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Content Practice A Chapter 22.3 Review **LESSON 3**

Evolution of Stars

Directions: *On each line, write the term from the word bank that correctly completes each sentence. Some terms may be used more than once or not at all.*

black hole	**fusion**	**gravity**	**massive star**
nebula	**neutron star**	**protostar**	**red giant**
star	**Sun**	**supergiants**	**supernova**
white dwarf			

1. A star forms deep inside a cloud of gas and dust called a _____.

2. _____ causes the densest parts of the nebula to collapse.

3. A _____ is formed and continues to contract.

4. The core of the protostar becomes hot and dense enough for nuclear _____.

5. Eventually the surrounding gas and dust blows away and a _____ becomes visible.

6. Low-mass stars such as the Sun do not have enough mass to become _____.

7. A _____ turns into a red giant, a larger red giant, and then a red supergiant.

8. After a low-mass star runs out of helium, the core is exposed and becomes a _____.

9. When the Sun in our solar system runs out of fuel, it will become a _____ and then eventually a white dwarf.

10. A massive star does not become a _____. Instead it explodes.

11. A _____ is an enormous explosion that destroys a star.

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Key Concept Builder LESSON 3

Evolution of Stars

Key Concept How does a star's mass affect its evolution?

Directions: *Number the events in each chart from 1 to 5 to show the sequence in the life of each type of star.*

	Medium Mass
	red giant star
	star-forming nebula
	dead star
	medium-mass protostar
	white dwarf

	High Mass
	massive protostar
	red supergiant
	formation of a neutron star or a black hole
	star-forming nebula
	explodes as a supernova

Directions: *Circle the term in parentheses that correctly completes each sentence.*

