

Astronomy

Review
and

Reinforce

Chapter 1

Earth, Moon, and Sun

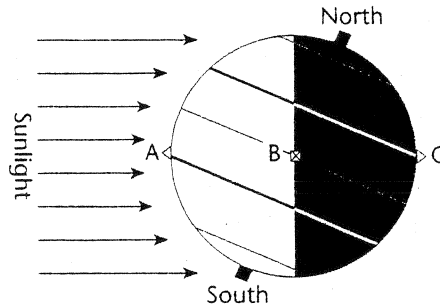
Name

Homeroom

Earth in Space

Understanding Main Ideas

Use the following figure to answer questions 1 through 3. Write your answers on a separate sheet of paper.



1. In the diagram, what season is it in North America?
2. Would a person at each of the points A, B, and C see the sun? If so, where would the sun be in the sky?
3. Which is a person standing at point B seeing, sunrise or sunset? Explain.

Building Vocabulary

Match each term with its definition by writing the letter of the correct definition in the right column on the line beside the term in the left column.

_____ 4. astronomy

_____ 5. axis

_____ 6. rotation

_____ 7. revolution

_____ 8. orbit

_____ 9. calendar

_____ 10. equinox

_____ 11. solstice

- a. The path of Earth as it revolves around the sun
- b. System of organizing time that defines the beginning, length, and divisions of a year
- c. Line passing through Earth's center and poles
- d. The study of the moon, stars, and other objects in space
- e. The sun is farthest north or south of the equator at this time.
- f. Movement of Earth around the sun
- g. Movement of Earth around its axis
- h. The noon sun is directly overhead at the equator at this time.

Earth, Moon, and Sun • Review and Reinforce

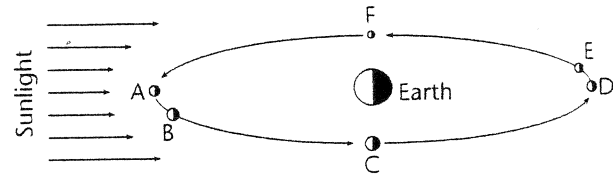
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Phases, Eclipses, and Tides

Understanding Main Ideas

Use the following figure to answer questions 1 and 2. Write your answers on a separate sheet of paper.

1. What phases of the moon would someone on Earth see when the moon is at positions A through F?
2. What kind of tide (spring or neap) will occur when the moon is at positions A, C, D, and F?



Building Vocabulary

From the list below, choose the term that best completes each sentence, and write it in the blank.

phase	gravity	penumbra	umbra	solar
tides	lunar	eclipse	spring	neap

3. A(n) _____ tide occurs when the sun is at right angles to the line between Earth and the moon.
4. A(n) _____ occurs when the moon's shadow hits Earth or Earth's shadow hits the moon.
5. A person standing in the moon's _____ would see a partial solar eclipse.
6. Differences in the moon's pull on different parts of Earth cause _____.
7. A person standing in the moon's _____ would see a total solar eclipse.
8. The _____ of the moon you see depends on how much of the sunlit side of the moon faces Earth.
9. A(n) _____ tide occurs when the sun, moon, and Earth line up.
10. A(n) _____ eclipse occurs at a full moon when Earth is directly between the moon and the sun.
11. A(n) _____ eclipse occurs when the moon passes between Earth and the sun.
12. The force of _____ pulls the moon and Earth toward each other.

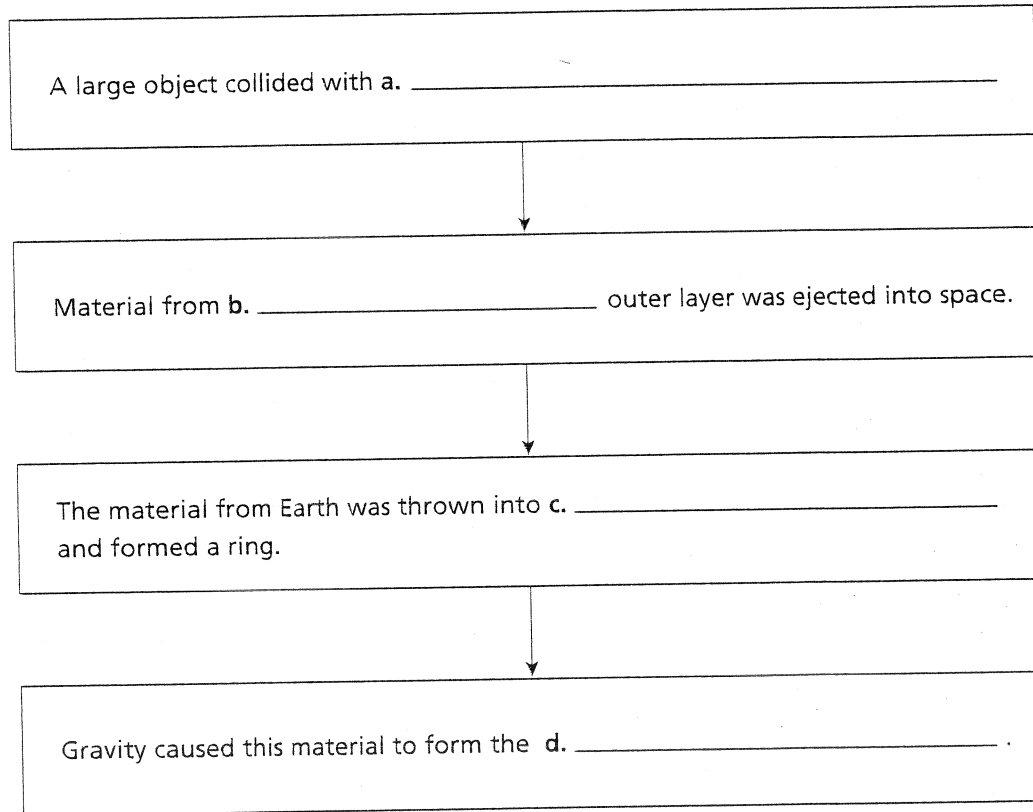
Earth, Moon, and Sun • Guided Reading and Study

