

Science Assessment
Asexual

1) When a bacteria cell reproduces, a parent cell splits into two identical daughter cells. This form of reproduction is known as:

- A) binary fission
 - B) meiosis
 - C) budding
 - D) vegetative propagation
- Explanation:

2) A plant can be grown from a cutting, taking a piece of a stem or leaf. Once the cutting has grown roots, it can be planted in soil and will grow into a new plant. This method of producing plants is known as:

- A) meiosis
 - B) cloning
 - C) binary fission
 - D) gene splicing
- Explanation:

3) Which of the following is an example of asexual reproduction?

- A) a strawberry plant sending out runners
 - B) an oak tree producing seeds
 - C) a fish spawning
 - D) a flower being pollinated by a bee
- Explanation:

4) Pat grows rose bushes from cuttings from her prize winning rose bush. She uses cuttings to grow her rosebushes, in order to

- A) maintain desirable traits.
 - B) increase genetic variation.
 - C) decrease disease resistance.
 - D) increase disease resistance.
- Explanation:

5) A farmer grows potatoes by cutting up potatoes with ""eyes"" and planting the pieces containing ""eyes"". The means by which this farmer grows potatoes is known as

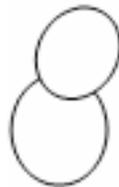
- A) asexual reproduction.
 - B) budding.
 - C) sexual reproduction.
 - D) regeneration.
- Explanation:

6) Mary takes the leaf of an African Violet plant, sticks it in the dirt in her flower pot and grows a new African Violet plant for her friend. How did Mary grow the new plant?

- A) meiosis
 - B) binary fission
 - C) parthenogenesis
 - D) vegetative propagation
- Explanation:

7) How many parents are involved when an organism reproduces asexually?

- A) one
 - B) two
 - C) sometimes one and sometimes two
 - D) more than two
- Explanation:



8) When a yeast cell reproduces, a smaller daughter cell forms on the side of the parent cell and pinches off, making a new yeast cell. This form of reproduction is called:

- A) sprouting
 - B) budding
 - C) regeneration
 - D) parthenogenesis
- Explanation:

9) In asexual reproduction, the offspring:

- A) have half the genes of the parent.
 - B) have twice the genes of the parent.
 - C) have different genes from the parent.
 - D) have the same genes as the parent.
- Explanation:

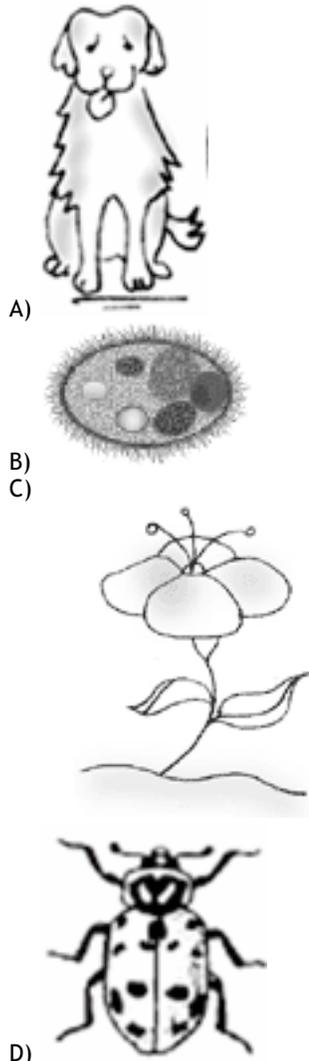
10) A major disadvantage of asexual reproduction is that organisms produced by it may

- A) maintain desirable traits.
 - B) be more resistant to disease.
 - C) lose desirable traits.
 - D) be more susceptible to disease.
- Explanation:

11) An ocean sponge is hit by a diver's flipper. The sponge is broken into ten pieces. Each one of these pieces will grow into another sponge through

- A) genetic engineering.
 - B) sexual reproduction.
 - C) asexual reproduction.
 - D) gene splicing.
- Explanation:

12) Which of the following organisms does not require two parents in order to reproduce?



D) Explanation:

13) When a bacteria cell divides to form two new bacteria cells, which of the following is taking place?

- A) selective breeding
 - B) sexual reproduction
 - C) meiosis
 - D) asexual reproduction
- Explanation:

14) When a starfish grows a new arm to replace one that has broken off, it is called _____.

- A) budding
 - B) sprouting
 - C) fission
 - D) regeneration
- Explanation:

15) Some plants, such as mosses and ferns, reproduce asexually by releasing cells that are genetically identical to the parent. These cells, which germinate in the soil and produce new plants, are called:

- A) gametes
 - B) spores
 - C) prokaryotes
 - D) buds
- Explanation:

16) One of the challenges doctors face when treating bacterial infections is _____.

- A) bacteria are not affected by drugs.
 - B) bacteria reproduce quickly by fission.
 - C) bacteria have not evolved over time.
 - D) bacteria reproduce very slowly.
- Explanation:

17) Hydra can reproduce asexually when an offspring grows out of the body of the parent and then pinches off to become a new organism as shown below.



