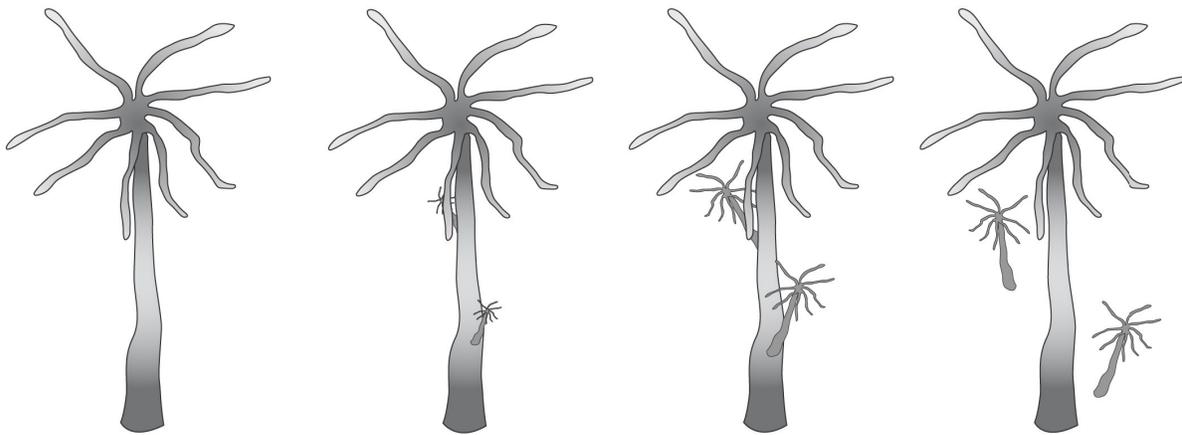


CISD Science Grade 7 Unit 11

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Use the following diagram for the next two questions.



1 Sponges reproduce by a process known as budding. This process is the formation of a new individual that is a clone of the parent. This type of reproduction is —

- A** sexual
- B** sporulation
- C** asexual
- D** binary fission

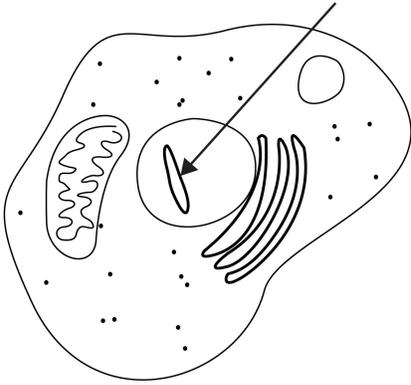
2 What would be a possible disadvantage of the type of reproduction shown in the diagram?

- A** ability to reproduce in the absence of a mate
- B** results in low genetic variation of the species
- C** allows for more genetic variation in the offspring
- D** takes less time to produce offspring

3 Which of the following is the correct organization of genetic material from smallest to largest?

- A** DNA → genes → chromosomes → cell nucleus
- B** genes → chromosomes → DNA → cell nucleus
- C** cell nucleus → genes → DNA → chromosomes
- D** chromosomes → DNA → cell nucleus → genes

- 4 What structure is the arrow pointing to in the diagram?



- A** chromosome
- B** nucleus
- C** cell
- D** gene
- 5 The ability to roll your tongue is an inherited trait. There are more people who can roll their tongues than people who can't roll their tongues. Which of the following could be a correct assumption to explain this?
- A** The ability to tongue roll is a rare trait.
- B** The ability to tongue roll is a recessive trait.
- C** The ability to tongue roll is a dominant trait.
- D** The ability to tongue roll is a submissive trait.

Use the following information for the next three questions.

In humans, eye color and hair color are controlled by several genes. Assume for the following questions that each is controlled by only one. For eye color, brown (B) is dominant over blue (b), and for hair color, black (H) is dominant over blonde (h).

A male with blue eyes produces offspring with a female that has brown eyes.

6 Which of the following represents possible parental genotypes for eye color?

- A Father: bb, Mother: bb
- B Father: bb, Mother: Bb
- C Father: BB, Mother: Bb
- D Father: Bb, Mother: BB

7 What is NOT a possible genotype for eye color for the offspring?

- A Bb
- B BB
- C bb
- D There is not enough information to determine a possible genotype for eye color for the offspring.

8 The genotypes for hair color for the parents are: **Father: hh Mother: Hh**

Which of the following Punnett Squares correctly represents the possible genotypes for hair color for the offspring?

A

HH	HH
HH	HH

B

Hh	hh
Hh	hh

C

Hh	Hh
Hh	Hh

D

HH	Hh
HH	Hh

9 An offspring inherited a dominant allele from one parent and a recessive allele from the other parent for the same trait. Which of the following is a possible explanation for what will be exhibited by the offspring for that trait?

- A** The offspring will exhibit the recessive trait with the dominant trait being masked.
- B** The offspring will exhibit the dominant trait with the recessive trait being masked.
- C** The offspring will not exhibit that trait because the dominant and recessive traits he received will each mask the other.
- D** The offspring will combine the recessive allele with the dominant allele and exhibit an entirely new trait.

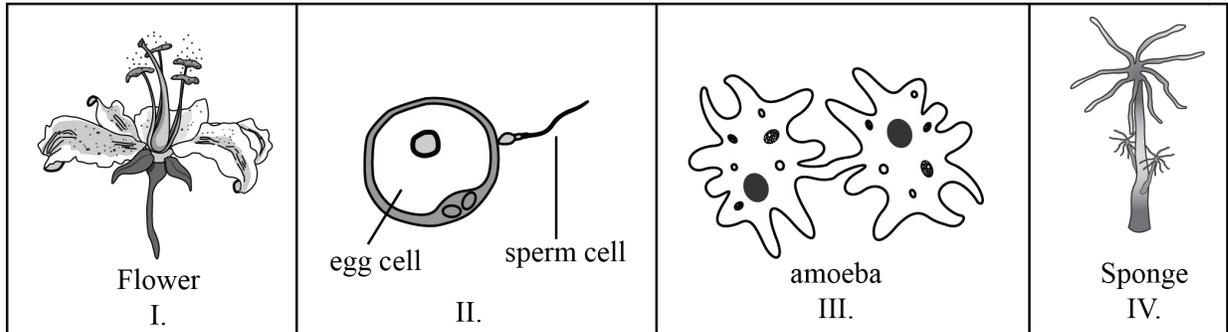
10 Sexual reproduction —

- A** results in genetic variation in the offspring
- B** produces offspring that are identical to the parent
- C** decreases the chances of survival of the species
- D** results in genetic material being donated to offspring by only one parent

11 How many genes does an offspring receive for each trait?

- A 1
- B 2
- C 3
- D 4

12



The diagram represents different processes involved in reproduction. Which diagram represents sexual reproduction?

- A II and III
- B III only
- C I, II and IV
- D I and II

- 13** The work of Gregor Mendel was based on his discovery that heredity information for two different forms of a trait can coexist in one individual. He recognized that one form of the trait masks the expression of the other. This principle is known as —
- A** the law of genotypes
 - B** the law of dominance
 - C** the law of separation
 - D** the law of sorting
- 14** Heredity is defined as the passage of genetic instructions from one generation to the next. Which of the following is NOT an example of these genetic instructions in humans?
- A** height
 - B** skin color
 - C** dimples
 - D** spoken language