

Mississippi 8th Grade Science Practice Quiz – Cell Division & Reproduction

Questions 1–3: Mitosis & Asexual Reproduction (L.8.2A.2)

1. A scientist observes a single-celled organism splitting into two identical cells. Which type of reproduction is occurring?

- A) Meiosis
- B) Sexual reproduction
- C) Mitosis / Asexual reproduction
- D) Fertilization

2. Which is a major advantage of asexual reproduction?

- A) Offspring are genetically identical to parents, ensuring survival in a stable environment.
- B) Offspring have genetic variation, which increases adaptability.
- C) Requires two parents, increasing diversity.
- D) Produces fewer offspring over time.

3. Which is a disadvantage of asexual reproduction?

- A) Produces genetic variation in individuals.
- B) Requires complex mating behaviors.
- C) Takes longer to produce offspring than sexual reproduction.
- D) Offspring are vulnerable to the same diseases as the parent.

Questions 4–6: Meiosis (L.8.2A.3)

4. During meiosis, a single cell divides to produce how many cells, and what type are they?

- A) 2 identical diploid cells
- B) 4 genetically unique haploid cells
- C) 2 identical haploid cells
- D) 4 identical diploid cells

5. Crossing over occurs during meiosis. Which statement best describes its effect?

- A) It allows sister chromatids to separate equally.
- B) It creates genetic variation by exchanging DNA between homologous chromosomes.
- C) It produces identical copies of the parent cell.
- D) It doubles the number of chromosomes in gametes.

6. A cell undergoing meiosis produces gametes for sexual reproduction. Which cells are these in humans?

- A) Skin cells
- B) Muscle cells
- C) Sperm or egg cells
- D) Bone cells

Questions 7–10: Sexual Reproduction & Comparing Reproduction Types (L.8.2A.4 & L.8.2A.5)

7. Sexual reproduction increases genetic variation. Which statement best explains why this is beneficial?

- A) Variation allows populations to adapt to changing environments.
- B) Variation ensures offspring are identical to parents.
- C) Variation slows reproduction, reducing competition.
- D) Variation reduces the need for two parents.

8. Which is a key difference between sexual and asexual reproduction?

- A) Sexual reproduction requires two parents; asexual requires one.
- B) Asexual reproduction produces gametes; sexual does not.
- C) Sexual reproduction produces identical offspring; asexual produces variation.
- D) Asexual reproduction occurs only in animals; sexual occurs only in plants.

9. A plant produces seeds after flowers are pollinated. Which type of reproduction is this?

- A) Asexual, because seeds form from one parent
- B) Sexual, because gametes from two parents combine
- C) Asexual, because offspring are genetically unique
- D) Sexual, because no gametes are involved

10. Which statement correctly compares mitosis and meiosis?

- A) Meiosis results in two identical diploid cells; mitosis results in 6 haploid cells
- B) Mitosis produces gametes; meiosis produces body cells.
- C) Both processes produce genetically identical cells.
- D) Mitosis produces two identical cells; meiosis produces four genetically unique cells.