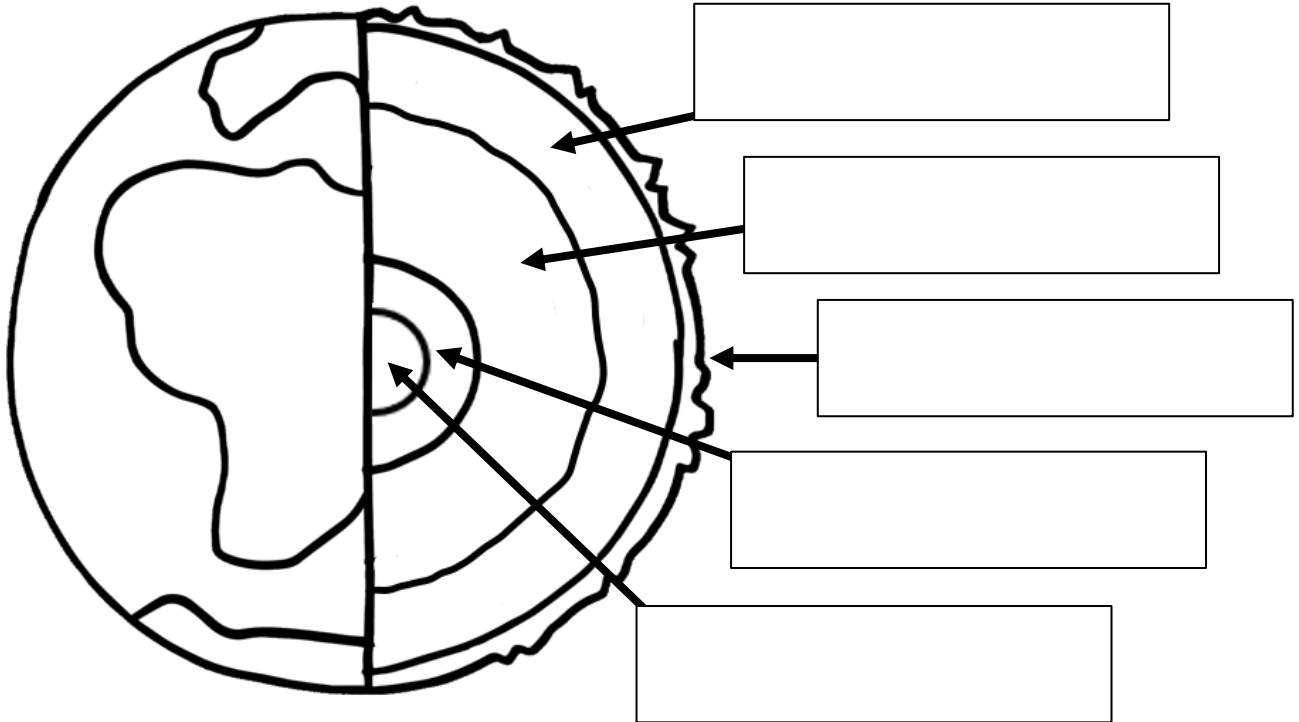
- 1.) Since areas around the equator get more direct sunlight than places north and south of the equator, places around the equator are \_\_\_\_\_. (pg. 73)
- 2.) When the northern hemisphere is having summer, the southern hemisphere is experiencing \_\_\_\_\_. (pg. 73)
- 3.) In summer, the days are \_\_\_\_\_. (pg. 75)
- 4.) In winter, the days are \_\_\_\_\_. (pg. 75)
- 5.) If the Earth's axis was not tilted, there would be no \_\_\_\_\_. (pg. 75)
- 6.) When particles from the sun collide with the Earth's atmosphere it creates a beautiful display of colors in the sky. This is called the \_\_\_\_\_. (pg. 77)

- 7.) The \_\_\_\_\_ is like a big ball of magnetic power around the Earth. It protects Earth from things like solar wind from the sun. (pg. 77)



# Layers of the Earth

Color and label the model. Describe each layer of the Earth. (pg. 76)



Crust: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Upper Mantle: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Lower Mantle: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Outer Core: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Inner Core: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# The Moon



Refer to pages 81-96 to assist you in answering the questions.



What is Psalm 104:19? (page 84)

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Write two facts about the moon. (pg. 84-85)

#1

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#2

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## Phases of the Moon



NEW MOON



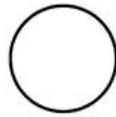
WAXING CRESCENT



FIRST QUARTER



WAXING GIBBOUS



FULL MOON



WANING GIBBOUS



LAST QUARTER



WANING CRESCENT

1.) How long does it take for the moon to go through all its phases? (pg. 87) \_\_\_\_\_

2.) How much of the moon is lit up by the sun all the time? (pg. 85)

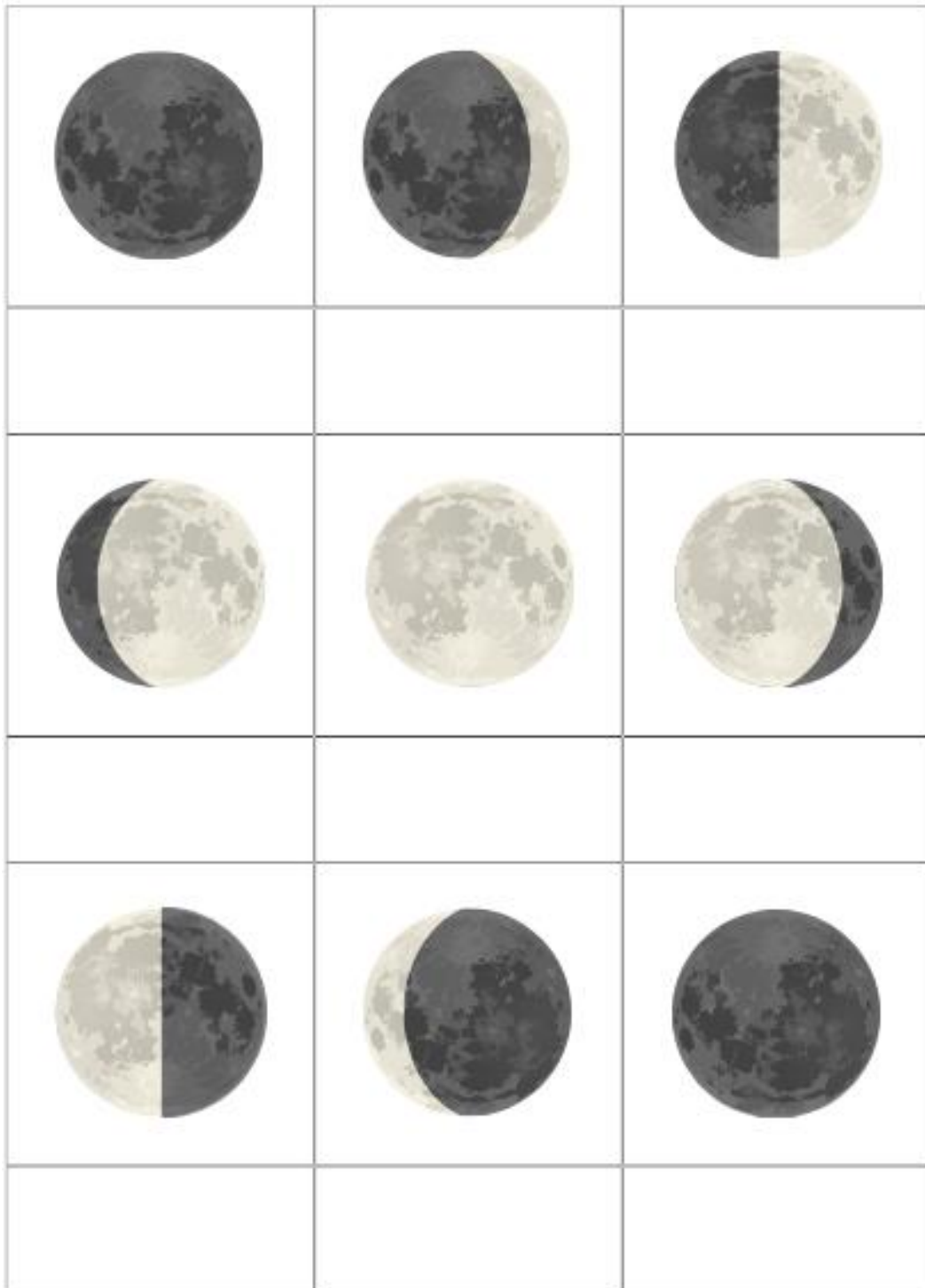
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3.) If the moon doesn't make light, how does it glow in the night? (pg. 84)

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# PHASES OF THE MOON

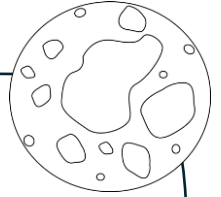
Use the word bank to label each of the phases of the moon.



New Moon	Waxing Crescent	First Quarter	Full
Waning Crescent	Waning Gibbous	Last Quarter	Waxing Gibbous

## What is a Lunar Eclipse? (pg. 89)

In the blank area below, draw a model of a lunar eclipse as shown on page 89 of your textbook. Be sure to label the sun, Earth, and moon. Color your model and be sure to shade where Earth's shadow covers the surface of the moon.



A large, empty rounded rectangular box intended for drawing a model of a lunar eclipse.

How is the moon's atmosphere different than Earth's? (pg. 90)

Three horizontal lines provided for writing the answer to the question above.

### TRUE OR FALSE

Read the statements in each box. If the statement is true, color it GREEN. If the statement is false, draw a big X over it. (pg. 90)

The same side of the moon is always facing Earth.

TEN moons orbit Earth.

The smooth, flat plains on the moon are called maria.

Short Answer Question:

1.) If you traveled to the moon, your weight would be different from what it is on Earth. Read about the moon's gravity on page 91. In your own words, why do you think that we weigh less on the moon than we do on Earth?

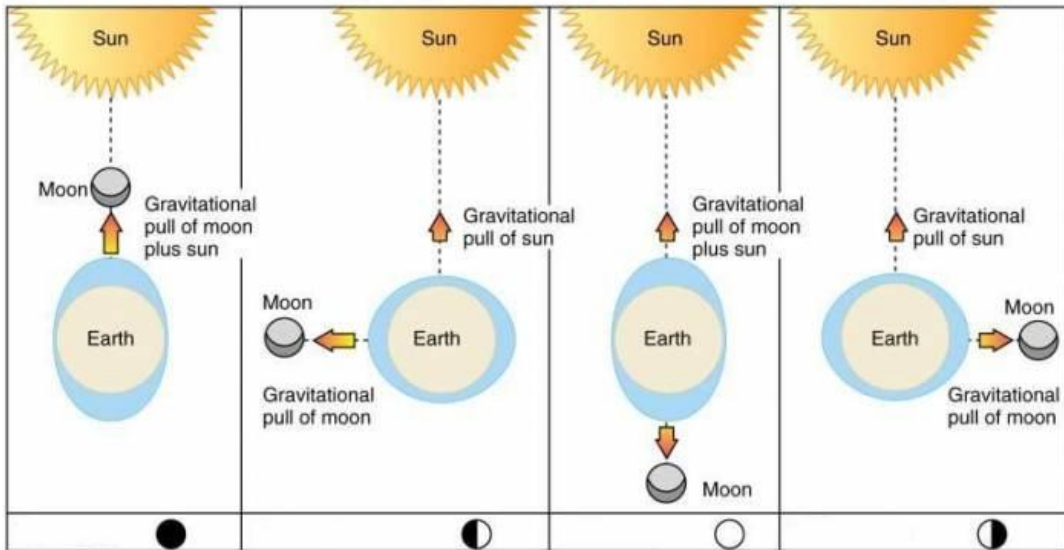
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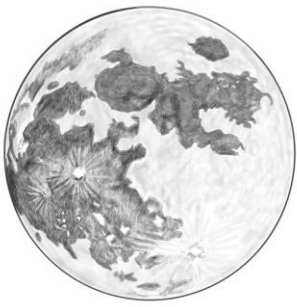


**FILL-IN-THE-BLANK**

Use the word bank to fill in the blanks. You will complete definitions, statements, and facts. (page 91)

tides	high	gravity	low	wind
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- 1.) When the water is close, we say that the ocean is at \_\_\_\_\_ tide.
- 2.) When the water is farther out, we say that the ocean is at \_\_\_\_\_ tide.
- 3.) The moon's \_\_\_\_\_ is what causes the \_\_\_\_\_.
- 4.) Waves are caused by \_\_\_\_\_.



# WALK ON THE MOON

## WORD SEARCH



D	F	E	K	E	N	N	E	D	Y	O	A	B	N
N	O	H	S	R	F	L	A	W	E	R	P	K	E
A	R	A	G	A	V	E	Y	W	K	S	H	Y	I
S	T	L	E	P	T	D	L	B	E	Q	A	L	L
A	I	E	O	R	E	U	E	R	O	F	S	R	A
R	V	O	L	V	L	P	R	W	E	R	E	I	R
S	E	W	A	E	E	R	S	N	T	J	S	E	M
L	E	E	U	P	S	D	Q	D	V	E	L	N	S
Y	V	D	B	H	Y	C	H	L	U	N	A	N	T
O	V	I	L	R	S	S	O	S	R	E	T	S	R
L	G	Y	O	N	E	C	M	P	D	A	I	L	O
L	R	L	N	C	K	A	I	N	E	Q	A	R	N
O	G	J	O	A	J	N	D	V	P	G	R	O	G
P	F	A	S	T	R	O	N	A	U	T	S	M	Z
A	C	L	U	N	A	R	R	O	V	E	R	S	D

PHASES	LUNA	KENNEDY	TELESCOPE	NASA
LUNAR ROVER	NEIL ARMSTRONG	ASTRONAUTS	APOLLO	SATURN V



# Mars

Refer to pages 98-110 to assist you in answering the questions.

## What is Psalm 139:17? (page 98)

\*Explain what Olympus Mons is and draw it. (pg.98)

Explain

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Draw

## TRUE OR FALSE

Read the statements below. If the statement is true, write the word true. If the statement is false, replace the underlined word to make the statement true.

- 1.) \_\_\_\_\_ Mars is terrestrial planet. (pg. 98)
- 2.) \_\_\_\_\_ Mars is the third planet from the sun.
- 3.) \_\_\_\_\_ Mars is bigger than Earth, so it has less gravity than Earth. (pg. 100)
- 4.) \_\_\_\_\_ The planet Mars has a very thick atmosphere.  
So, we would need to bring our own oxygen with us. (pg. 100)
- 5.) \_\_\_\_\_ Because Mars' atmosphere is so thin, it does not protect its' surface from being pelted with meteors. (pg. 101)
- 6.) \_\_\_\_\_ Mars is the only planet with two moons: Deimos and Phobos. (pg. 103)

**MATCHING**

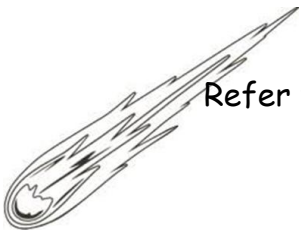
Use the answer bank on the right to match the correct answer with each description. Be sure to use pages 102-109 to assist you.

1.) IT TAKE THIS LONG FOR MARS TO ORBIT THE SUN. (PG. 103)	A.) ANTARTICA
2.) MARS' MOONS, PHOBOS AND DEIMOS ARE SHAPED LIKE THIS. (PG. 102)	B.) 24 HOURS AND 39 MINUTES
3.) THE ROTATIONAL PERIOD ON MARS TAKES THIS LONG. THIS IS VERY SIMILAR TO EARTH AND ALLOWS MARS TO HAVE DAY AND NIGHT LIKE US. (PG. 104)	C.) DRY ICE
4.) SINCE MARS IS TILTED ON ITS AXIS LIKE EARTH, IT HAS FOUR OF THESE TOO. (PG. 104)	D.) POLAR ICECAPS
5.) MARS IS SO COLD THAT ITS WEATHER IS SIMILAR TO THIS CONTINENT ON EARTH. (PG. 105)	E.) 687 DAYS
6.) WHEN CARBON DIOXIDE FREEZES, IT LOOKS LIKE REGULAR ICE BUT IS VERY COLD. IT IS SO COLD THAT IF YOU HELD IT IN YOUR HAND, YOU WOULD HURT YOURSELF. (PG. 105)	F.) TINY AND POTATO-SHAPED
7.) SCIENTISTS THINK THAT AT MARS' POLES THERE MAY BE FROZEN WATER. (PG. 105)	G.) SEASONS
8.) THIS WATER THAT IS PERMANENTLY FROZEN IN THE GROUND. (PG. 105)	H. RED PLANET
9.) MARS IS OFTEN CALLED THIS SINCE IT LOOKS RED WITH THE NAKED EYE. (PG. 107)	I. TERRESTRIAL PLANET
10.) BECAUSE MARS HAS A SOLID SURFACE, MANY SPACECRAFTS AND ROVERS HAVE LANDED ON IT. WE COULD NOT DO THIS IF IT WAS A GAS GIANT.	J. PERMAFROST

# Space Rocks

Refer to pages 112-124 to assist you in answering the questions.

## What is Psalm 148:3? (page 112)



### SHORT ANSWER:

- 1) There are millions of space rocks in our solar system. Many of them are in the Asteroid Belt. Where is the Asteroid Belt in our solar system? Think: What two planets is it in-between? (pg. 112)

- 2) Describe a comet. (pg. 112) \_\_\_\_\_

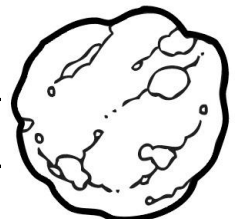
- 3) Describe what a coma is? (pg. 114) \_\_\_\_\_

- 4) What does a comet's orbit look like? (pg. 114) \_\_\_\_\_

- 5) Explain what a meteor shower looks like. (pg. 115) \_\_\_\_\_

- 6) When a comet loses all its dust and ice, there is a big rock left floating in space. What is that big rock called? (pg. 116)

- 7) Name three famous comets. \_\_\_\_\_



Draw what you think a comet looks like.

### FILL-IN-THE-BLANK

Use the word bank to fill in the blanks. You will complete definitions, statements, and facts. Use page 119.

meteoroid	asteroid	meteor	comet	meteorite
-----------	----------	--------	-------	-----------

- 1.) A space object that falls through Earth's atmosphere, but doesn't completely burn up, and then hits the Earth's surface is called a \_\_\_\_\_.
- 2.) A \_\_\_\_\_ is a small piece of space rock or dust floating in space (if it strikes Earth, it is a meteorite).
- 3.) A piece of ice and rock from the solar system, often including a coma and a tail is a \_\_\_\_\_.
- 4.) An \_\_\_\_\_ is a large rock orbiting the sun, made of iron, rock, and carbon.
- 5.) A streak of light, often called a shooting star, which is the result of a meteoroid burning up in Earth's atmosphere is called a \_\_\_\_\_.