What is this method of asexual reproduction called?

- A) vegetative propagation
 - B) fragmentation
 - C) budding
 - D) regeneration
- Explanation:

18) An advantage of asexual reproduction over sexual reproduction is that organisms that reproduce asexually:

- A) have greater genetic diversity.
 - B) can reproduce very quickly.
 - C) do not ever have mutations.
 - D) are less likely to be affected by diseases.
- Explanation:

19) Organisms continue their species through asexual and/or sexual reproduction. Which of the following is true for both asexual and sexual reproduction?

- A) sperm and egg are needed
 - B) offspring is an exact copy of the parent
 - C) genetic information is passed from parent to offspring
 - D) they only occur in animal species
- Explanation:

20) The offspring produced by asexual reproduction are _____.

- A) genetically different from each other and from the parent
- B) genetically the same as each other and as the parent
- C) genetically the same as each other and genetically different from the parent
- D) not in any way genetically related

Explanation:

3) Gametes contain _____ the number of chromosomes found in normal body cells.

- A) four times
- B) twice
- C) half
- D) exactly

Explanation:

7) Suppose the normal body cells of an organism each contain 36 chromosomes. How many chromosomes would be found in a gamete produced by that organism?

- A) 36
- B) 18
- C) 9
- D) 72

Explanation:

4) When fertilization occurs:

- A) many egg cells and many sperm cells join together.
- B) many egg cells and one sperm cell join together.
- C) one egg cell and many sperm cells join together.
- D) one egg cell and one sperm cell join together.

Explanation:

8) Toads have external fertilization. A male toad deposits his sperm into the water at the same time, and site as the female depositing her eggs. What type of reproduction do toads have?

- A) budding
- B) binary fission
- C) sexual
- D) asexual

Explanation:

Science Assessment Sexual Reproduction

1) During sexual reproduction in mosses, a gametophyte produces gametes by meiosis. These gametes combine to form a zygote, which grows into a sporophyte that produces spores by mitosis. The spores can grow into new gametophytes by mitosis if they land in a place with ideal growth conditions. What is the name given to this reproductive cycle?

- A) alternation of generations
- B) regeneration
- C) vegetative propagation
- D) conjugation

Explanation:

5) If the organisms of a particular species produce gametes that each have 8 chromosomes, how many chromosomes would be in a zygote of that organism?

- A) 4
- B) 8
- C) 16
- D) 32

Explanation:

9) Sperm cells are _____.

- A) usually the same size as egg cells.
- B) usually smaller than egg cells.
- C) usually bigger than egg cells.
- D) sometimes bigger and sometimes smaller than egg cells.

Explanation:

6) A bee flies from one apple blossom to another and transfers pollen as it goes. The fertilization that results from pollination shows which means of reproduction?

- A) vegetative propagation
- B) regeneration
- C) asexual
- D) sexual

Explanation:

2) What accounts for the diversity of species over time?

- A) asexual reproduction
- B) mass extinctions
- C) biological evolution
- D) climate change

Explanation:

10) Which of the following is part of the process of sexual reproduction?

- A) regeneration
- B) budding
- C) cloning
- D) fertilization

Explanation:

11) A farmer artificially inseminates his nanny goats with sperm from a prize billy goat. The offspring produced are the result of

- A) asexual reproduction.
- B) sexual reproduction.
- C) cloning.
- D) regeneration.

Explanation:

12) When offspring show characteristics of both parent organisms, it is a result of what type of reproduction?

- A) asexual
- B) binary fission
- C) sexual
- D) budding

Explanation:

13) Which of these processes are necessary for sexual reproduction to occur?

- A) meiosis and fertilization
- B) regeneration and fertilization
- C) binary fission and budding
- D) gene splicing and mutation

Explanation:

14) Which of the following demonstrates sexual reproduction?

- A) A flatworm divides lengthwise to produce two new flatworms.
- B) A cnidarian produces a bud that grows and then pinches off to form a new organism.
- C) An insect develops from an unfertilized egg, known as parthenogenesis.
- D) A female perch lays eggs in the water that are then fertilized by a male perch.

Explanation:

15)



If you look down into a flower you see tiny colored particles that feel like dust in your hand. What is this?

- A) pollen
- B) bacteria
- C) protozoa
- D) zygotes

Explanation:

16) Genetic diversity is a result of:

- A) binary fission
- B) sexual reproduction
- C) parthenogenesis
- D) budding

Explanation:

17) An advantage of sexual reproduction over asexual reproduction is that sexual reproduction:

- A) decreases diversity within the species.
- B) increases diversity within the species.
- C) produces offspring that are genetically identical to the parents.
- D) produces offspring with more genes than the parents.

Explanation:

18) When a plant needs both male and female sex cells in order to reproduce, this type of reproduction is called _____ reproduction.

- A) sexless
- B) asexual
- C) sexual
- D) vascular

Explanation:

19) In seed plants, what must take place before fertilization can occur?

- A) regeneration
- B) pollination
- C) binary fission
- D) germination

Explanation: