Astronomy

Chapter 3

Text Book

Packet

Name Homeroom #

2014

Name _____ Date _____ Class _____

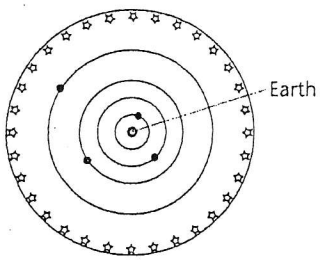
Observing the Solar System

P 72-77

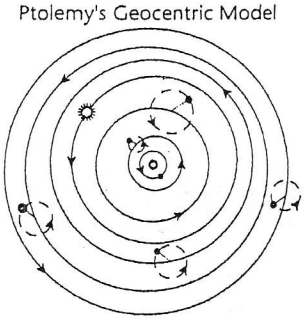
Understanding Main Ideas

Answer the following questions in the spaces provided.

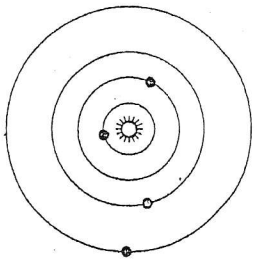
Ancient Greek Model



Ptolemy's Geocentric Model



Copernicus's Heliocentric Model



1. What is the main difference between the geocentric and heliocentric models of planetary motion?

2. How did the Greek model and Ptolemy's model differ?

3. How did Galileo's observations of Jupiter and Venus support Copernicus's model?

Building Vocabulary

Fill in each blank to complete each statement.

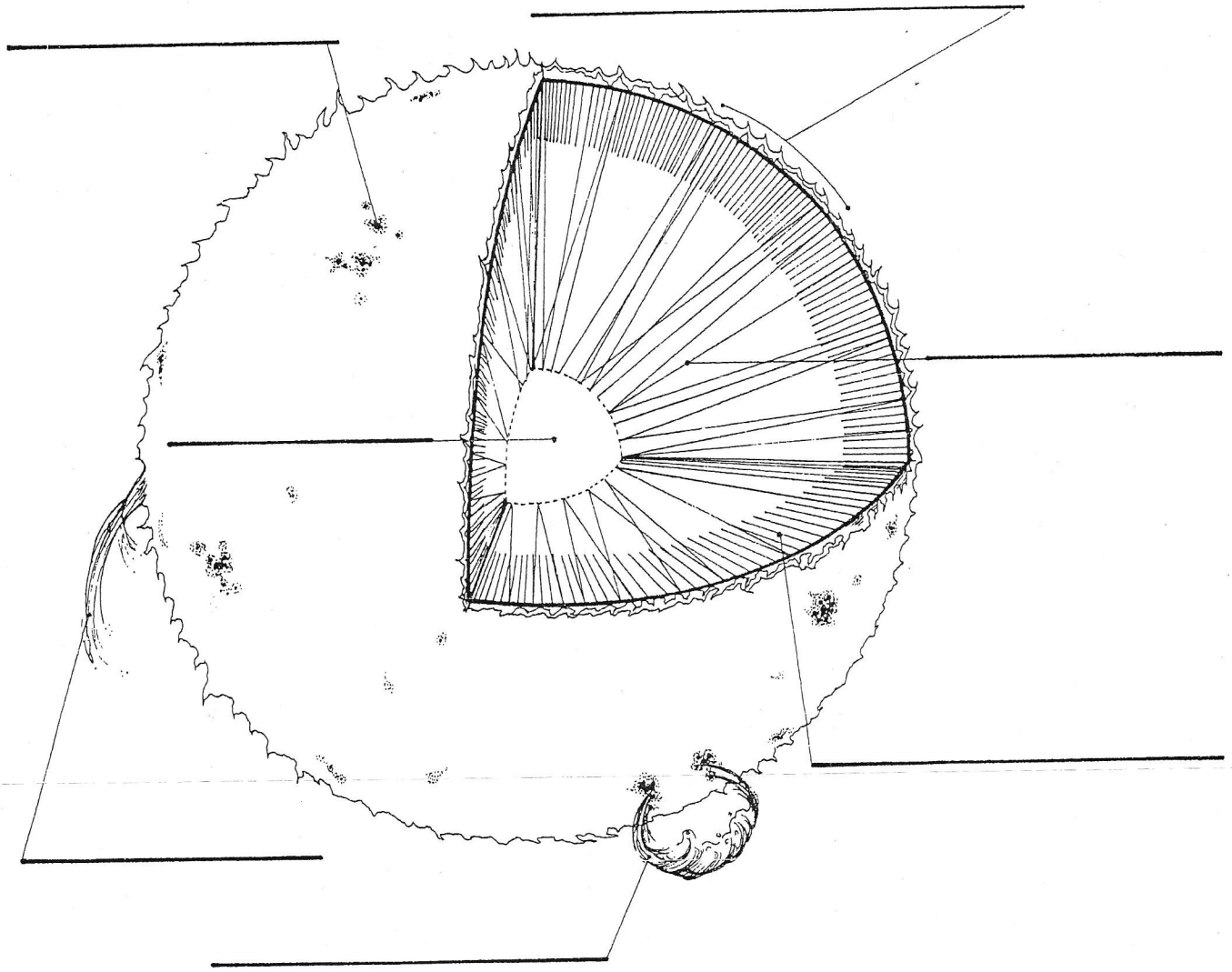
4. The sun-centered system of planets developed by Copernicus is an example of a(n) _____ model.
5. Kepler discovered that the orbit of each planet is a(n) _____, rather than a perfect circle.
6. An Earth-centered system of planets is known as a(n) _____ model.