LET'S SEE WHAT YOU KNOW!

Read the statements in each box. If the statement is true, color it green.  
If the statement is false, draw a big X over it. Use pages 118-123.

Meteoroids are  
larger than  
asteroids. pg. 118

Asteroids are large  
rocks (typically  
larger than a  
football field) pg. 118

Asteroids are  
sometimes called  
planetoids, meaning  
little planets. pg. 118

The Asteroid Belt is  
located in between  
Mercury and Venus.  
pg. 118

A hypothesis is a  
fact. pg. 120

The Asteroid Belt  
separates the inner  
planets from the outer  
planets. Pg. 120

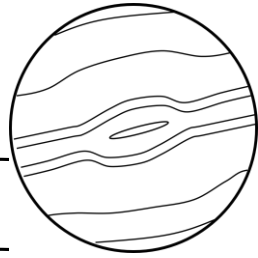
The idea that there was  
once a planet in between  
Mars and Jupiter is called  
the Exploded Planet  
Hypothesis. pg. 120

No spacecraft  
has ever landed  
on an asteroid.  
pg. 123

# Jupiter

Refer to pages 126-133 to assist you in answering the questions.

What is 36:5? (page 126)



Write one fact about  
Jupiter.

Write one fact about  
Jupiter.

## FILL-IN-THE-BLANK

Use the word bank to fill in the blanks. You will complete definitions, statements, and facts. Use pages 126-127.

gas giant	hydrogen	storm	largest
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- 1.) Jupiter is not a terrestrial planet. It is a \_\_\_\_\_.
- 2.) Jupiter is made up mostly of two gases, helium and \_\_\_\_\_.
- 3.) Jupiter is the \_\_\_\_\_ planet in our solar system.
- 4.) The Great Red Spot is an on-going \_\_\_\_\_ on the surface of Jupiter.

Write one sentence about Jupiter's rotation. Write one sentence about Jupiter's revolution. (pg. 129)

ROTATION

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REVOLUTION

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RINGS & MOONS

Use pages 128-130 to answer the short answer questions.

1) Does Jupiter have rings? \_\_\_\_\_

2) Give an example of a natural satellite. \_\_\_\_\_

3) How many moons does Jupiter have? \_\_\_\_\_

4) Name four of Jupiter's moons? \_\_\_\_\_

\_\_\_\_\_

5) Which of Jupiter's moons is the smallest? \_\_\_\_\_

6) Which of Jupiter's moons is the largest? \_\_\_\_\_

7) Are Jupiter's moons like each other? Are they different from each

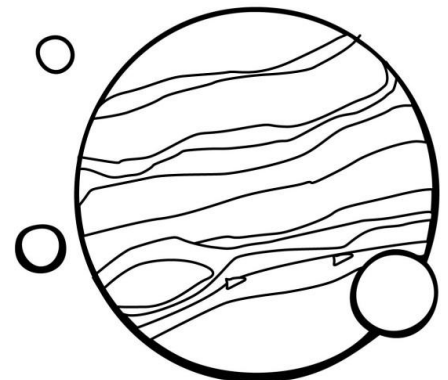
other? Explain. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



# GALILEO

Most of what we know about Jupiter was sent to us from an unmanned spacecraft named Galileo. Read the section titled, *Spacecraft Galileo*. It can be found in your textbook on pages 131-132. Write three facts about Galileo.

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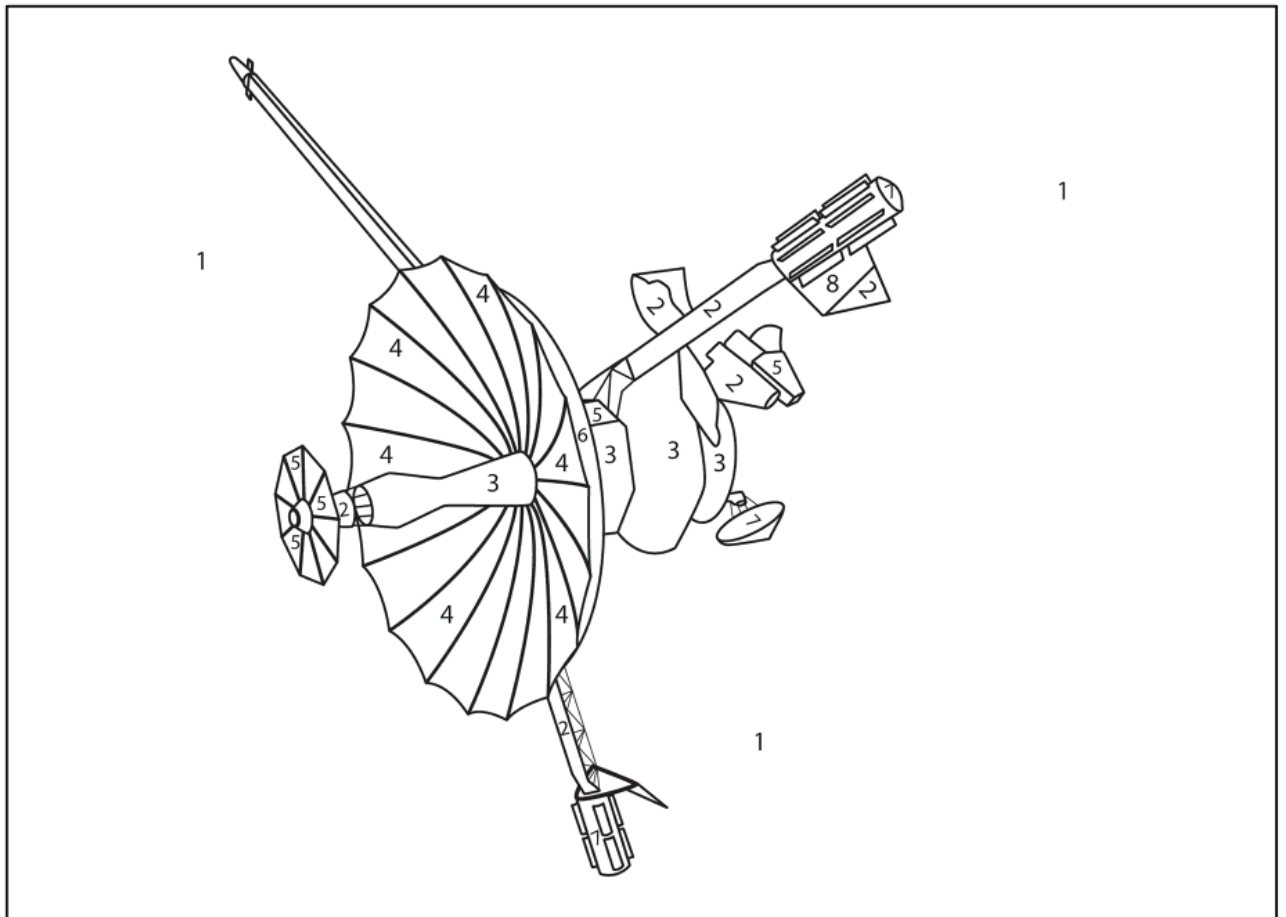
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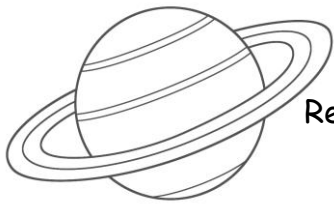