p 30-33

The Origin of the Moon

11. Complete the flowchart to show the sequence of events in the collision-ring theory.

The Collision-Ring Theory



- e. Use the flowchart to summarize in your own words how the moon was formed.

Earth, Moon, and Sun ▪ *Review and Reinforce*

Earth's Moon

p. 30-33

Understanding Main Ideas

Answer the following questions on a separate sheet of paper.

1. How are the size and mass of the moon different from that of the Earth?
2. How do astronomers think the moon was formed?
3. Who was the first person to observe the moon through a telescope? What features of the moon did he identify?
4. How do temperatures on the moon differ from those on Earth?
5. Identify the feature that covers much of the moon's surface. What did Galileo see when he observed this feature through a telescope?

Building Vocabulary

Answer the following questions in the spaces provided.

6. How did Galileo make a telescope?

7. What are moon craters? How were they formed?

8. What are maria? How were they formed?

9. What are meteoroids?

Earth, Moon, and Sun • Key Terms

P. 5-33

Key Terms

The hidden-word puzzle below contains 12 key terms from the chapter. You might find them across, down, or on the diagonal. Use the clues to identify the hidden terms. Then circle each term in the puzzle.

Clues**Key Terms**

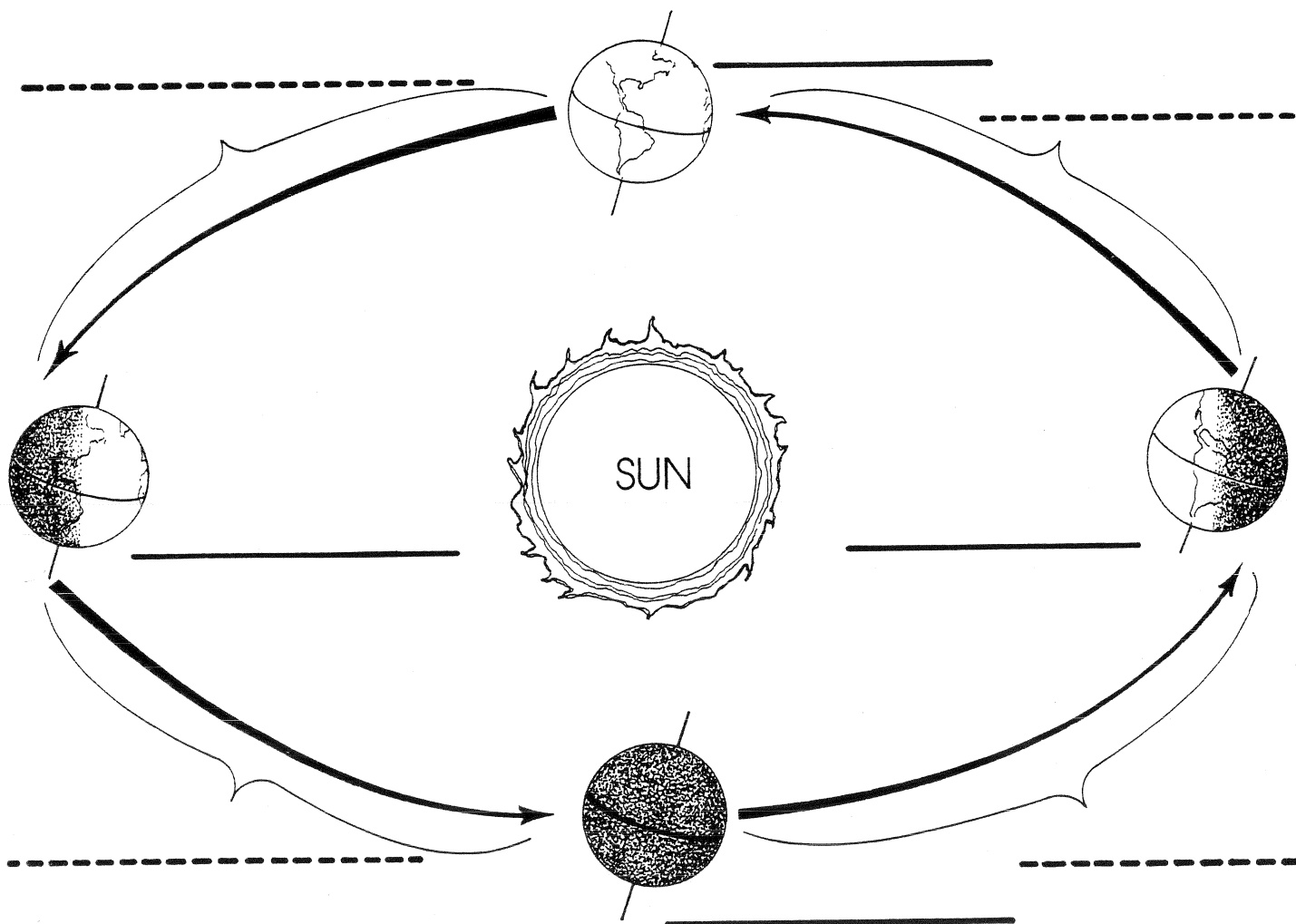
1. The spinning motion of Earth around its axis _____
2. The study of the moon, stars, and other objects in space _____
3. The different shapes of the moon you see from Earth _____
4. The imaginary line that passes through Earth's center and the North and South poles _____
5. The two days of the year on which the sun is directly overhead at either 23.5° north or south _____
6. Earth's path as it revolves around the sun _____
7. The movement of one object around another object _____
8. The rise or fall of ocean water _____
9. A round pit on the moon's surface _____
10. The darkest part of the moon's shadow _____
11. Dark, flat areas on the moon's surface _____
12. The part of a shadow that surrounds the darkest part _____

x	c	r	a	t	e	r	r	u	q	r
p	a	s	t	r	o	n	o	m	y	e
e	x	o	m	o	n	t	t	b	w	v
n	i	l	m	a	r	i	a	r	l	o
u	s	s	d	e	n	b	t	a	t	l
m	w	t	d	c	m	s	i	m	i	u
b	s	i	k	p	m	b	o	t	a	t
r	t	c	m	l	s	s	n	p	t	i
a	a	e	u	i	l	k	a	i	d	o
y	p	h	a	s	e	s	h	n	u	n

The Seasons

Name _____

The diagram below shows the Earth's position in its orbit on four different dates. On the solid line label the equinox dates. On the dotted lines name the season for the Northern Hemisphere.



