Astronomy

Review

and

Reinforce

Chapter 1

Earth, Moon, and Sun

_____

Name

_____

Homeroom

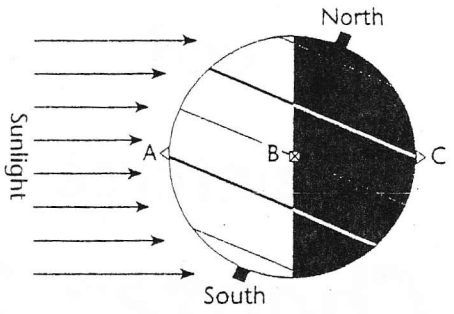
Name _____ Date _____ Class _____

P. 6-13

Earth in Space

Understanding Main Ideas

Use the following figure to answer questions 1 through 3.



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.

Name _____ Date _____ Class _____

Gravity and Motion

Understanding Main Ideas

Answer the following questions in the spaces provided.

1. How are gravity and weight related? _____

2. How does Newton's law of universal gravitation apply to Earth and the moon? _____

3. Use Newton's first law of motion to explain why a basketball rolls across the court. _____

4. How does distance affect the strength of the force of gravity? _____

Building Vocabulary

Write a brief description of each of the following.

5. force _____

6. gravity _____

7. law of universal gravitation _____

8. mass _____

9. weight _____

10. inertia _____

11. Newton's first law of motion _____

1. a.

Name _____ Date _____ Class _____

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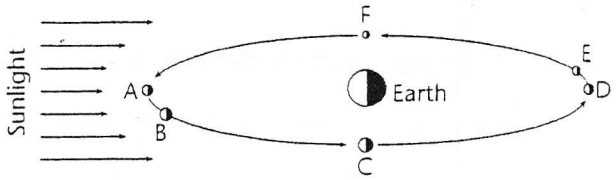
Phases, Eclipses, and Tides

Understanding Main Ideas

Use the following figure to answer questions 1 and 2.



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.

2.

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The Origin of the Moon

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

The Collision-Ring Theory

A large object collided with **a.** _____

↓

Material from **b.** _____ outer layer was ejected into space.

↓

The material from Earth was thrown into **c.** _____ and formed a ring.

↓

Gravity caused this material to form the **d.** _____ .

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

_____

_____

_____

_____

Name _____ Date _____ Class _____

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Earth's Moon

Understanding Main Ideas

1. How are the size and mass of the moon different from that of the Earth?

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?

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?

_____

_____

Name _____ Date _____ Class _____

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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