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## Galileo: Color by Number

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8





# Saturn

Refer to pages 134-143 to assist you in answering the questions.

## What is Proverbs 3:19? (page 136)

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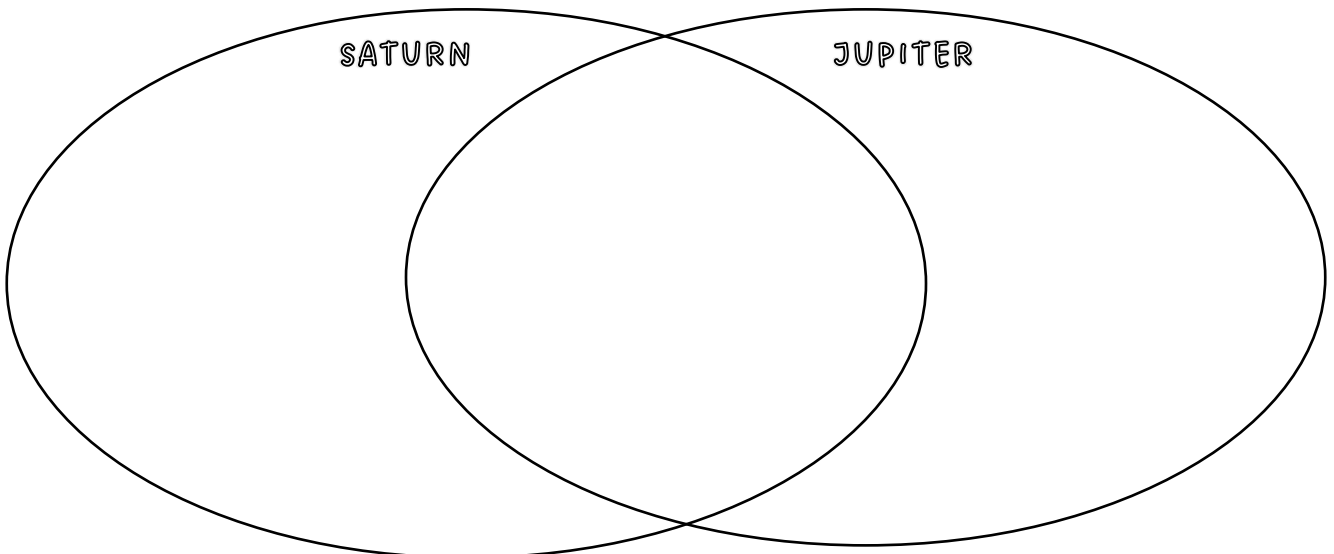
### TRUE OR FALSE

Read the statements below. If the statement is true, write the word true. If the statement is false, replace the underlined word to make the statement true.

- 1.) \_\_\_\_\_ A day of the week, Saturday, is named after Saturn. (pg. 136)
- 2.) \_\_\_\_\_ Saturn has bright rings that circle it. (pg. 136)
- 3.) \_\_\_\_\_ Saturn is the second smallest planet in the solar system. (pg. 136)
- 4.) \_\_\_\_\_ Saturn is almost twice as far from the sun as Earth. (pg. 136)
- 5.) \_\_\_\_\_ Saturn would sink if placed in a large bathtub. (pg. 137)

### Venn Diagram

Use page 138 to create a Venn diagram comparing Saturn and Jupiter.



## SATURN'S RINGS & MOONS

Read the statements in each box. If the statement is true, color it blue. If the statement is false, draw a big X over it. Use pages 138-.

Saturn has hundreds of rings. (pg. 138)

Saturn's rings are made up of dust, ice, and rocks. (pg. 138)

The two best known moons that orbit Saturn are Pandora and Promise. (pg. 139)

Saturn and Neptune are considered twin planets. (pg. 140)

It takes Saturn almost 30 years to revolve around the sun! (pg. 140)

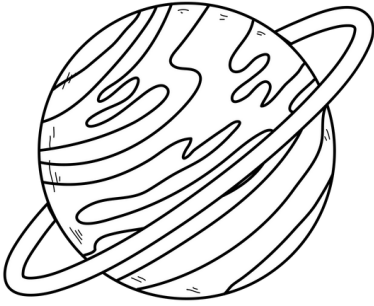
The Cassini spacecraft and the Huygens probe take photos and collect data of Saturn. (pg. 140)

Titan is Saturn's smallest moon. It is bigger than Mercury! (pg. 141)

Saturn is a gas giant and the sixth planet from the sun. (pg. 136)

# Uranus

Refer to pages 146-153 to assist you in answering the questions.



Write three facts about Uranus.

#1

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#2

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#3

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## FILL-IN-THE-BLANK

Use the word bank to fill in the blanks. You will complete definitions, statements, and facts.

methane	backwards	sideways	moons
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- 1.) Uranus rotates \_\_\_\_\_, not up and down. (pg. 150)
- 2.) The blue atmosphere of Uranus is because of the gas \_\_\_\_\_ . (pg. 146)
- 3.) Uranus is different from other planets in that it rotates \_\_\_\_\_ . (pg. 150)
- 4.) There are 27 \_\_\_\_\_ orbiting Uranus. (pg.150)

# Neptune

Refer to pages 156-161 to assist you in answering the questions.

