

Guided Version  
UNIT 5 STUDY GUIDE

Key

Name: \_\_\_\_\_

Test Date: 12/08

**Define the Type of Reproduction:**

**1. Sexual Reproduction**

Reproduction where the genetic materials from two parent cells combine

The types of cells are called Sex cells, or gametes (scientific name)

Female cells are egg cells, and male cells are sperm cells.

After fertilization, the two gametes join together and form a zygote.

**2. Asexual Reproduction**

Reproduction where there is one parent that produces uniform offspring that are genetically identical to the parent cell and to each other

**3. Budding**

A new organism grows by mitosis and cell division on the body of its parent. The bud, or offspring, is identical to the parent.

Examples: Yeast, Hydra, Cactus

**4. Fission**

Cell division in prokaryotes that forms two genetically identical cells. For example: bacteria, Ecoli and pond critters.

**5. Regeneration (occurs two ways)**

a. Producing new organisms from a piece of the parent. (Ex. Sea Stars)

b. Producing new body parts when a piece of the parent breaks off. (Ex. Gecko)

**Answer the following questions:**

**1. What are advantages of sexual reproduction?**

a. Diverse offspring: genetic variation among offspring.

b. Due to genetic variation, individuals within a population have slight differences

c. Traits can develop to resist harsh environments that allows an organism to survive.

d. Selective Breeding - used to develop many types of plants and animals that have desirable traits.

**2. What are disadvantages of sexual reproduction?**

a. Time and Energy: Organisms have to grow and develop until they are old enough to produce sex cells, and then they have to search and find a mate, which can expose them to predators, diseases, or harsh environmental conditions.

b. Fertilization cannot take place during pregnancy.

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## 3. What are advantages of asexual reproduction?

- Organisms can reproduce without a mate, so that there is no wasted time and energy.
- Organisms can reproduce rapidly, and have a large number of uniform offspring.

## 4. What are disadvantages of asexual reproduction?

- Because all offspring are identical, there is No genetic variation that can give an organism a better chance for survival.
- Dangerous mutations in DNA is passed from parent to offspring.

## 5. How many daughter cells are made in mitosis?

2

## 6. How many daughter cells are made in meiosis?

4

## 7. How many chromosomes are in the daughter cells after meiosis?

23

## 8. How many chromosomes are in the daughter cells after mitosis?

46

## 9. What type of cell is produced in mitosis?

Body cells (ex: heart, brain, skin, etc.)

## 10. What type of cell is produced in meiosis?

Sex cells (sperm and egg)

## 11. What bases are paired together in DNA replication?

A ant T, C and G

## 12. Draw the correct matching bases to the following strand of DNA:

A C T A C G A T A A C T C G G G T T A T A C

T G A T G C T A T T G A G C C A A T A T G

## 13. What do **helicase** and **polymerase** do?

Helicase: Breaks the bonds between bases to SEPARATE DNA strands

Polymerase: Copies a strand of DNA to make the matching strand