Skills Worksheet

Directed Reading B

Section: Mendel and His Peas (pp. 174–179)

1. What is heredity?

2. What field of study did Mendel's experiments help establish?

BEFORE MENDEL

_____ **3.** If a brown rabbit mates with a white rabbit, the offspring would be tan according to the idea of

- **a.** mixing inheritance.
- **b.** proportionate inheritance.
- **c.** Mendelian inheritance.
- **d.** blending inheritance.

GREGOR MENDEL'S WORK

- **4.** Gregor Mendel was born in
 - **a.** the United States.
 - **b.** Austria.
 - **c.** Germany.
 - **d.** Italy.

5. Why did Mendel study garden peas?

6. Why is it possible for pea plants to self-pollinate?

ame	Class	Date

Directed Reading B continued

Ν

Match the correct definition with the correct term. Write the letter in the space provided.

- **7.** Pollen from one plant is carried by animals or wind to fertilize eggs in the ovule of another plant.
- a. self-pollination
- **b.** true breeding
- c. cross-pollination
- **8.** Sperm from one plant fertilizes the eggs of the same plant.
- **9.** Egg and sperm from the same plant combine; all the offspring have the same traits as the parent.
- **10.** If a plant that is true breeding for purple flowers self-pollinates and has offspring, what color will the flowers of the offspring be?
- **11.** A feature, such as hair color, that has different forms in a population is called
 - a(n) _____.
- **12.** A different form of a characteristic, such as brown hair, is called
 - a(n) _____.
- **13.** Besides flower color, what are three characteristics of pea plants that Mendel studied?
- **14.** Why did Mendel use plants that were true breeding for each of the traits he was studying?
- **15.** When he crossed two pea plants that had different traits of the same characteristic, how was Mendel able to select which plants would be crossed to produce offspring?

Directed Reading B continued

MENDEL'S FIRST EXPERIMENTS

16. When plants that are true breeding for different traits of a characteristic are crossed, the offspring are called

- a. dominant plants.
- **b.** recessive plants.
- **c.** first-generation plants.
- d. second-generation plants.

17. When plants that are true breeding for different traits of a characteristic are crossed, the trait observed in the first generation is called the

Class ____

- a. dominant trait.
- **b.** recessive trait.
- **c.** first-generation trait.
- **d.** second-generation trait.
- **18.** A trait that reappears in the second generation after disappearing in the first generation is called a
 - **a.** dominant trait.
 - **b.** recessive trait.
 - **c.** first-generation trait.
 - **d.** second-generation trait.

MENDEL'S SECOND EXPERIMENTS

- **19.** When first-generation plants are allowed to self-pollinate, the offspring are called
 - **a.** dominant plants.
 - **b.** recessive plants.
 - **c.** first-generation plants.
 - **d.** second-generation plants.
- **20.** When first-generation plants are allowed to self-pollinate, what type of traits appear in the second generation?
 - **a.** Only the dominant traits appear.
 - **b.** Only the recessive traits appear.
 - **c.** Dominant and recessive traits appear.
 - **d.** New traits appear.
 - **21.** In Mendel's experiments, what type of trait appeared most often in the second generation?
 - **a.** dominant traits
 - **b.** recessive traits
 - **c.** passive traits
 - **d.** new traits