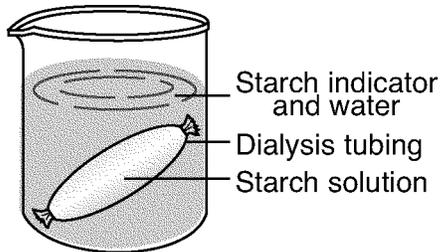


Living Environment Sample Questions

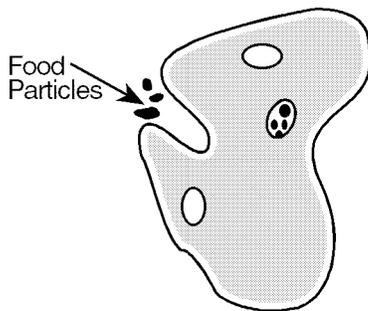
Name: _____

- 1) Starch turns blue black in the presence of a starch indicator. Dialysis tubing tied at both ends and containing starch solution is placed in a beaker of water. Yellowish brown starch indicator is then added to the water.



What will the solutions in the given beaker and tubing look like after 20 minutes?

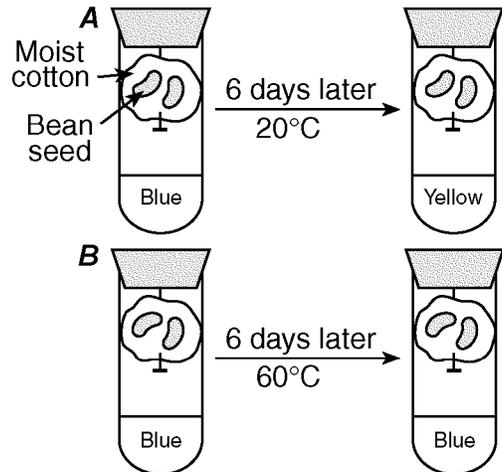
- A) Neither the indicator solution nor the starch solution will be blue black.
 B) Both the indicator solution and the starch solution will be blue black.
 C) The indicator solution in the beaker will be blue black and the starch solution in the tubing will not change color.
 D) The starch solution in the tubing will be blue black and the indicator solution in the beaker will not change color.
- 2) The diagram below represents a protist.



By what process is the protist taking in food particles?

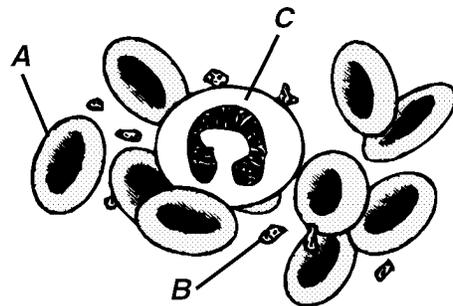
- A) egestion C) hydrolysis
 B) ingestion D) cyclosis
- 3) Compared to a natural forest, the wheat field of a farmer lacks
- A) significant biodiversity
 B) autotrophs
 C) stored energy
 D) heterotrophs
- 4) A certain enzyme will hydrolyze egg white, but not starch. Which statement *best* explains this observation?
- A) Egg white acts as a coenzyme for hydrolysis.
 B) Starch is composed of amino acids.
 C) Starch molecules are too large to be hydrolyzed.
 D) Enzymes are specific in their actions.

- 5) Two test tubes, A and B, were set up as shown in the diagram below. Bromthymol blue, which turns from blue to yellow in the presence of carbon dioxide, was added to the water at the bottom of each tube before the tubes were sealed. The tubes were maintained at the temperatures shown for six days. (Average room temperature is 20°C.)



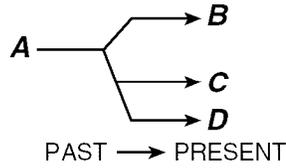
Explain how the temperature difference in the given experiment could lead to the different results in tubes A and B after six days.

- 6) Which statement correctly describes the activities of the components of human blood shown in the diagram below?



- A) Both B and C provide immunity, and A transports nutrients.
 B) A transports oxygen, B initiates clots, and C functions in immune responses.
 C) A, B, and C are able to synthesize hemoglobin.
 D) Both A and B function in immune responses, and C transports oxygen.