WORD BANK

March 21
September 22

December 22
June 21

spring
winter

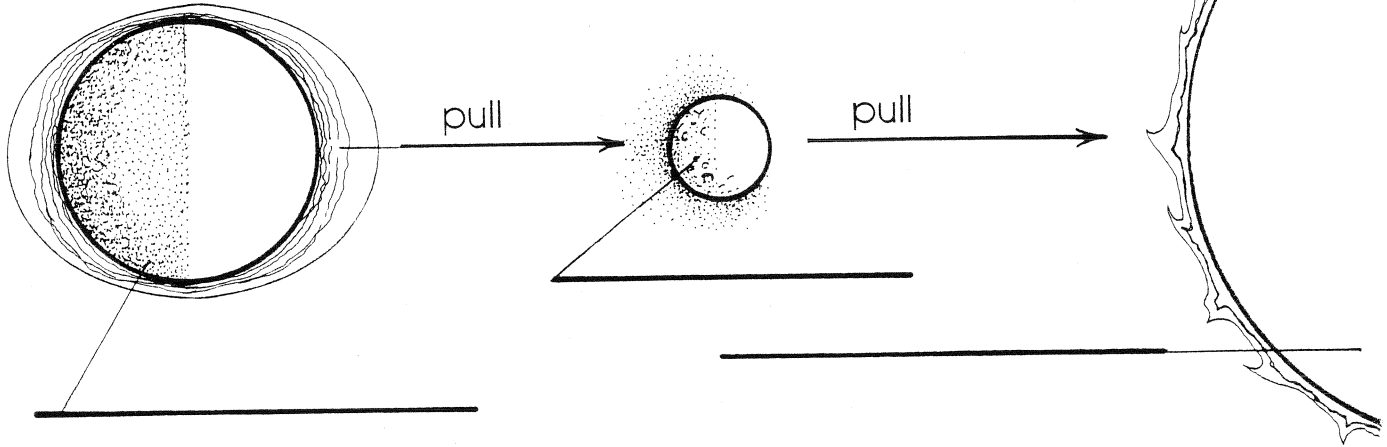
fall
summer

High Tide

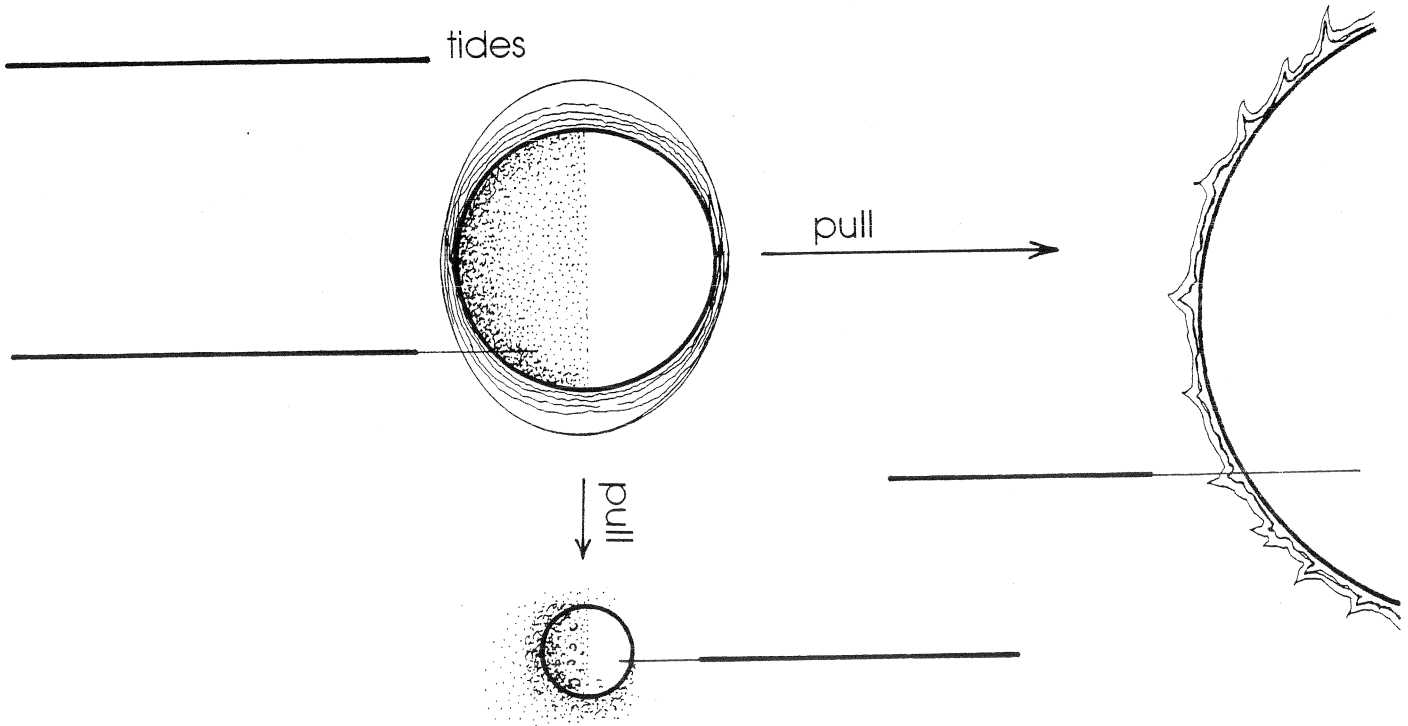
Name _____

The ocean tides are caused mostly by the moon's gravity. When the Sun, moon and Earth line up, the gravitational pull is greatest causing the highest tides, tr spring tides. The lowest tides, neap tides, occur when the sun, Earth and moon form right angles. Label the neap tides, spring tides, sun, Earth and moon.

