4-1 Sexual Reproduction and Meiosis

Modified True/False

Indicate whether the statement is true or false. If false, change the identified word or phrase to make the statement true.

____ 1. Diploid cells are sex cells. _____

____ 2. A child may look more like one parent than the other because a child inherits chromosomes from one parent. _____

____ 3. Meiosis involves one division of the nucleus and cytoplasm. _____

____ 4. The cells that result from mitosis and cell division have the same genetic information. _____

____ 5. Meiosis happens in all cells of multicellular organisms. _____

____ 6. In sexual reproduction, offspring inherit twice the DNA of each parent. _____

____ 7. Asexual reproduction involves one parent organism. _____

Multiple Choice

Identify the choice that best completes the statement or answers the question. Write the letter of your choice on the blank line.

____ 1. A cell that has two of every kind of chromosome is ____.

a. haploid
c. an egg
b. diploid
d. a sperm

____ 2. Haploid numbers of chromosomes are usually found in the ____ of an organism.

a. tissues
c. sex cells
b. body cells
d. zygotes

____ 3. Each human skin cell has ____ pairs of chromosomes.

a. 13
c. 23
b. 18
d. 46

____ 4. One cell that undergoes meiosis will yield how many cells?

a. 1
c. 3
b. 2
d. 4

____ 5. The female sex cell is called a(n) _____.

a. egg
c. zygote
b. sperm
d. diploid

____ 6. How are sex cells produced?

a. haploid
c. meiosis
b. diploid
d. mitosis

____ 7. What is the cell called that results from fertilization?

a. egg
c. zygote
b. sperm
d. diploid

____ 8. Which type of cells form through meiosis?

a. sex cells
c. zygote cells
b. body cells
d. diploid cells

____ 9. How many times does a body cell divide during mitosis?

a. 0
c. 2
b. 1
d. 3

____ 10. How many cells are produced by mitosis and cell division?

a. 0
c. 2
b. 1
d. 3

____ 11. How many times does a reproductive cell divide during meiosis?

a. 1
c. 3
b. 2
d. 4

____ 12. How many cells are produced by a reproductive cell during meiosis?

a. 1
c. 3
b. 2
d. 4

____ 13. After meiosis, how many chromosomes does each cell have compared to the original cell?

a. same number
c. twice as many
b. half as many
d. three times as many

____ 14. Which of the following organisms do NOT have genetic variation?

a. humans
c. trees
b. dogs
d. amoeba

Matching

Match each term with the correct description below.

a. mitosis
d. eggs
b. fertilization
e. meiosis
c. zygote
f. sperm

____ 1. sex cells from female reproductive organ

____ 2. sex cells from male reproductive organ

____ 3. cell division in sexual reproduction

____ 4. cell that forms in fertilization

____ 5. joining of two sex cells

____ 6. takes place in body cells

Match the following.

a. meiosis

b. mitosis and cell division

____ 7. one division of the nucleus

____ 8. four daughter cells produced

____ 9. two daughter cells produced

____ 10. results in growth and cell repair

____ 11. diploid daughter cells

____ 12. haploid daughter cells

____ 13. forms sperm and egg cells

4-1 Sexual Reproduction and Meiosis

Answer Section

MODIFIED TRUE/FALSE

1. ANS: F, Haploid

PTS: 1 DIF: Bloom's Level 1 | DOK 1-LOW

REF: To review this topic refer to Reproduction of Organisms: Lesson 1

OBJ: 4-1 STA: 5.3.8.D.1

2. ANS: F

A child inherits chromosomes from both parents.

PTS: 1 DIF: Bloom's Level 2 | DOK 1-LOW

REF: To review this topic refer to Reproduction of Organisms: Lesson 1

OBJ: 4-1 STA: 5.3.6.D.3 | 5.3.8.D.1

3. ANS: F, Meiosis involves two divisions of the nucleus and cytoplasm.

PTS: 1 DIF: Bloom's Level 2 | DOK 2-MOD

REF: To review this topic refer to Reproduction of Organisms: Lesson 1

OBJ: 4-2 STA: 5.3.6.D.3

4. ANS: T PTS: 1 DIF: Bloom's Level 1 | DOK 1-LOW

REF: To review this topic refer to Reproduction of Organisms: Lesson 1

OBJ: 4-3 STA: 5.3.8.D.1

5. ANS: F

Meiosis happens in the reproductive cells of multicellular organisms.

