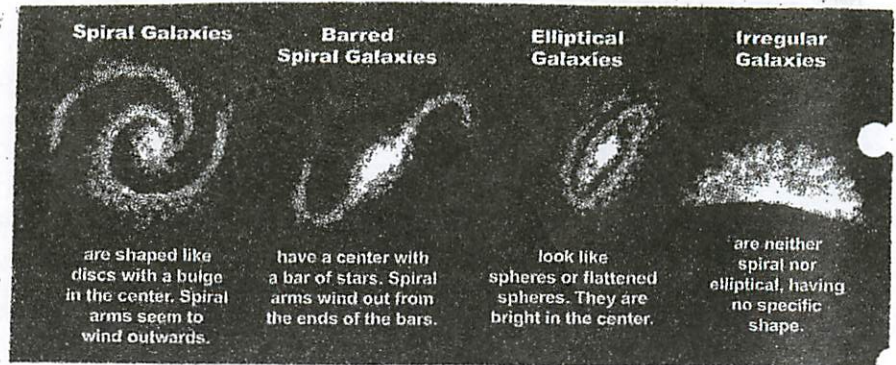


The Universe
Activity Sheet #1
Galaxies Graphic Organizer Answer Key*

	Spiral galaxy	Elliptical galaxy	Irregular galaxy
1. Size and content	Huge; contains stars, dust, and gas	Huge; contains stars, dust, and gas	Huge; contains stars, dust, and gas
2. Held together by...	gravity	gravity	gravity
3. Shape	Pinwheel shape	Round to oval shape	Irregular shape
4. Amount of gas and dust	Large amount	Small amount	Usually a large amount
5. Types of stars	Young and old stars	Mainly old stars	Young and old stars
6. Draw the shape. Use a separate sheet of paper if necessary.	Drawings will vary.	Drawings will vary.	Drawings will vary.

* NOTE: These are suggested answers; other correct answers are possible.



1. What is causing...?

Building Vocabulary Match each term with its definition

- | | |
|-------------------------------|--|
| <u>D</u> 2. optical telescope | a. space and everything in it |
| <u>C</u> 3. spectrum | b. the portion of the electromagnetic spectrum that humans can see |
| <u>A</u> 4. universe | c. white light shining through a prism spreads out to form this |
| <u>F</u> 5. wavelength | d. two types: refracting and reflecting |
| <u>B</u> 6. visible light | e. a device used to detect and collect radio waves |
| <u>E</u> 7. radio telescope | f. the distance between the crest of one wave and the crest of the next wave |

Write an answer for each of the following questions in the spaces provided.

- In which direction are nearly all galaxies moving? What is causing this?
They are moving away from each other - expansion
 - What is Hubble's law?
That all galaxies away from us are continuing to move farther apart from us.
 - What is the Big Bang Theory?
at least universe may have been created by a huge explosion 12 billion years ago
- Considering the Big Bang Theory, place the following events in order in which they occurred (1 through 10)
- 4 4. Nebula shrinks to form a spinning disk
 - 5 5. Gravity pulls gases to the center of the disk
 - 1 6. Big bang occurred
 - 7 7. The planets form
 - 3 8. Gas and dust accumulate as a nebula
 - 2 9. Matter separates into galaxies
 - 6 10. Gas at the center of the disk becomes hot and dense enough for nuclear fusion to begin.

6. Draw a line from each term to its meaning.

Term	Meaning
spiral galaxy	a. galaxy that does not have any certain shape
elliptical galaxy	b. galaxy with a bulge in the middle and arms that curve
irregular galaxy	c. galaxy that looks like a round or flattened ball

The Milky Way (page 625)

Key Concept: Our solar system is located in a spiral galaxy called the Milky Way.

- Earth, the sun, and the rest of the solar system are all part of the Milky Way galaxy.
- The Milky Way is a spiral galaxy. Earth is inside one of the galaxy's spiral arms.
- The center of the Milky Way galaxy is about 25,000 light-years from Earth.

Answer the following questions. Use your textbook and the ideas above.

7. Earth is in the galaxy called the Milky Way.

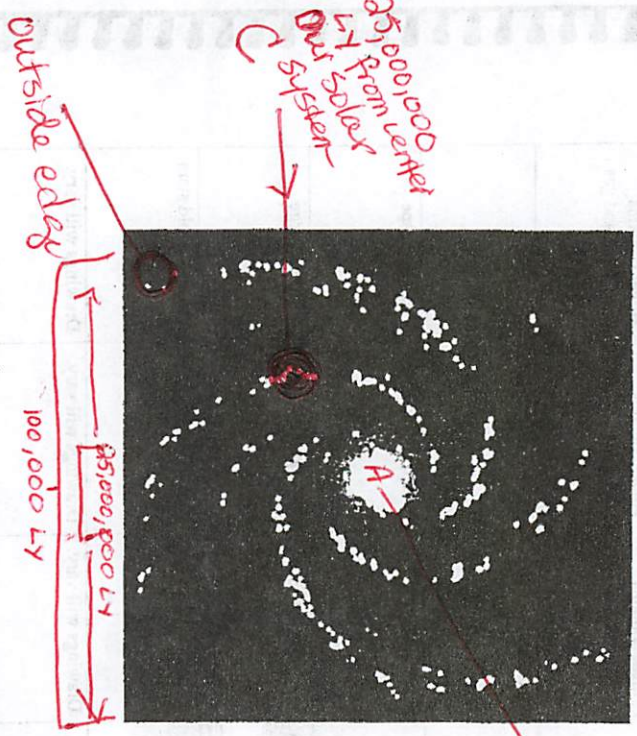
8. Circle the letter of the type of galaxy that the Milky Way is.

a. spiral galaxy
 b. elliptical galaxy
 c. irregular galaxy

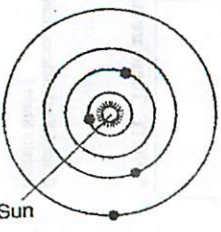
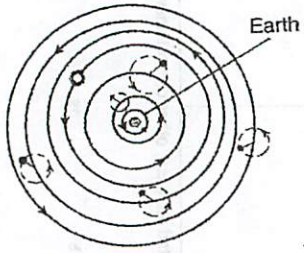
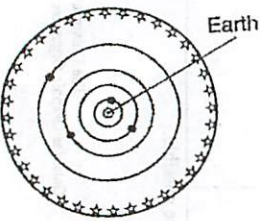
4. A huge group of stars that is held together by gravity is a(n) galaxy.

5. Look at the picture below. Then circle the letter of the kind of galaxy the picture shows.

a. spiral galaxy
 b. elliptical galaxy
 c. irregular galaxy



6. Look at the picture of a heliocentric model.



Review: Geocentric or Heliocentric?

a. Geocentric
 b. Geocentric (Ptolemy)
 c. Heliocentric