_____ tides



_____ tides



WORD BANK

neap tides
moon

spring tides
Earth

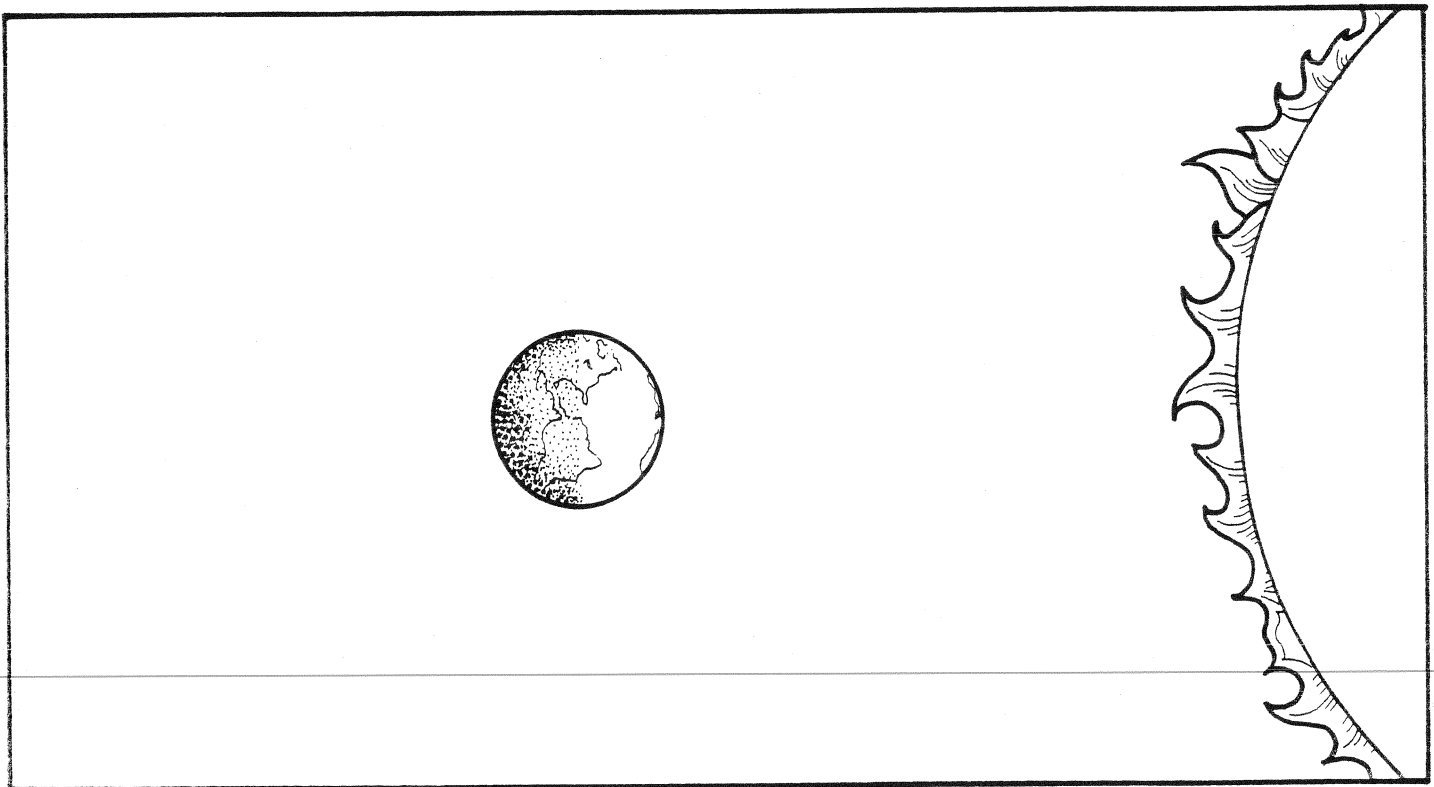
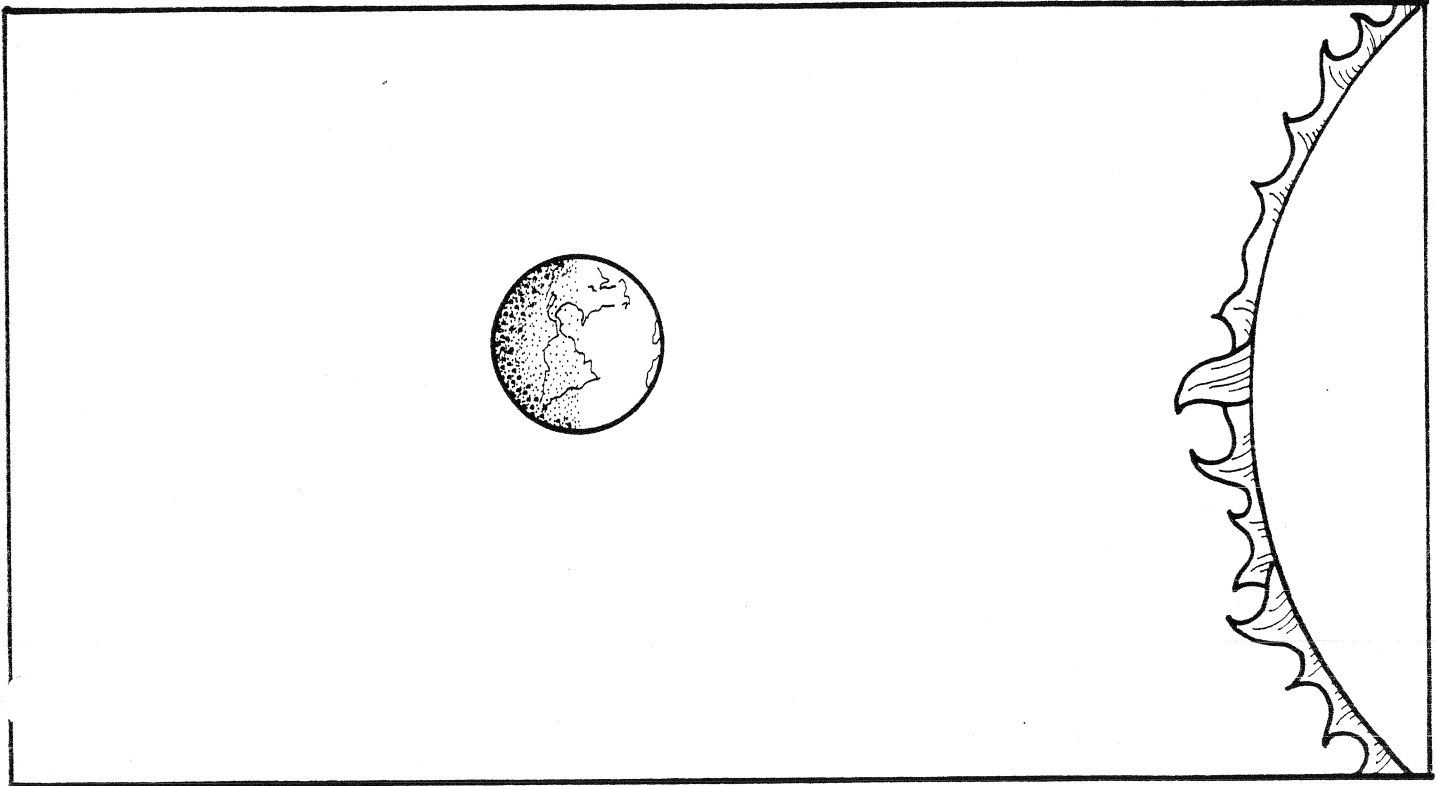
sun