PTS: 1 DIF: Bloom's Level 1 | DOK 1-LOW

REF: To review this topic refer to Reproduction of Organisms: Lesson 1

OBJ: 4-3 STA: 5.3.8.D.1 | 5.3.6.D.2 | 5.3.6.D.3

6. ANS: F

In sexual reproduction, offspring inherit half the DNA of each parent.

PTS: 1 DIF: Bloom's Level 2 | DOK 1-LOW

REF: To review this topic refer to Reproduction of Organisms: Lesson 1

OBJ: 4-3 STA: 5.3.8.A.1

7. ANS: F

Asexual reproduction involves one parent organism.

PTS: 1 DIF: Bloom's Level 1 | DOK 1-LOW

REF: To review this topic refer to Reproduction of Organisms: Lesson 2

OBJ: 4-4 STA: 5.3.8.A.1

MULTIPLE CHOICE

1. ANS: B

Diploid cells are cells that have pairs of chromosomes.

PTS: 1 DIF: Bloom's Level 2 | DOK 1-LOW

REF: To review this topic refer to Reproduction of Organisms: Lesson 1

OBJ: 4-1 STA: 5.3.8.B.1

2. ANS: C

Sex cells have only one chromosome from each pair of chromosomes.

PTS: 1 DIF: Bloom's Level 2 | DOK 1-LOW

REF: To review this topic refer to Reproduction of Organisms: Lesson 1

OBJ: 4-1 STA: 5.3.8.A.1 | 5.3.8.A.2 | 5.3.6.A.2

3. ANS: C

Diploid cells have pairs of chromosomes. Human diploid cells have 23 pairs of chromosomes.

PTS: 1 DIF: Bloom's Level 2 | DOK 1-LOW

REF: To review this topic refer to Reproduction of Organisms: Lesson 1

OBJ: 4-1 STA: 5.3.8.A.1 | 5.3.8.A.2 | 5.3.6.A.2

4. ANS: D

In meiosis, one diploid cell divides and makes four haploid sex cells.

PTS: 1 DIF: Bloom's Level 1 | DOK 1-LOW

REF: To review this topic refer to Reproduction of Organisms: Lesson 1

OBJ: 4-1 STA: 5.3.8.A.1 | 5.3.8.A.2 | 5.3.6.A.2

5. ANS: A

The female sex cell is an egg.

PTS: 1 DIF: Bloom's Level 1 | DOK 1-LOW

REF: To review this topic refer to Reproduction of Organisms: Lesson 1

OBJ: 4-1 STA: 5.3.8.A.1 | 5.3.8.A.2 | 5.3.6.A.2

6. ANS: C

Meiosis produces sex cells.

PTS: 1 DIF: Bloom's Level 2 | DOK 1-LOW

REF: To review this topic refer to Reproduction of Organisms: Lesson 1

OBJ: 4-1 STA: 5.3.8.A.1 | 5.3.8.A.2 | 5.3.6.A.2

7. ANS: C

The egg cell and sperm cell join together in fertilization to form a zygote.

PTS: 1 DIF: Bloom's Level 2 | DOK 1-LOW

REF: To review this topic refer to Reproduction of Organisms: Lesson 1

OBJ: 4-1 STA: 5.3.8.A.1 | 5.3.8.A.2 | 5.3.6.A.2

8. ANS: A

Organisms produce sex cells using a special type of cell division called meiosis.

PTS: 1 DIF: Bloom's Level 2 | DOK 1-LOW

REF: To review this topic refer to Reproduction of Organisms: Lesson 1

OBJ: 4-1 STA: 5.3.8.A.1 | 5.3.8.A.2 | 5.3.6.A.2

9. ANS: B

During mitosis and cell division, a body cell and its nucleus divide once and produce two identical cells.

PTS: 1 DIF: Bloom's Level 1 | DOK 1-LOW

REF: To review this topic refer to Reproduction of Organisms: Lesson 1

OBJ: 4-3 STA: 5.3.8.A.1 | 5.3.8.A.2 | 5.3.6.A.2

10. ANS: C

The two daughter cells have the same genetic information produced by mitosis and cell division.

PTS: 1 DIF: Bloom's Level 1 | DOK 1-LOW

REF: To review this topic refer to Reproduction of Organisms: Lesson 1

OBJ: 4-3 STA: 5.3.8.A.1 | 5.3.8.A.2 | 5.3.6.A.2

11. ANS: B

A reproductive cell and its nucleus divide twice during meiosis.