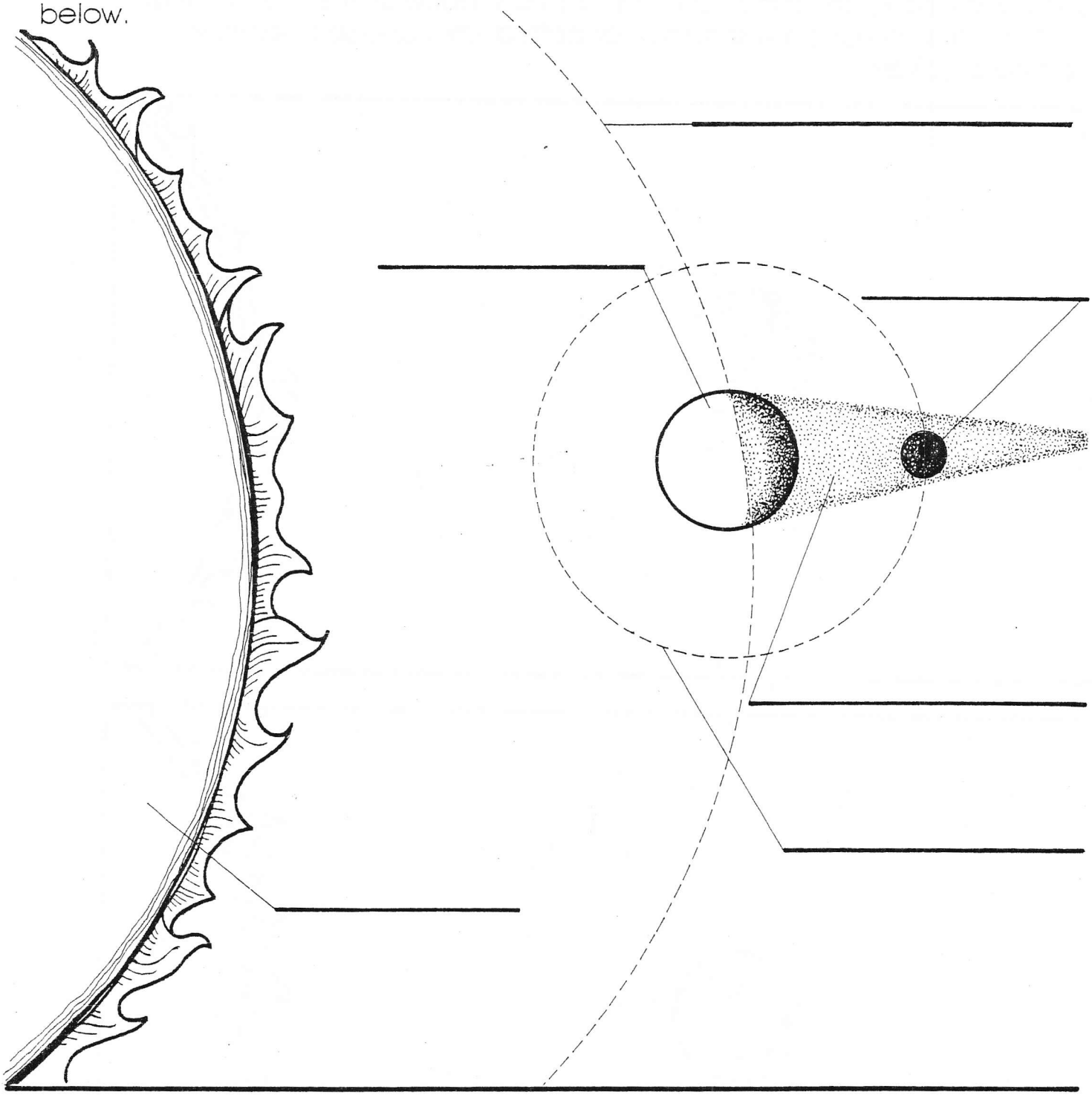
a a e u i l k a i d o

y p h a s e s h n u n

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.