Space Shadows

Name _____

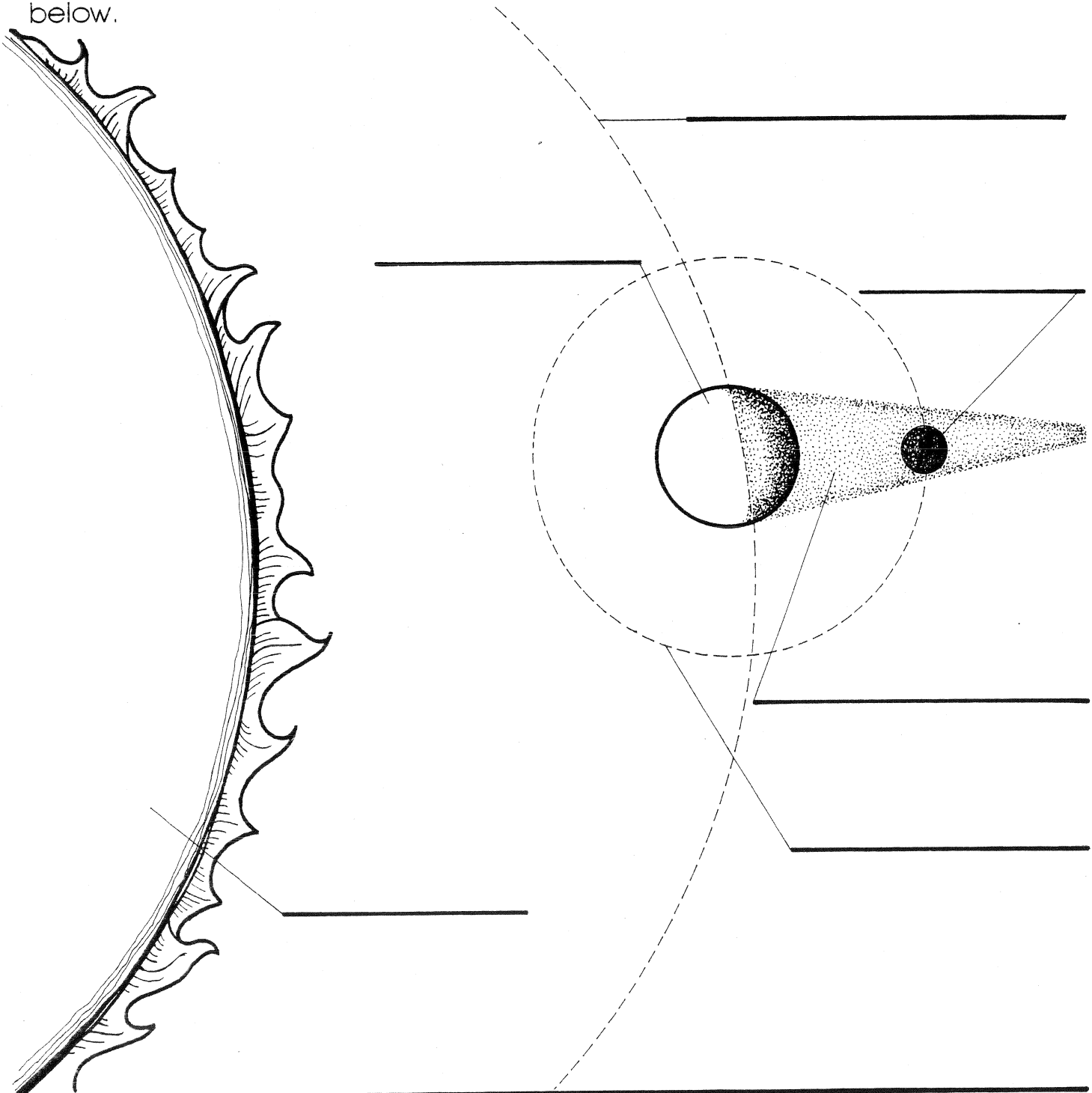
When the sun, moon and Earth are in the proper alignment, either the moon can cast a shadow on the Earth, or the Earth can cast a shadow on the moon. Draw the position of the moon and the shadows for both a lunar and solar eclipse. Label the type of eclipse.