- 7) In the diagram below, *B*, *C*, and *D* represent organisms that exist in the present time and show a striking similarity to each other in their bone structure.

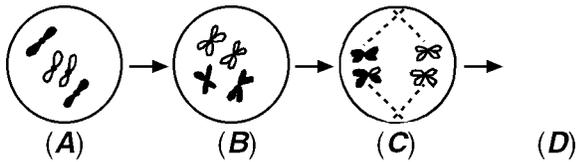


In the diagram, letter *A* most likely represents

- A) an acquired characteristic
 - B) a common ancestor
 - C) homologous structures
 - D) geographic distribution
- 8) Vaccines play an important role in the ability of the body to resist certain diseases.

Explain how a vaccination results in the long-term ability of the body to resist disease.

- 9) The diagram below represents the sequence of events in a cell undergoing normal meiotic cell division.



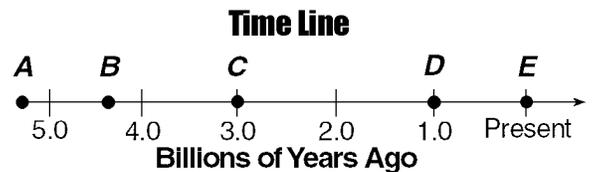
Which diagram most likely represents stage *D* of this sequence?

- A)
- B)
- C)
- D)

- 10) Scientists have successfully cloned sheep and cattle for several years. A farmer is considering the advantages and disadvantages of having a flock of sheep cloned from a single individual.

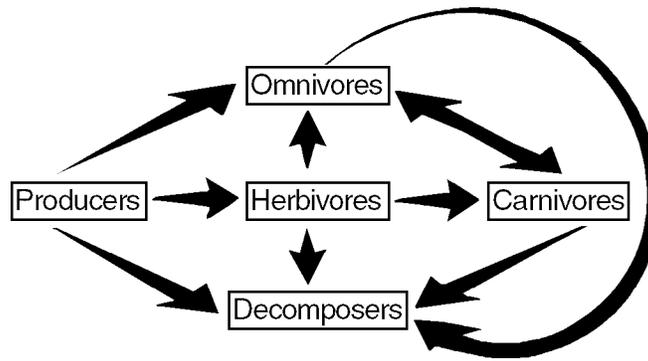
Discuss the issues the farmer should take into account before making a decision. Your response should include:

- (1) How would a cloned flock differ from a noncloned flock?
 - (2) State *one* advantage of having a cloned flock.
 - (3) State *one* disadvantage of having a cloned flock.
 - (4) Discuss *one* reason that the farmer could not mate these cloned sheep with each other to increase the size of his flock.
 - (5) Name *one* reason that the offspring resulting from breeding these sheep with an unrelated sheep would *not* all be the same.
- 11) Vacuoles are the organelles that store materials to be excreted until excretion can occur. What organ does a human have that serves the same purpose?
- A) bladder
 - B) lungs
 - C) skin
 - D) liver
- 12) According to the interpretation of the fossil record by many scientists, during which time interval shown on the time line below did increasingly complex multicellular organisms appear on Earth?



- A) *C* to *D*
- B) *A* to *B*
- C) *B* to *C*
- D) *D* to *E*

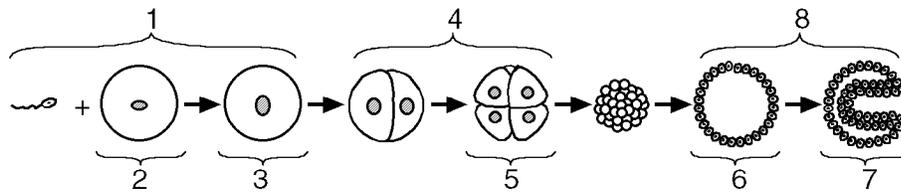
19)



Which organisms break down chemical substances in the environment, making these substances available for use by other organisms?

- A) producers B) decomposers C) carnivores D) herbivores

20) The diagram below represents selected steps occurring in human reproduction.



Which number in the diagram indicates a zygote?

- A) 5 B) 2 C) 3 D) 7