Our Closest Star–The Sun

Name_____

The sun is the closest star to the Earth. Use the **WORD BANK** to label the different yers and features of the sun.

78-82

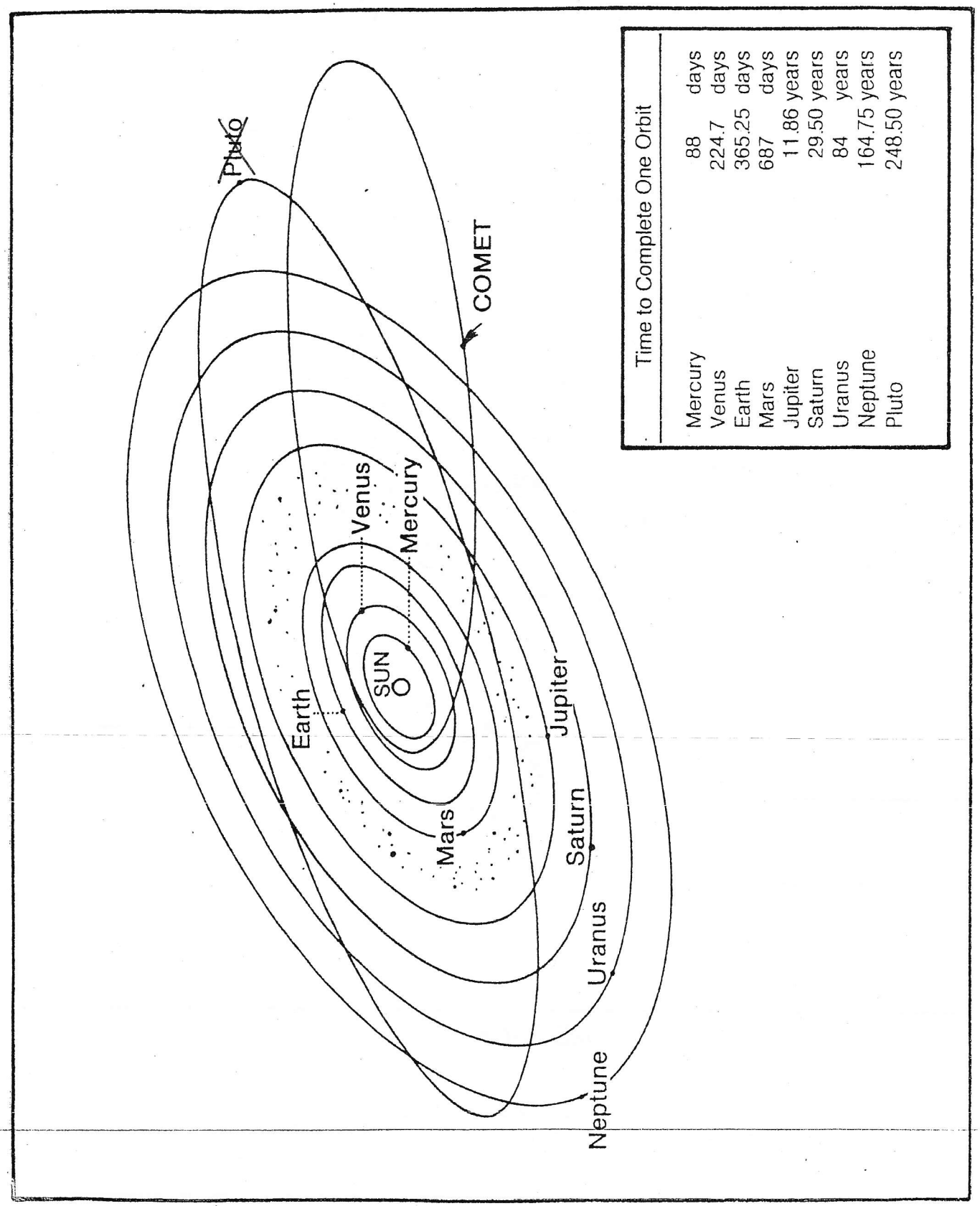


WORD BANK

core	radiative zone	
photosphere	chromosphere	
flare	sunspot	prominence

2

4 ORBITS

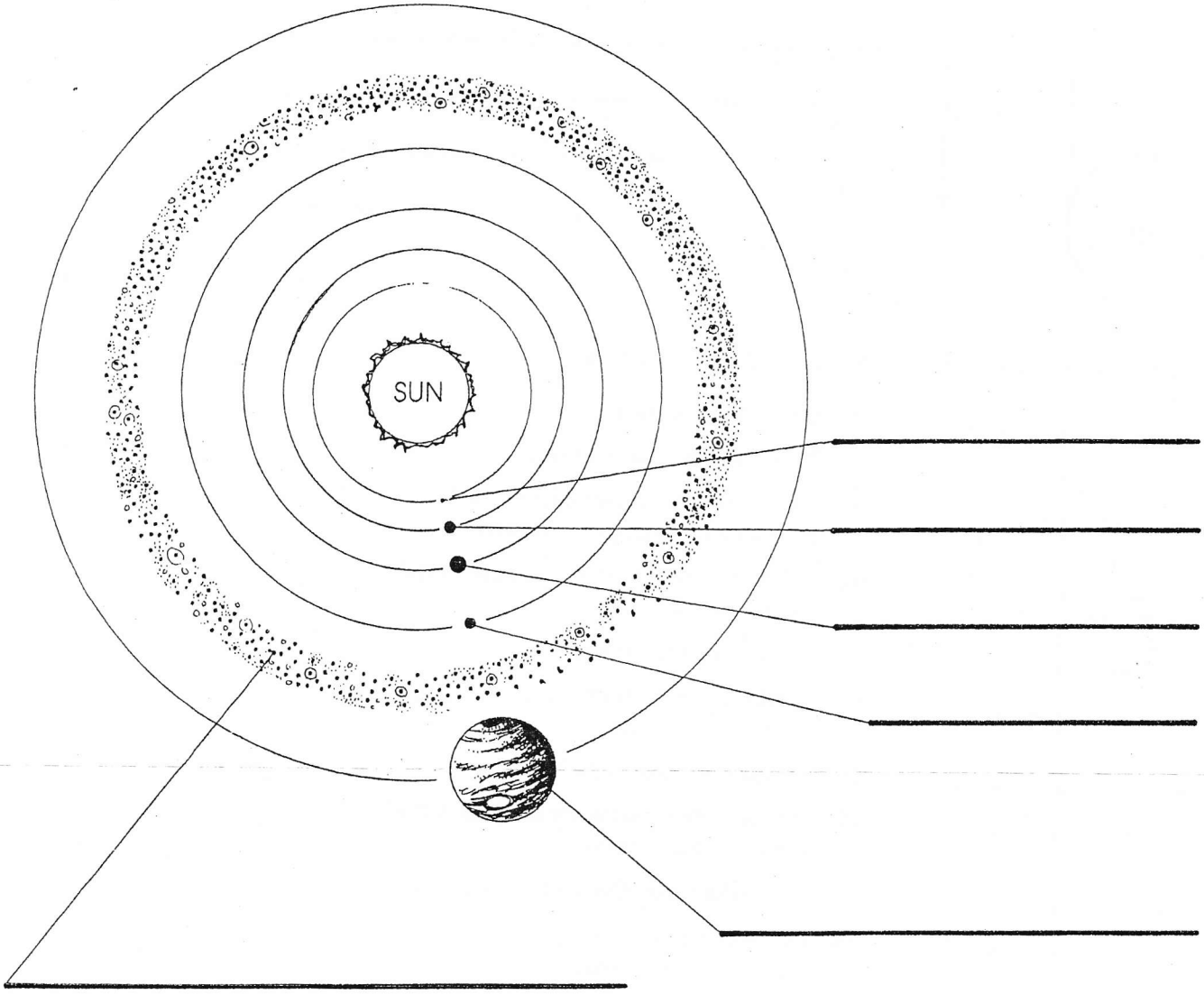


Time to Complete One Orbit	
Mercury	88 days
Venus	224.7 days
Earth	365.25 days
Mars	687 days
Jupiter	11.86 years
Saturn	29.50 years
Uranus	84 years
Neptune	164.75 years
Pluto	248.50 years

The Asteroid Belt

Name_____

Scientists believe that asteroids may be pieces of a planet that was torn apart millions of years ago. Thousands of large asteroids have been tracked, but hundreds of thousands of smaller asteroids are in the asteroid belt.
Label the asteroid belt and the planets in the illustration below.