Earth Shadow

Name _____

When the sun, Earth and moon are in direct line, the moon moves into the Earth's shadow causing a lunar eclipse. Label the orbits and bodies in the illustration below.



WORD BANK

Earth orbit
Earth

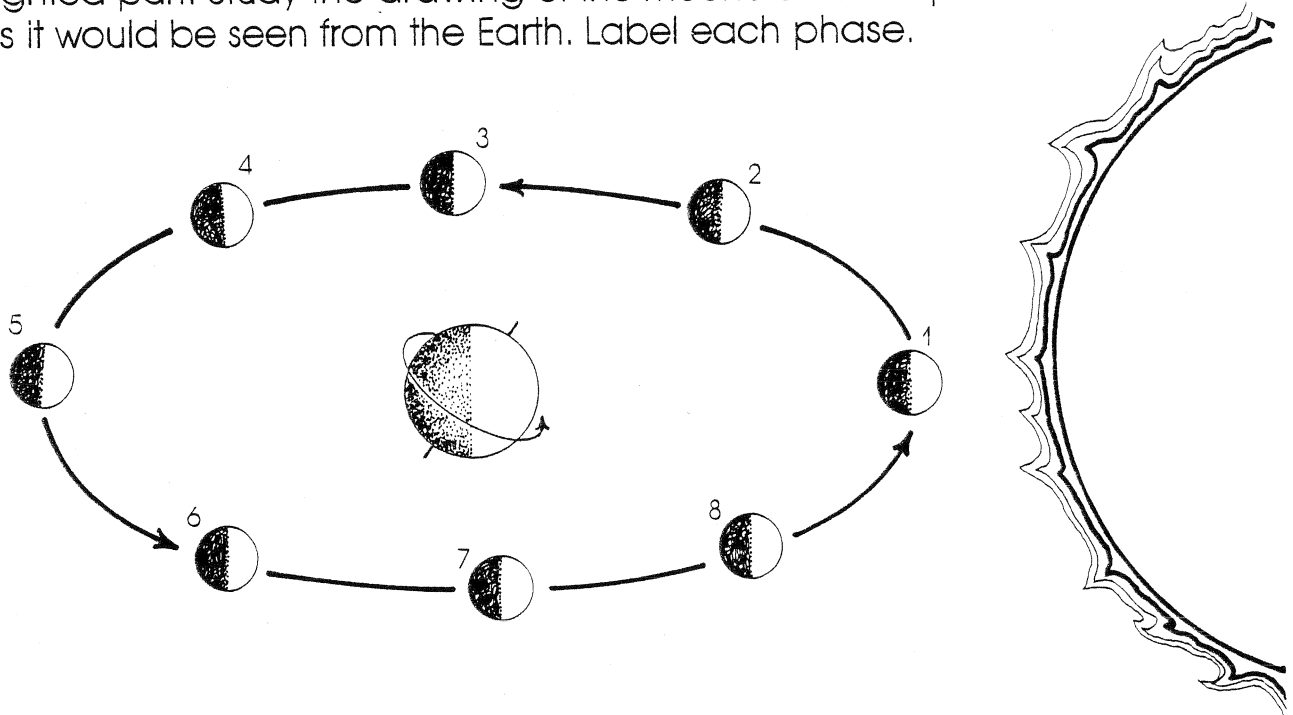
moon orbit
sun

moon
Earth's shadow

Changing Faces

Name _____

As the moon revolves around the Earth, we can see different amounts of the moon's lighted part. Study the drawing of the moon's different phases and each phase as it would be seen from the Earth. Label each phase.