1. Lower-mass stars such as the Sun do not have enough (hydrogen, mass) to become supergiants.

2. High-mass stars collapse and explode as (protostars, supernovae).

3. A lower-mass star becomes a (white dwarf, black hole) instead of a supernova.

4. A supernova destroys a massive star and leaves behind a (red giant, neutron star).

5. A neutron star collapses into a black hole because of the force of (fusion, gravity).

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Key Concept Builder

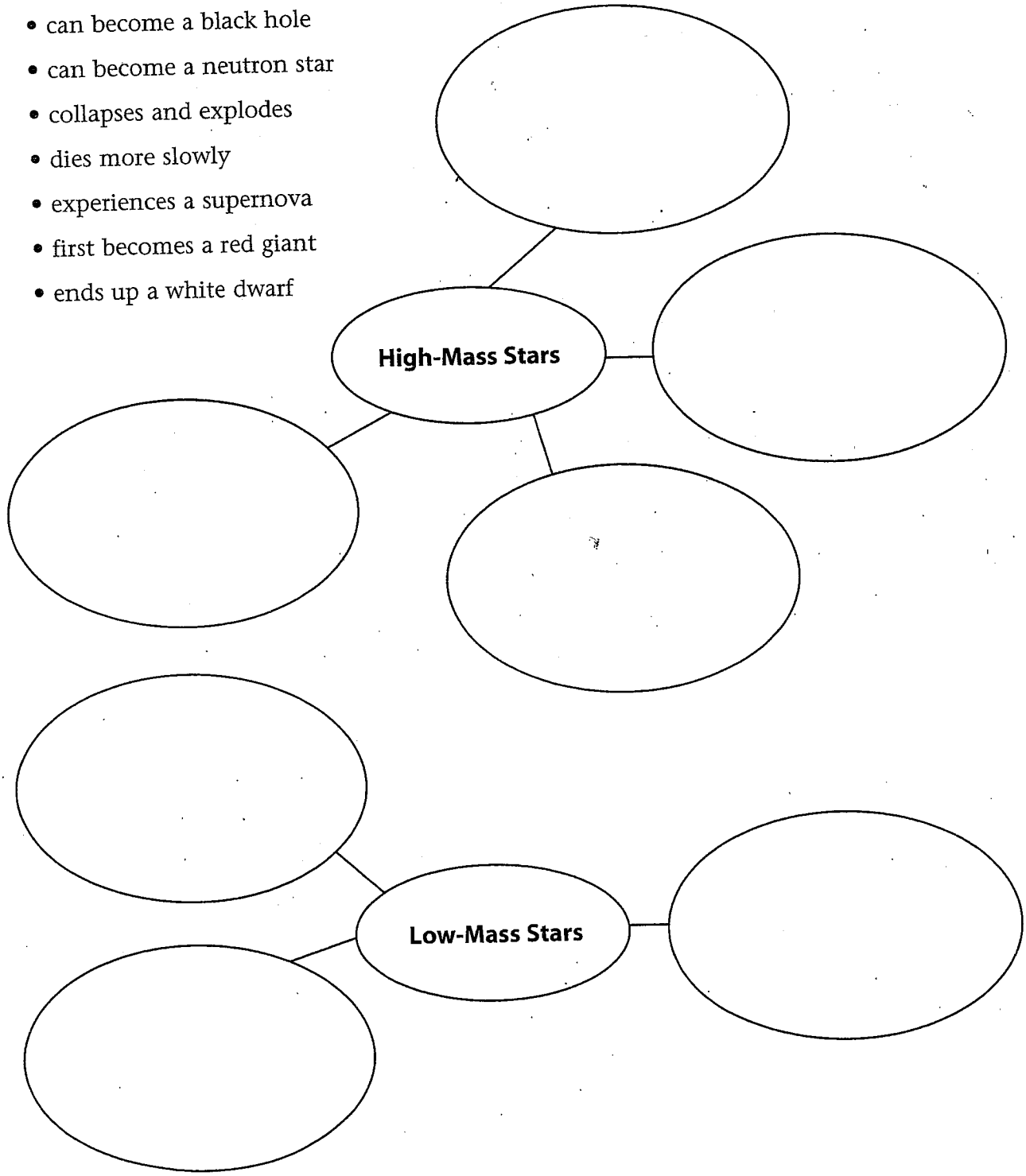
LESSON 3

Evolution of Stars

Key Concept How does a star's mass affect its evolution?

Directions: *Complete each concept map by writing the correct phrase from the list in the space provided.*

- can become a black hole
- can become a neutron star
- collapses and explodes
- dies more slowly
- experiences a supernova
- first becomes a red giant
- ends up a white dwarf



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Lesson Quiz A **LESSON 3**

Evolution of Stars

True or False

Directions: *On the line before each statement, write* T *if the statement is true or* F *if the statement is false. If the statement is false, change the underlined word(s) to make it true. Write your changes on the lines provided.*

_____ **1.** A cold, dense, dark cloud of gas and dust in space is called a nebula.

_____

_____ **2.** The gravity of a white dwarf is so great that light cannot escape it.

_____

_____ **3.** A supernova is the explosion of a massive star.

_____

_____ **4.** A dense core that remains after a supernova is called a black hole.

_____

_____ **5.** Stars move onto the main sequence when they begin to fuse hydrogen into carbon.

_____

Multiple Choice

Directions: *On the line before each question, write the letter of the correct answer.*

_____ **6.** Which sequence correctly shows how stars form?

A. nebula forms → nebula collapses → protostar forms → fusion begins

B. protostar forms → nebula forms → fusion begins → nebula collapses

C. nebula forms → protostar forms → nebula collapses → fusion begins

_____ **7.** Which statement is true of stellar evolution?

A. Black holes become neutrons stars.

B. Low-mass stars become supergiants.

C. The most massive stars do not become white dwarfs.

_____ **8.** How do stars recycle matter?

A. They stay on the main sequence.

B. Black holes form and recycle stellar gas for new stars.

C. Gravity pulls together gases and matter from old stars to create new ones.