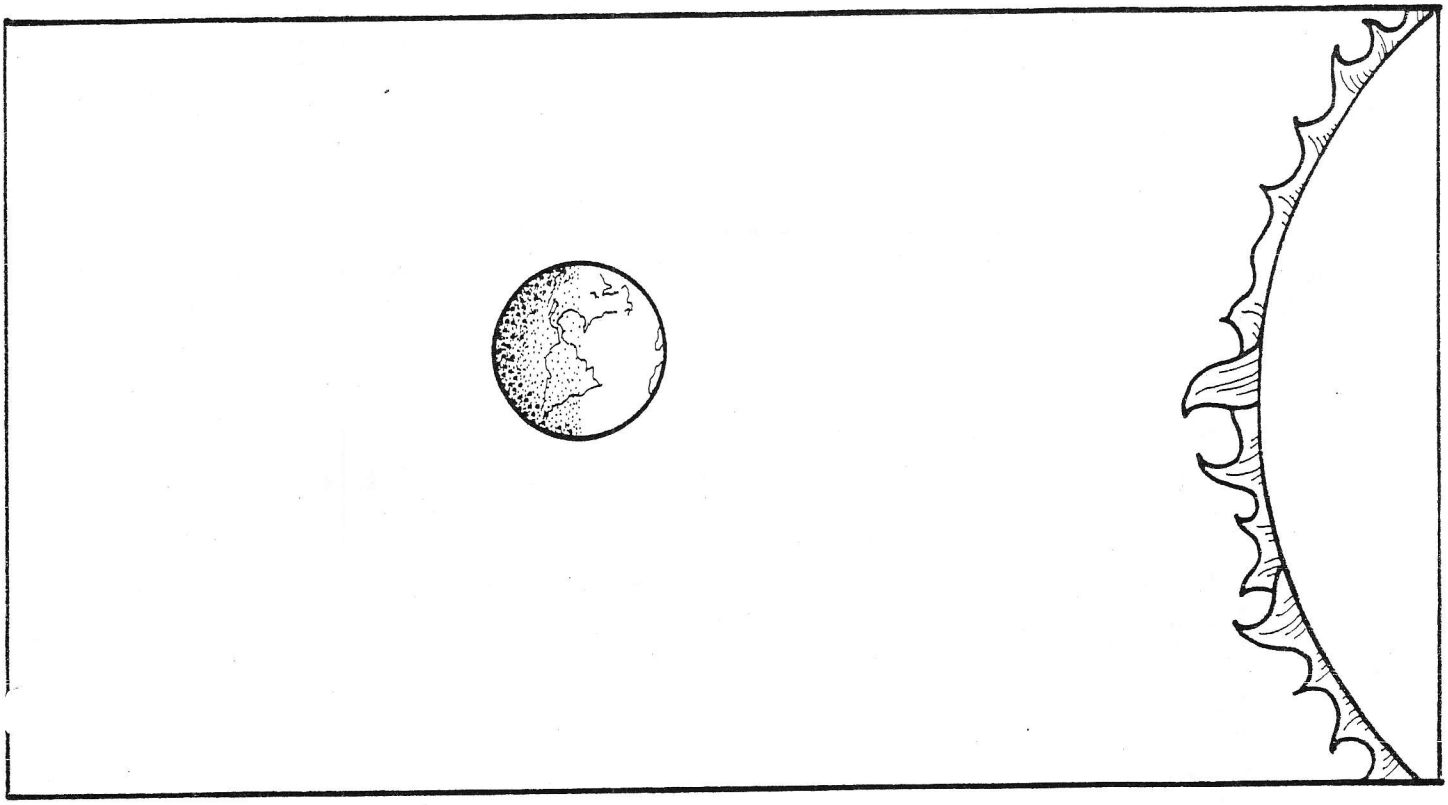
WORD BANK

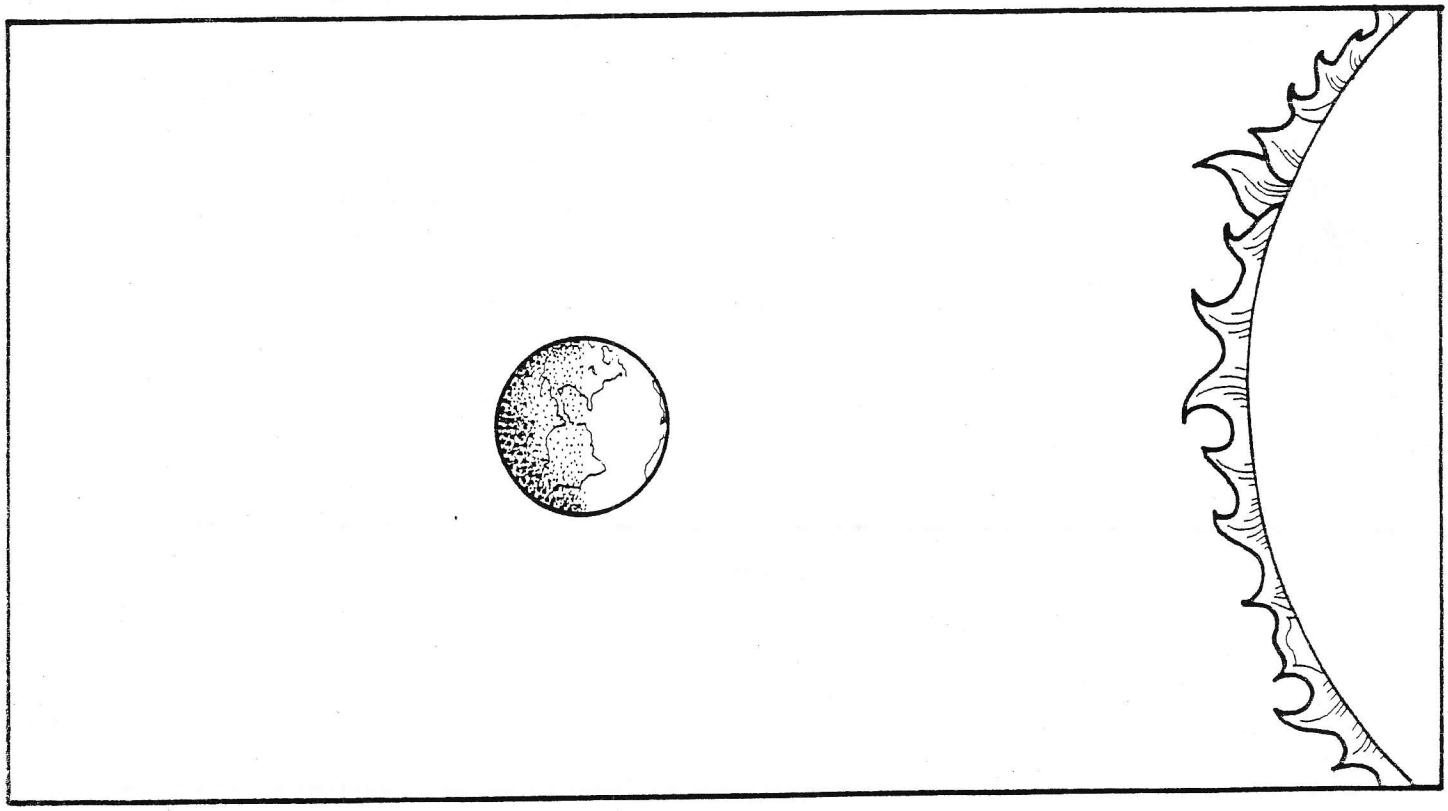
Earth orbit	moon orbit	moon
Earth	sun	Earth's shadow