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

WORD BANK

new moon
waxing gibbous
last quarter

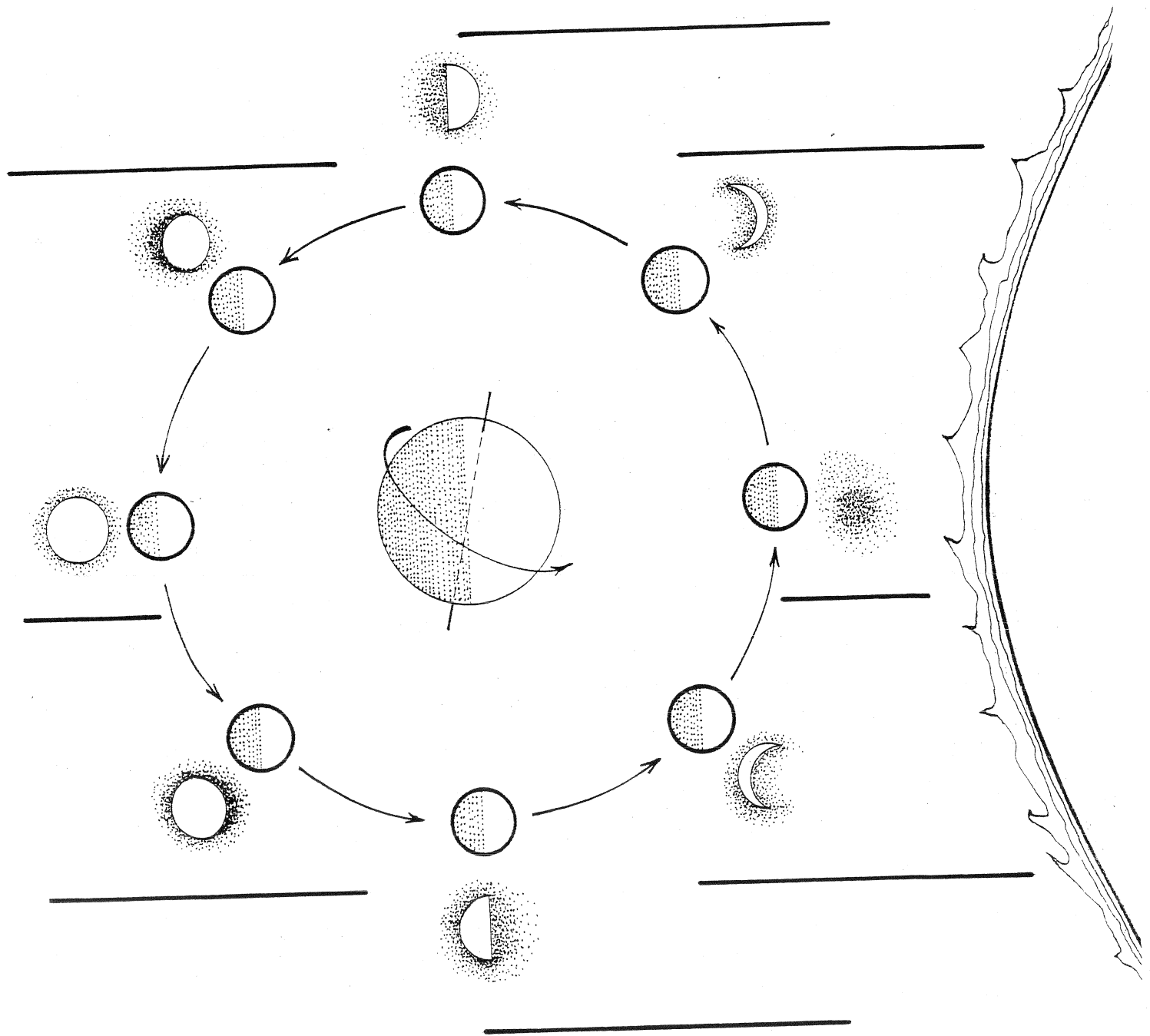
waxing crescent
full moon
waning crescent

first quarter
waning gibbous

Waning and Waxing Moon

Name _____

Use the WORD BANK to label the different phases of the moon.



WORD BANK

new
waxing gibbous
last quarter

waxing crescent
full
waning crescent

first quarter
waning gibbous