WORD BANK

Mercury	Venus	Earth
Mars	Jupiter	asteroid belt

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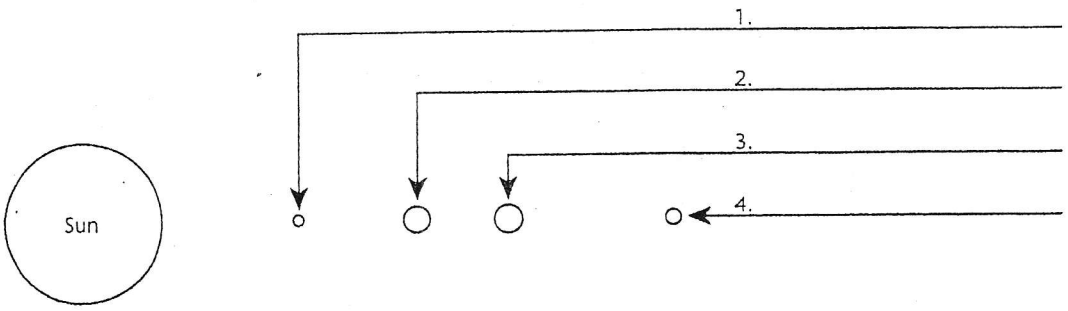
The Inner Planets

P. 84-91

Understanding Main Ideas

Label the diagram with the names of the inner planets.



Write the inner planet or planets that the statement describes.

_____ 5. has a rocky surface

_____ 6. 70 percent is covered with water

_____ 7. rotates in the opposite direction from most other planets and moons

_____ 8. called the "red planet" because of the color of the dust

_____ 9. has at least one moon

_____ 10. similar to each other in size, density, and internal structure

_____ 11. has almost no atmosphere

_____ 12. atmosphere is so heavy and thick that it would crush a human

_____ 13. has a tilted axis that causes seasons

_____ 14. atmosphere has low air pressure and is mostly carbon dioxide

Building Vocabulary

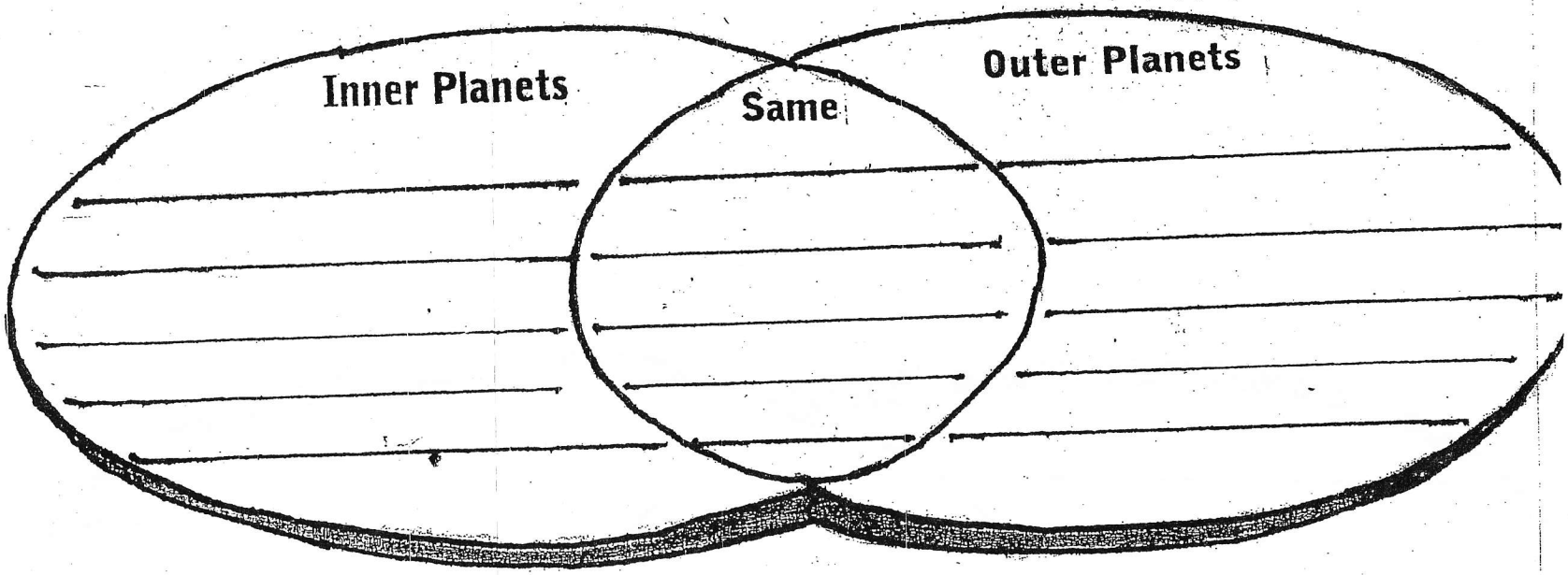
Write a definition for each of the following terms.

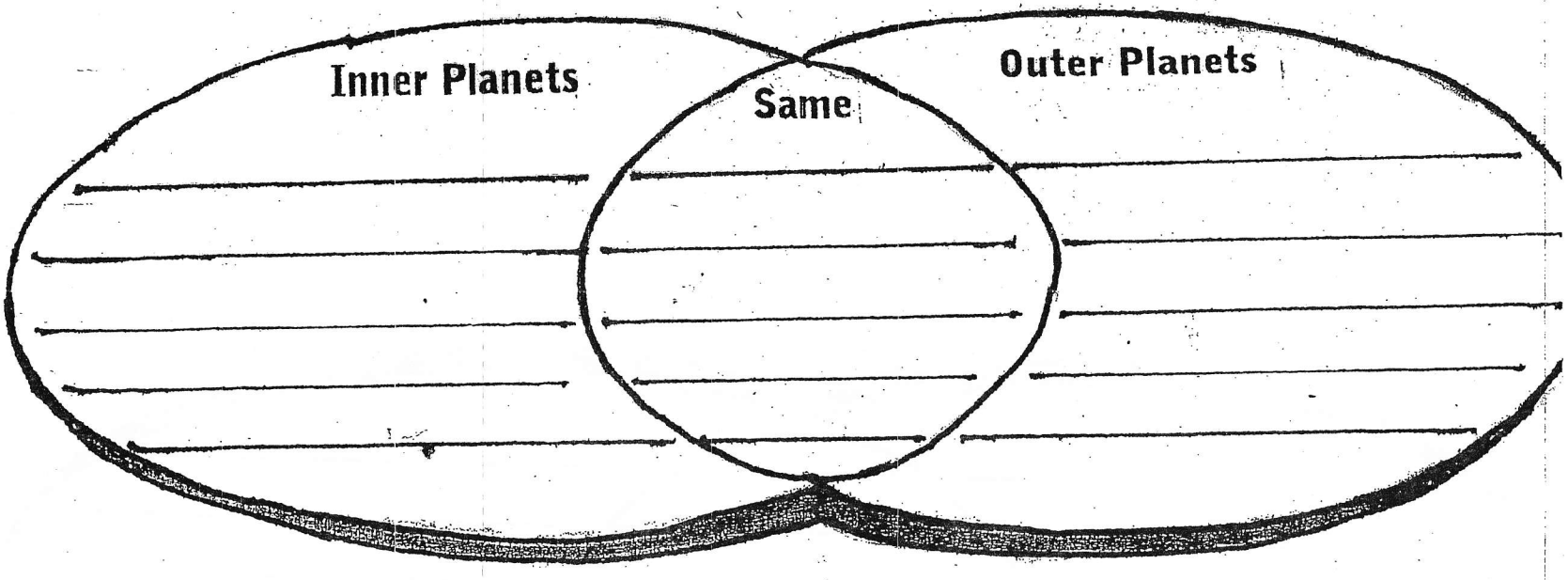
15. terrestrial planets

_____

16. greenhouse effect

_____


Inner Planets
Same
Outer Planets

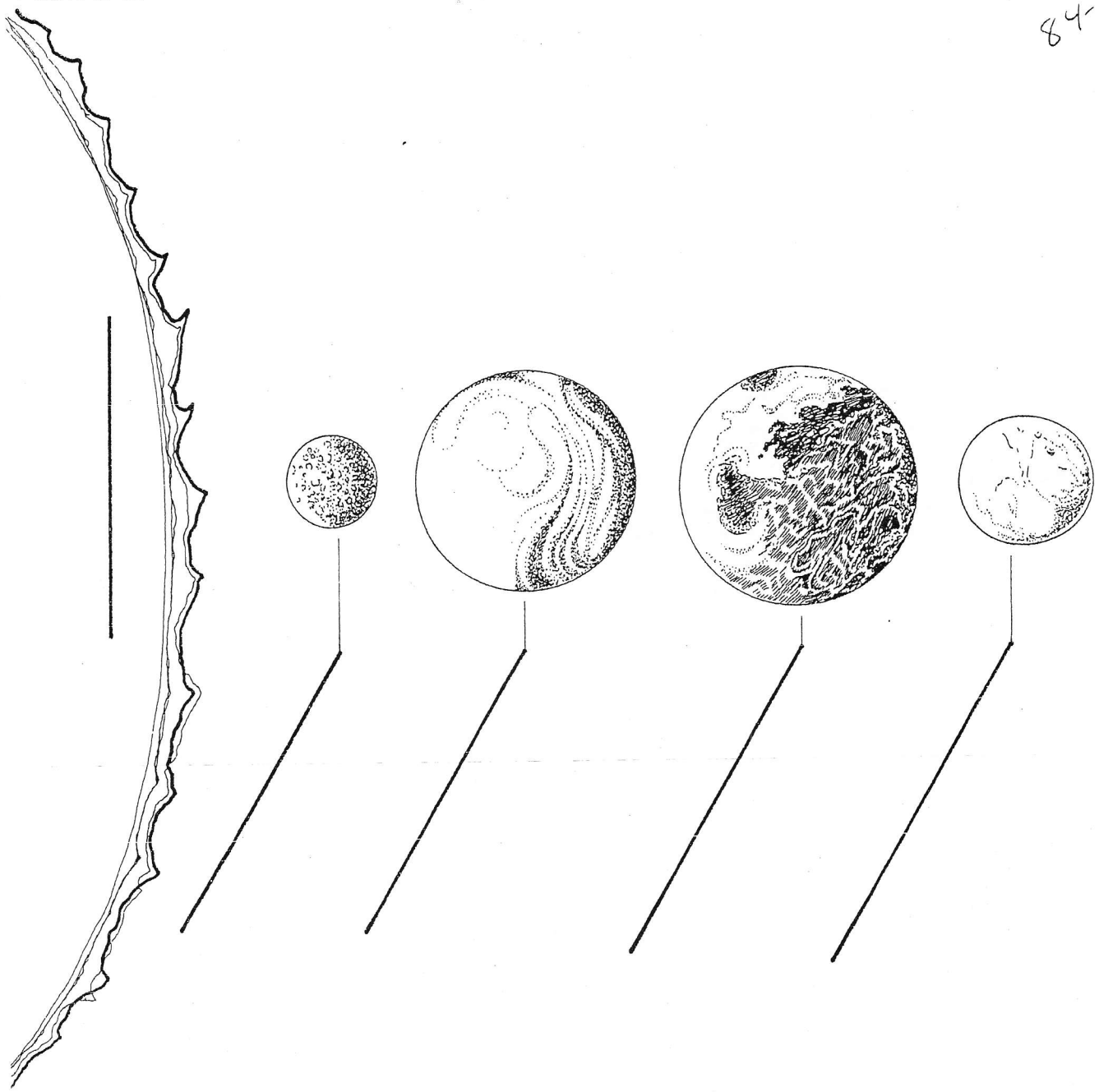

Inner Planets
Same
Outer Planets

The Inner Planets

Name_____

The planets that are closest to the sun are called the Inner Planets. Label the Inner Planets and the sun.