PTS: 1 DIF: Bloom's Level 1 | DOK 1-LOW

REF: To review this topic refer to Reproduction of Organisms: Lesson 1

OBJ: 4-3 STA: 5.3.8.A.1 | 5.3.8.A.2 | 5.3.6.A.2 | 5.3.8.B.1

12. ANS: D

During meiosis, a reproductive cell produces four cells; two pairs of haploid cells.

PTS: 1 DIF: Bloom's Level 1 | DOK 1-LOW

REF: To review this topic refer to Reproduction of Organisms: Lesson 1

OBJ: 4-3 STA: 5.3.8.A.1 | 5.3.8.A.2 | 5.3.6.A.2

13. ANS: B

Each cell has half the number of chromosomes as the original cell after meiosis.

PTS: 1 DIF: Bloom's Level 1 | DOK 1-LOW

REF: To review this topic refer to Reproduction of Organisms: Lesson 1

OBJ: 4-3 STA: 5.3.8.A.1 | 5.3.8.A.2 | 5.3.6.A.2

14. ANS: D

Humans, dogs, and trees reproduce sexually. Amoeba do not. Sexual reproduction results in genetic variation.

PTS: 1 DIF: Bloom's Level 2 | DOK 1-LOW

REF: To review this topic refer to Reproduction of Organisms: Lesson 1

OBJ: 4-3 STA: 5.3.8.A.1 | 5.3.8.A.2 | 5.3.6.A.2

MATCHING

1. ANS: D PTS: 1 DIF: Bloom's Level 2 | DOK 1-LOW

REF: To review this topic refer to Reproduction of Organisms: Lesson 1

OBJ: 4-1 STA: 5.3.8.A.1 | 5.3.8.A.2

2. ANS: F PTS: 1 DIF: Bloom's Level 2 | DOK 1-LOW

REF: To review this topic refer to Reproduction of Organisms: Lesson 1

OBJ: 4-1 STA: 5.3.8.A.1 | 5.3.8.A.2

3. ANS: E PTS: 1 DIF: Bloom's Level 2 | DOK 1-LOW

REF: To review this topic refer to Reproduction of Organisms: Lesson 1

OBJ: 4-1 STA: 5.3.8.A.1 | 5.3.8.A.2

4. ANS: C PTS: 1 DIF: Bloom's Level 2 | DOK 1-LOW

REF: To review this topic refer to Reproduction of Organisms: Lesson 1

OBJ: 4-1 STA: 5.3.8.A.1 | 5.3.8.A.2

5. ANS: B PTS: 1 DIF: Bloom's Level 2 | DOK 1-LOW

REF: To review this topic refer to Reproduction of Organisms: Lesson 1

OBJ: 4-1 STA: 5.3.8.A.1 | 5.3.8.A.2

6. ANS: A PTS: 1 DIF: Bloom's Level 2 | DOK 1-LOW

REF: To review this topic refer to Reproduction of Organisms: Lesson 1

OBJ: 4-1 STA: 5.3.8.A.1 | 5.3.8.A.2

7. ANS: B PTS: 1 DIF: Bloom's Level 2 | DOK 1-LOW

REF: To review this topic refer to Reproduction of Organisms: Lesson 1

OBJ: 4-3 STA: 5.3.8.A.1 | 5.3.8.A.2

8. ANS: A PTS: 1 DIF: Bloom's Level 2 | DOK 1-LOW

STA: 5.3.8.A.1 | 5.3.8.A.2

9. ANS: B PTS: 1 DIF: Bloom's Level 2 | DOK 1-LOW

STA: 5.3.8.A.1 | 5.3.8.A.2

10. ANS: B PTS: 1 DIF: Bloom's Level 2 | DOK 1-LOW

STA: 5.3.8.A.1 | 5.3.8.A.2

11. ANS: B PTS: 1 DIF: Bloom's Level 2 | DOK 1-LOW

STA: 5.3.8.A.1 | 5.3.8.A.2

12. ANS: A PTS: 1 DIF: Bloom's Level 2 | DOK 2-MOD

STA: 5.3.8.A.1 | 5.3.8.A.2

13. ANS: A PTS: 1 DIF: Bloom's Level 2 | DOK 2-MOD

STA: 5.3.8.A.1 | 5.3.8.A.2