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.

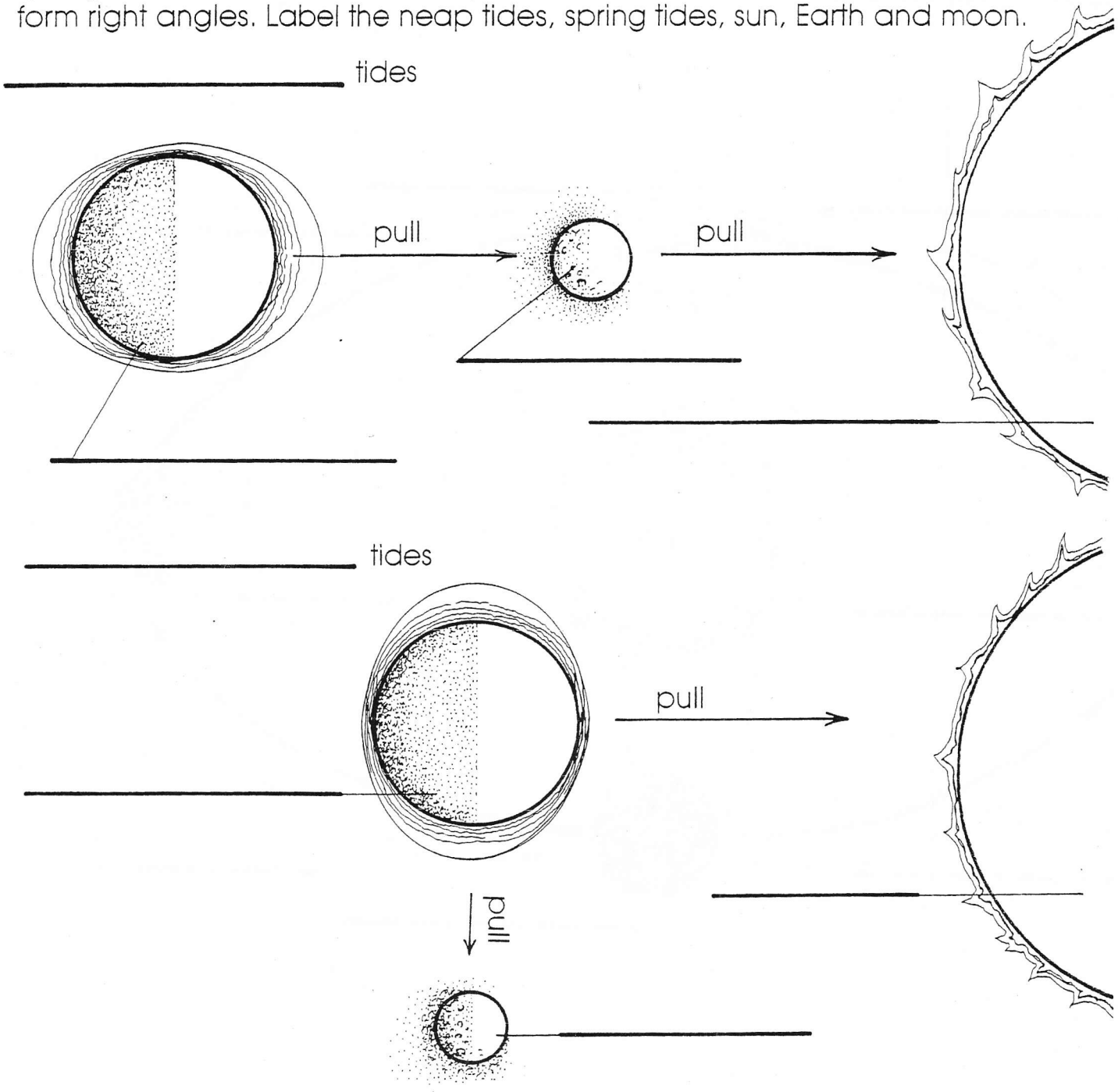




High Tide

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.