What is Psalm 19:1? (page 156)



What gas in Uranus and Neptune's atmosphere makes it appear blue? \_\_\_\_\_

**Neptune FACTS:** Write three facts about Neptune.

#1	#2	#3
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## TRUE OR FALSE

Read the statements in each box. If the statement is true, color it BLUE. If the statement is false, draw a big X over it. (pg. 158-159)

Neptune wasn't found accidentally. Astronomers had been searching for it.

It takes less time for Neptune to get around the sun than Uranus.

Neptune rotates on its axis in 16 hours. That's a shorter day than on Earth!

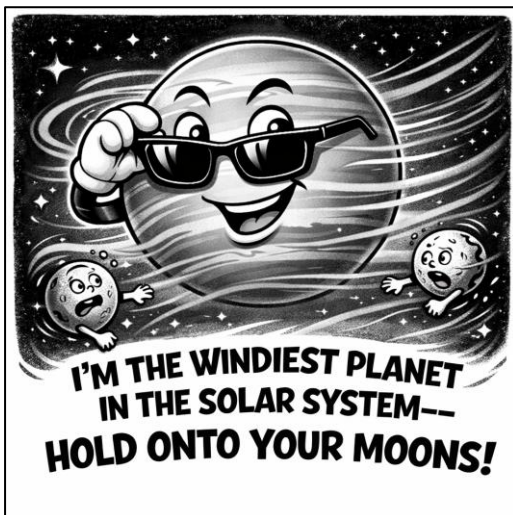
FILL-IN-THE-BLANK

Use the word bank to fill in the blanks. You will complete definitions, statements, and facts.

Great Dark Spot	Neptune	ice
geysers	diamonds	Triton

- 1) \_\_\_\_\_ is smaller than Uranus, making it the smallest of the gas giants. (pg. 159)
- 2) The \_\_\_\_\_ was a large storm bigger than Earth that had powerful winds moving at 750 miles per hour! (pg. 159)
- 3) Neptune is cold and covered with methane \_\_\_\_\_. (pg. 159)
- 4) Scientists think that it may rain \_\_\_\_\_ on Neptune! (pg. 160)
- 5) The biggest moon orbiting Neptune is called \_\_\_\_\_. (pg. 160)
- 6) \_\_\_\_\_ on Earth are holes in the ground that spew out hot water from deep within the planet. (pg. 160)

## Create a Cartoon of Neptune



Draw a funny cartoon or create an informational poster. Make a crack about Neptune being blue or alone since he is WAAAAYYY out in the solar system! Be creative! Be neat! Make it colorful!

# Neptune



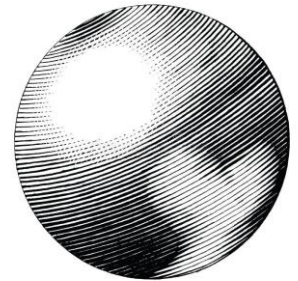
# Kuiper Belt and Dwarf Planets

Refer to pages 164-174 to assist you in answering the questions.

What is Psalm 104:24? (page 164)

## SHORT ANSWER:

Remember the asteroid belt we already learned about? Instead of large rocks orbiting the sun in between Mars and Jupiter, the Kuiper Belt is located beyond Neptune and has large pieces of ice. It is donut-shaped too. Why do you think that we didn't know about the Kuiper Belt and Dwarf planets sooner? \_\_\_\_\_



## THE KUIPER BELT-TRUE OR FALSE

If the statements below are true, write the word true in the blank. If a statement is false, replace the underlined word to make the statement true.

- 1) \_\_\_\_\_ In 1951, Neil Armstrong predicted a belt of icy objects beyond Neptune that would explain some mysteries about comets. (pg. 165)
- 2) \_\_\_\_\_ The Kuiper Belt is donut-shaped.
- 3) \_\_\_\_\_ Scientists believe there are thousands of big objects and millions of small objects in the Kuiper Belt.

## WHAT ARE THE DWARF PLANETS?

There are five officially recognized dwarf planets in our solar system. They are Ceres, Pluto, Eris, Makemake, and Haumea. In the boxes below, write one interesting fact about each dwarf planet using pages 166-172.

Ceres

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Pluto



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Eris

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Makemake

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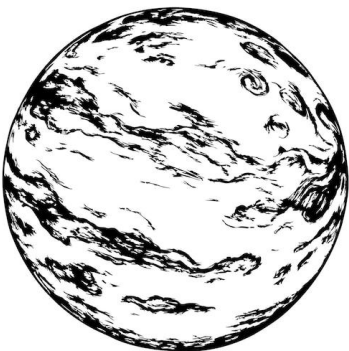
Haumea

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# Stars, Galaxies, and Space Travel

Refer to pages 176-198 to assist you in answering the questions.

What is Psalm 147:4? (page 176)

## MATCHING

Use the answer bank on the right to match the correct answer with each description.

1.) ANOTHER NAME FOR THE NORTH STAR IS THIS. (PG. 176)	A.) BINARY STAR SYSTEM
2.) THE BRIGHTEST STAR IN THE SKY. (PG. 178)	B.) WHITE DWARF
3.) IN A DOUBLE STAR SYSTEM, TWO STARS MOVE AROUND A SHARED CENTER POINT BECAUSE OF GRAVITY. THERE IS ANOTHER NAME FOR THIS. (PG. 178)	C.) SIRIUS
4.) VERY LARGE, BRIGHT STAR THAT IS NEAR THE END OF ITS LIFE. AN EXAMPLE WOULD BE BETELGEUSE. (PG. 183)	D.) BLACK HOLE
5.) DISTANCE THAT LIGHT CAN TRAVEL IN A YEAR. (PG. 185)	E.) SUPERNOVA
6.) THESE STARS VARY IN ENERGY. (PG. 181)	F.) POLARIS
7.) A GIANT EXPLOSION THAT HAPPENS WHEN A STAR REACHES THE END OF ITS LIFE. (PG.180)	G.) NEBULA
8.) A BIG CLOUD OF DUST AND GAS IN SPACE WHERE STARS CAN BE BORN. (PG. 180)	H.) VARIABLE STARS
9.) A PLACE IN SPACE WHERE GRAVITY IS SO STRONG THAT NOT EVEN LIGHT CAN ESCAPE. (179)	I.) SUPERGIANT
10.) A SMALL DIM STAR THAT IS THE LEFTOVER CORE OF A STAR THAT USED UP ALL OF ITS FUEL. IT GLOWS UNTIL IT COOLS DOWN COMPLETELY.	J.) LIGHT YEAR