84-91



WORD BANK

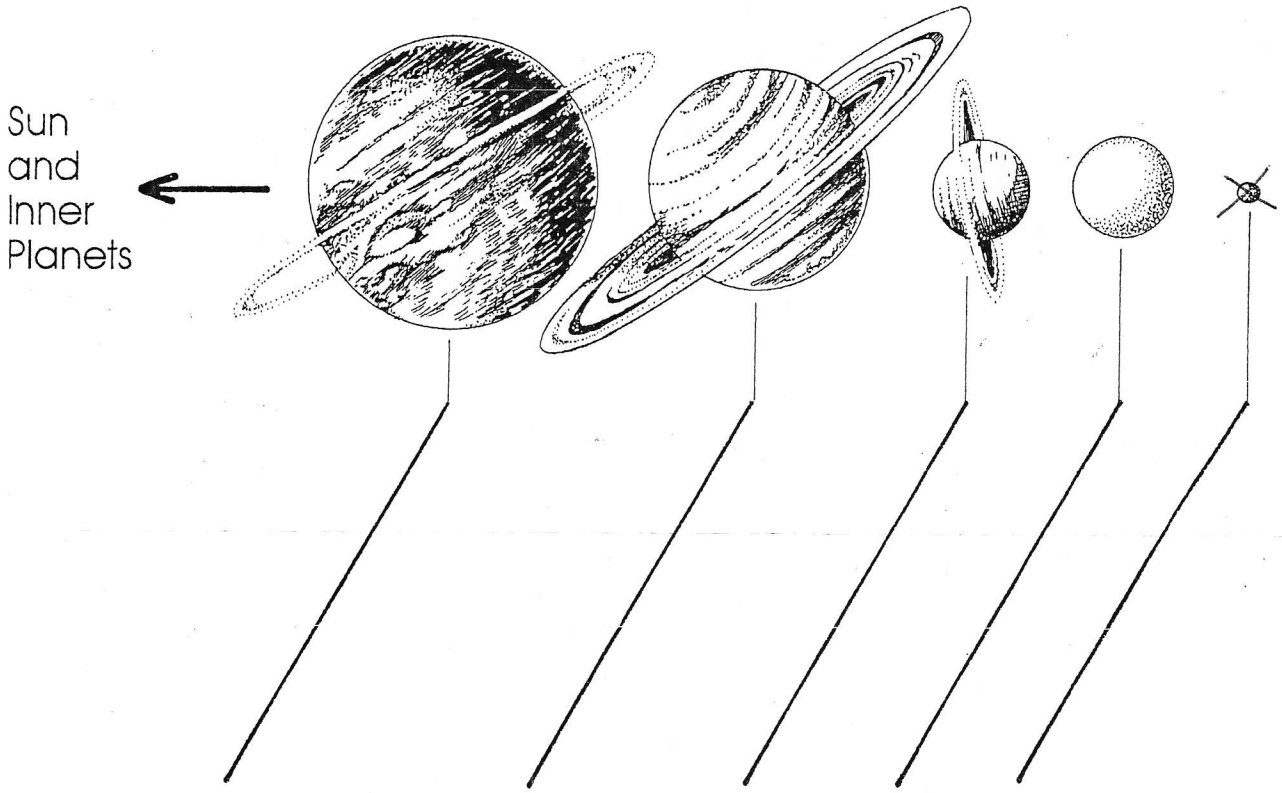
sun Venus Mercury
Earth Mars

The Outer Planets

Name_____

The planets that are farthest from the sun are called the Outer Planets. Label the Outer Planets.

94.101



WORD BANK

Jupiter Saturn Uranus
Neptune Pluto

Name _____ Date _____ Class _____

The Outer Planets

p. 99-101

Understanding Main Ideas

Answer the following question in the spaces provided.

1. What are the five outer planets?

2. Which planets are the gas giants?

3. What are the two main differences between Pluto and the gas giants?

4. Why doesn't the gas on a gas giant escape into space, as it has on Mercury?

5. What object in the solar system has a composition similar to that of the gas giants? _____

6. What planet is by far the most massive of all the planets that revolve around the sun? _____

7. What are Saturn's rings made of? _____

8. How did astronomers know where to look to discover Neptune?

9. Why do astronomers sometimes consider Pluto and its moon, Charon, to be a double planet?

Building Vocabulary

10. Define *gas giant*.

11. What is a *ring*?

10

Name _____ Date _____ Class _____

Comets, Asteroids, and Meteors

~~167~~ 164-167

Understanding Main Ideas

Complete the following table.

Object	Description	Location/Movement
Asteroid		
Comet		
Meteoroid		

Answer questions 1 through 3 on a separate sheet of paper.

1. Explain what causes a meteoroid to become a meteorite.
2. Describe these parts of a comet: head, nucleus, coma, tail.
3. How can you tell a meteor from a comet?