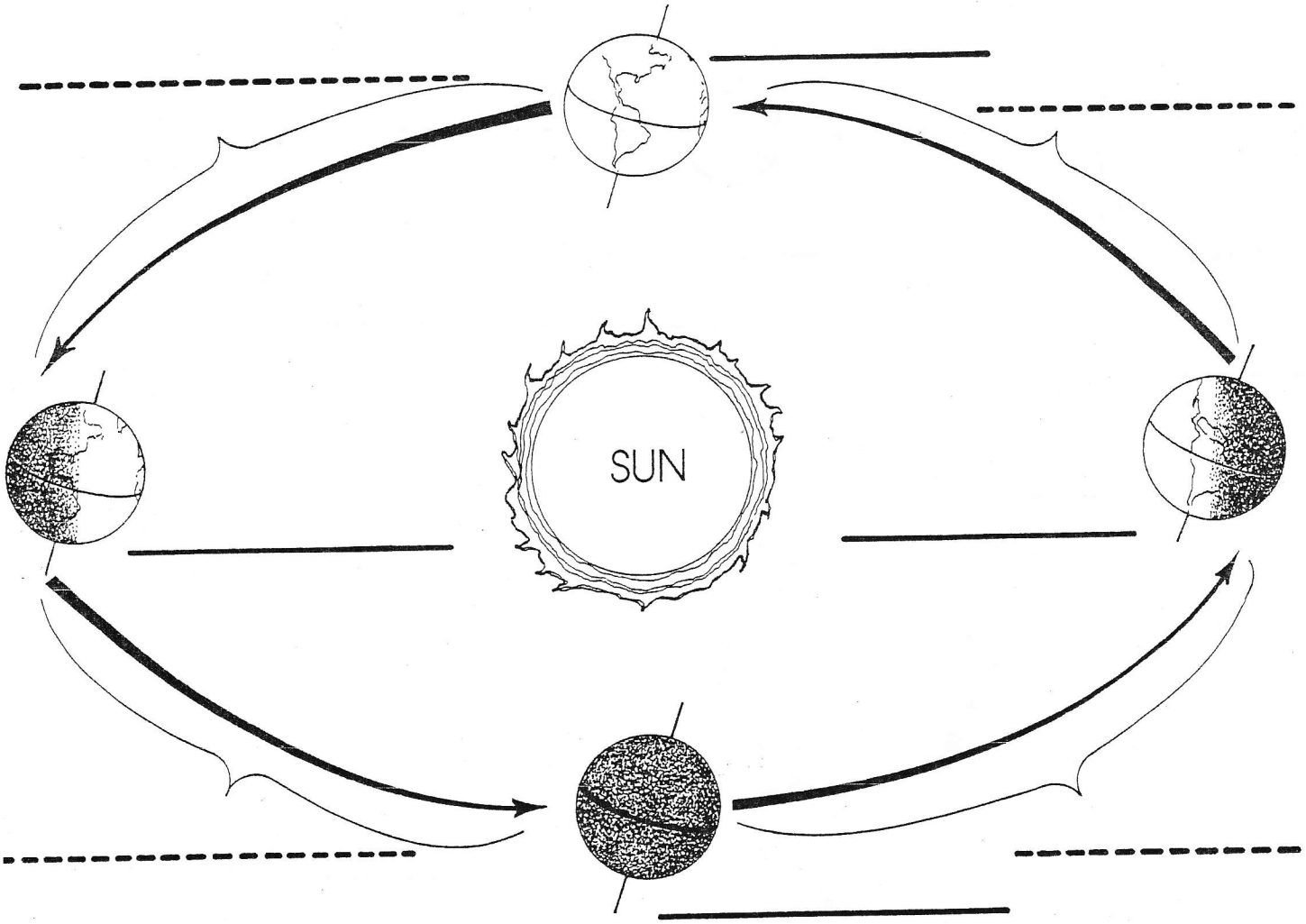
WORD BANK

neap tides spring tides sun
moon Earth

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	December 22	spring	fall
September 22	June 21	winter	summer