**FILL-IN-THE-BLANK**

Use the word bank to fill in the blanks. You will complete definitions, statements, and facts. Use pages 185-195.

constellation	spiral	revolving	latitude	Milky Way
irregular	same	galaxy	planisphere	change

- 1) A \_\_\_\_\_ is a huge group of stars, gas, and dust held together by.
- 2) Galaxies come in four different shapes: \_\_\_\_\_, elliptical, lenticular, and \_\_\_\_\_.
- 3) Our solar system is in the \_\_\_\_\_ galaxy.
- 4) A group of stars that form a pattern in the sky is called a \_\_\_\_\_.
- 5) When you look at the November sky, you will not see the \_\_\_\_\_ stars you saw in May.
- 6) Since the Earth is \_\_\_\_\_ around the sun and faces different sections of the universe each month, every month our view of the stars \_\_\_\_\_.
- 7) A star map that can be used to help find the constellations in the sky is called a \_\_\_\_\_.
- 8) Planispheres are ordered for a particular \_\_\_\_\_, which marks how many degrees you are from the equator.



LET'S GO TO SPACE

Read the statements in each box. If the statement is true, color it blue. If the statement is false, draw a big X over it. Use pages 189-191.

A mixture of liquid hydrogen and liquid oxygen is used to fuel rockets into space. (pg. 189)

The word astronautics means the science of space flight. (pg. 189)

Russia put the first artificial satellite into orbit around Earth. It was called Sputnik. (pg. 190)

Russia put another satellite into space carrying a dog named Spot. (pg. 190)

The Space Race was between Russia and the United States. (pg. 190)

NASA stands for National Aeronautics and Space Administration. (pg. 190)

Alan Shepard was sent into space to represent Russia. They called him an astronaut. (pg. 191)

The Apollo spacecraft sent men to the moon including Neil Armstrong, who was the 1<sup>st</sup> man to step on the moon. (pg. 191)

THE INTERNATIONAL SPACE STATION

Use pages 192-198 to answer the short answer questions.

1) Why is the Space Station called the International Space Station?

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2) How long does it take for the International Space Station to orbit the Earth? \_\_\_\_\_

3) What is no gravity called? \_\_\_\_\_

4) When astronauts return to Earth after being in space, they feel like they weigh as much as 12 trucks! Why? \_\_\_\_\_

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5) Why do astronauts exercise every day while in space? \_\_\_\_\_

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6) What is a spacewalk? \_\_\_\_\_

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7) How is life on the space station different than it is on Earth? Give examples. \_\_\_\_\_

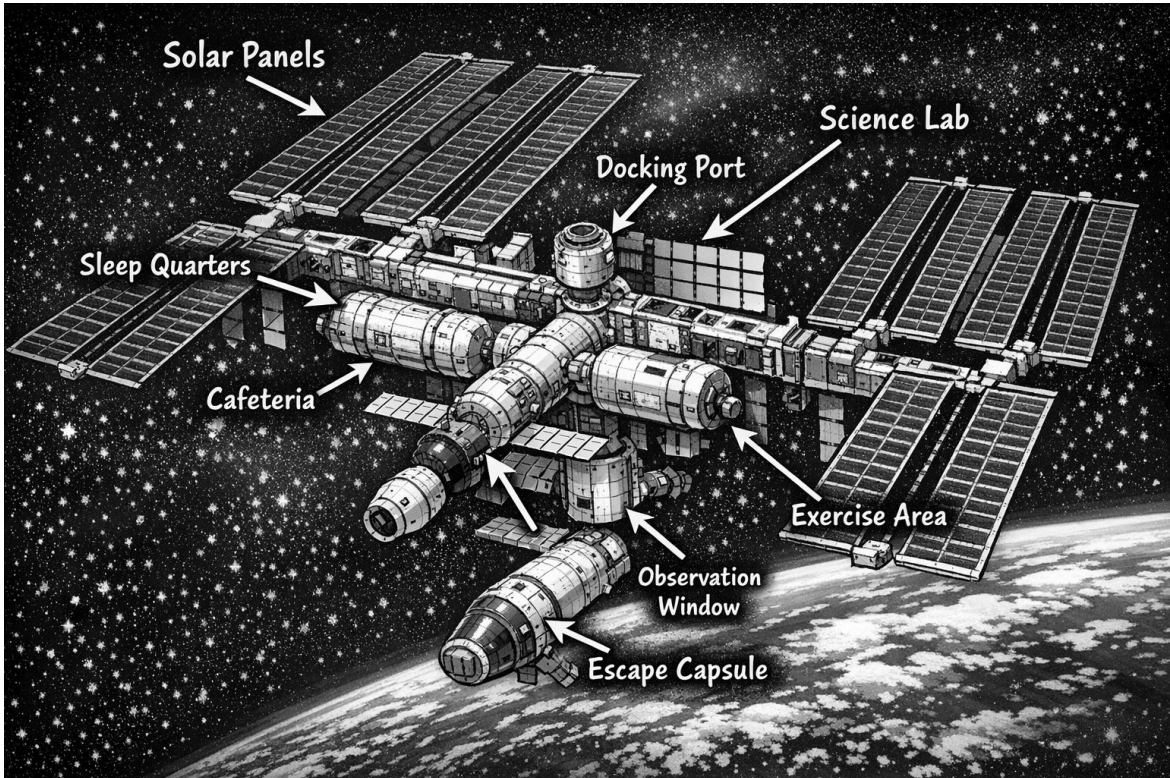
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# Create your own Space Station

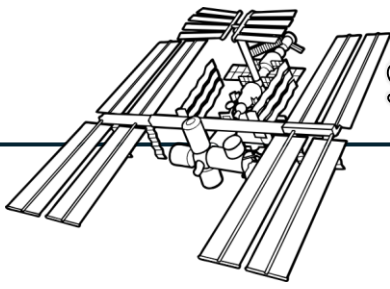


## Design and Draw

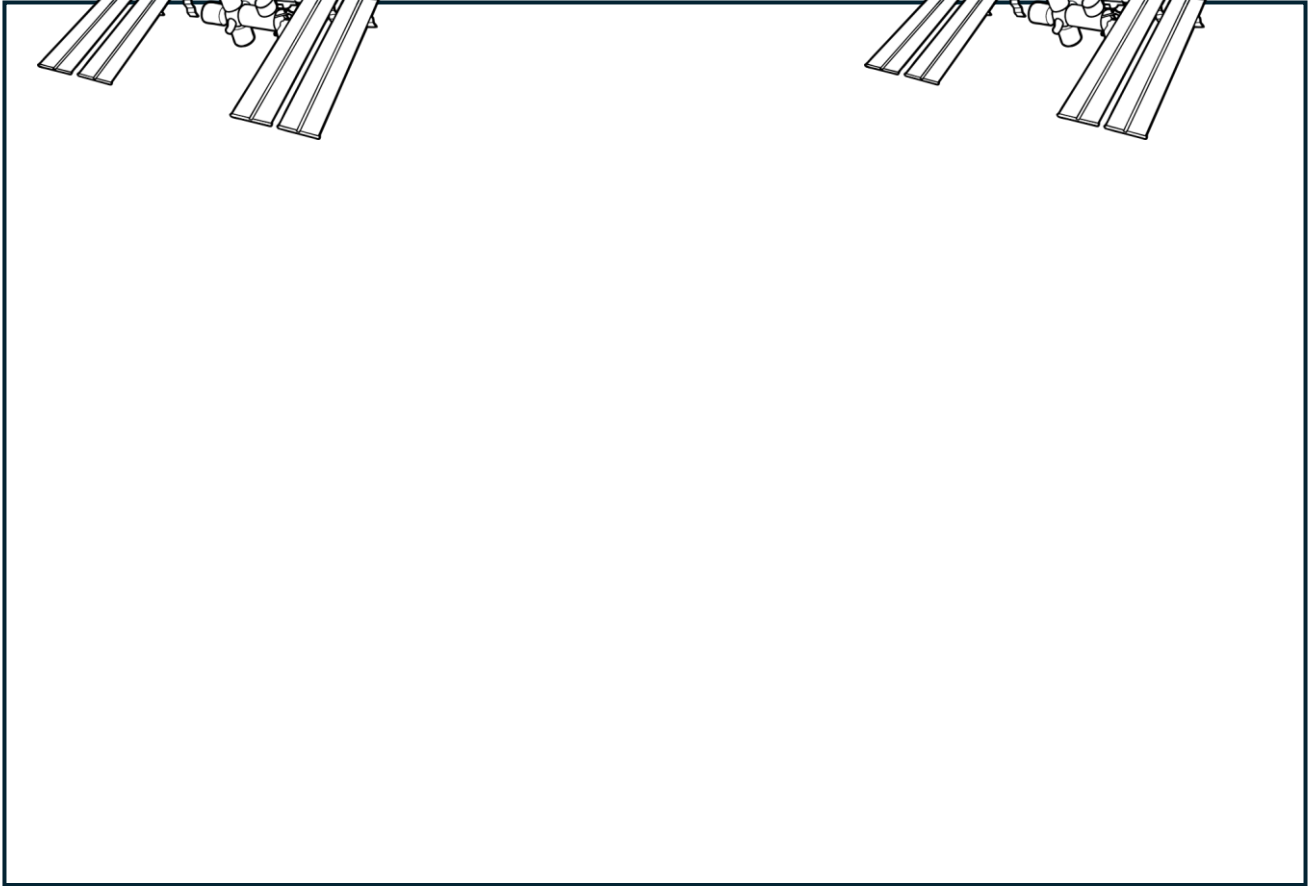
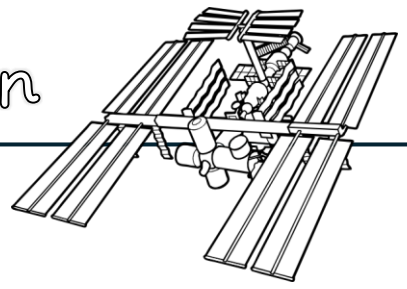
- Design and draw your own space station.
- Be sure to include special areas for eating, sleeping, running experiments, etc.
- Label these special areas. Be creative.
- Add color to your design and be neat.
- Write sentences explaining your space station and describing its special features.

## Written Explanation

- Write at least 5 sentences explaining your space station and describing its special features.
- Be neat and watch for spelling and grammar.



# Space Station



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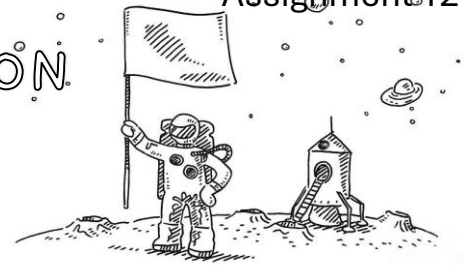
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# WALK ON THE MOON

## WORD SEARCH



D	F	E	K	E	N	N	E	D	Y	O	A	B	N
N	O	H	S	R	F	L	A	W	E	R	P	K	E
A	R	A	G	A	V	E	Y	W	K	S	H	Y	I
S	T	L	E	P	T	D	L	B	E	Q	A	L	L
A	I	E	O	R	E	U	E	R	O	F	S	R	A
R	V	O	L	V	L	P	R	W	E	R	E	I	R
S	E	W	A	E	E	R	S	N	T	J	S	E	M
L	E	E	U	P	S	D	Q	D	V	E	L	N	S
Y	V	D	B	H	Y	C	H	L	U	N	A	N	T
O	V	I	L	R	S	S	O	S	R	E	T	S	R
L	G	Y	O	N	E	C	M	P	D	A	I	L	O
L	R	L	N	C	K	A	I	N	E	Q	A	R	N
O	G	J	O	A	J	N	D	V	P	G	R	O	G
P	F	A	S	T	R	O	N	A	U	T	S	M	Z
A	C	L	U	N	A	R	R	O	V	E	R	S	D

PHASES	LUNA	KENNEDY	TELESCOPE	NASA
LUNAR ROVER	NEIL ARMSTRONG	ASTRONAUTS	APOLLO	SATURN V