Building Vocabulary

From the list below, choose the term that best completes each sentence.

asteroid	comet	meteoroid
asteroid belt	Kuiper belt	meteorite
coma	meteor	Oort cloud

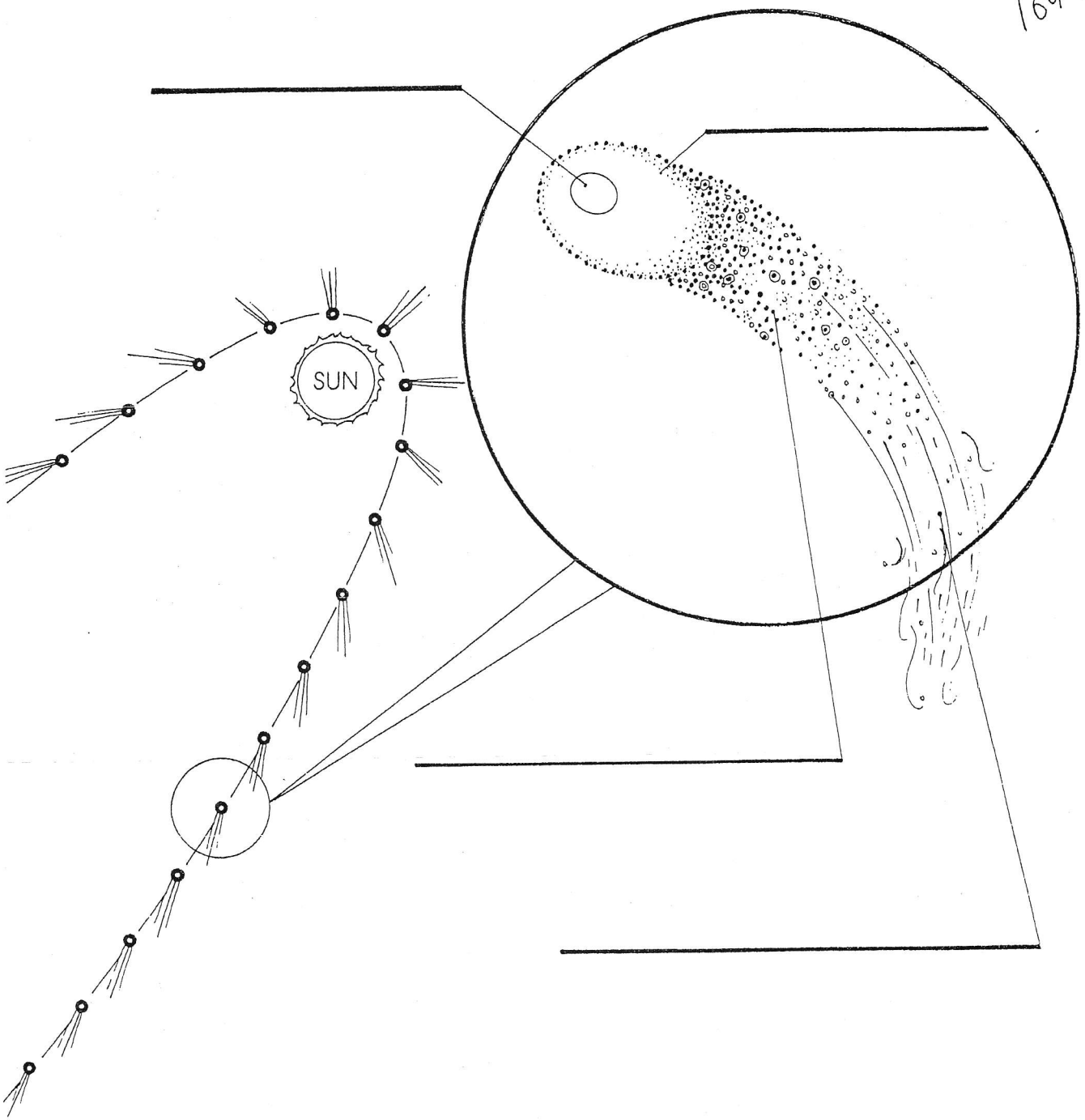
4. When a meteoroid enters Earth's atmosphere, friction causes it to burn up and produce a streak of light called a(n) _____.
5. A chunk of ice and dust whose orbit is usually a long, narrow ellipse is a(n) _____.
6. If a meteoroid hits Earth's surface, it is called a(n) _____.
7. A rocky object that revolves around the sun, but is too small to be considered a planet, is a(n) _____.
8. A chunk of rock or dust in space that usually comes from a comet or an asteroid is called a(n) _____.
9. The region of the solar system between the orbits of Mars and Jupiter is known as the _____.
10. Clouds of gas and dust on a comet form a fuzzy outer layer called a _____.
11. A spherical region of comets is the _____.
12. A doughnut-shaped region of comets that begins near Neptune's orbit is the _____

Dirty Snowballs

Name_____

Comets are like "dirty snowballs." Use the words from the **WORD BANK** to label the parts of these frozen masses of gas and dust particles.

164-107



WORD BANK

nucleus coma gas tail dust tail