Name:_____ Date:_____

7th Grade Term 3 Review

1) Sarah put a carrot slice in a beaker of cold salty water and another slice from the same carrot in a beaker of cold fresh water. After an hour, she found that the one in the fresh water was much crispier than the one in the salt water. Which answer best explains her findings?

A. the fresh water slice must have come from a crisper carrot
B. the fresh water slice must have been smaller
C. the fresh water in the beaker absorbed water from the cells of the carrot slice
D. fresh water in the beaker went into the cells of the carrot slice

2) Plant cells are often rectangular or square. Which organelle gives plant cells their definite rigid shape and structure?

A. cell membrane
B. cell wall
C. chloroplast
D. cytoplasm

3) Which cell structure is found only in plant cells?

A. cell membrane
B. cell wall
C. cytoplasm
D. nucleus

4) Plant and animal cells are distinguished from each other by several factors. One of these factors is:

A. Plant cells have cell walls but not cell membranes
B. Plant cells have both cell membranes and cell walls
C. Animal cells have both cell membranes and cell walls
D. Animal cells have cell walls but not cell membranes

5) How has technology influenced our ability to study cells?

A. Telescopes help us know the origin of cells.
B. Nanobots are able to penetrate cells and take pictures of cell parts.
C. Meter sticks allow scientists to measure cells.
D. Chemical tests give us information about what cells are made of.

6) Two students set up two experiments to see if both plant and animal cells have cell walls. Which of the following statements best describes correct conclusions?

A. Both student experiments show that plant cells have cell walls and animal cells do not have cell walls so it does not matter that each student used different experimental methods and procedures
B. Both experiments showed that plant cells and animal cells have cell walls so it does not matter that each student used different experimental methods and procedures
C. Both experiments showed that plant cells have cell walls and animal cells do not have cell walls so the two students obviously did the exact same experiment so they could get the same conclusion
D. Both experiments showed that plant cells and animal cells have cell walls so the two students obviously had the same exact experiment so they could get the same conclusion

7) A cell that is 30% water is placed in a solution that is 35% water. Which way will the net movement of water go?

A. Into the cell
B. Out of the cell
C. Neither way

8) If a cell that is 80% water is placed in a solution that is 40% water, which way will the net movement of water go?

A. Out of the cell
B. Neither way
C. Into the cell

9) A student wants to look at the chloroplast in the one-celled organism called Euglena. Which instrument would he use?

A. compound microscope
B. telescope
C. the naked eye
D. magnifying glass

10) A cell that is 50% water is placed in a solution that is 45% water. Which way will the net movement of water go?

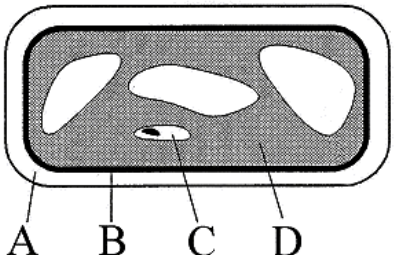
A. Into the cell
B. Out of the cell
C. Neither way

11) Kelly and Pat are stranded on a desert island in the middle of the ocean. They both are very thirsty and search for water, but don't find any fresh water on the island. Kelly decides to drink ocean water deciding that although it tastes salty, it doesn't taste terrible. Pat, on the other hand, decides to drink coconut milk. As the day wears on, Kelly drinks more ocean water and complains of being thirstier. Pat, however, isn't complaining at all. Why might Kelly still be thirsty?

A. Osmosis has depleted the water of Kelly's cells, causing thirst
B. Coconut milk contains about half the salt that ocean water does
C. The salt from the ocean water has held more water in Kelly's cells
D. Osmosis has put more salt into Kelly's cells, causing thirst

12) Which of the following terms refers to the movements of molecules from an area of higher concentration to an area of lower concentration?

A. concentration
B. diffusion
C. passive transport
D. collision



13) This question refers to the following diagram of a plant cell.
Which label designates the cytoplasm?

A. A
B. B
C. C
D. D

14) Which part is primarily responsible for the movement of materials into and out of the cell?

A. A
B. B
C. C
D. D

15) This question refers to the diagram of a plant cell. Which cell part is the major controller of the cell's activities?

A. A
B. B
C. C
D. D

16) This question refers to the diagram of a plant cell. Which cell part is n o t found in animal cells?

A. A
B. B
C. C
D. D

17) A cell that is 43% water is placed in a solution that is 75% water. Which way will the net movement of water go?

A. Into the cell
B. Out of the cell
C. Neither way

18) What is the function of the cell membrane in the cell?

A. To control what goes in and out of the cell
B. To provide strength for the cell
C. To package things made in the cell
D. To direct cell reproduction

19) A student observes a flower, an apple, a dog, and a tree. Which of the organisms that the student sees has different cells than the rest, and how are the cells different?

A. The flower is different because its cells are the only ones without a nucleus
B. The apple is different because its cells are the only ones with a cell membrane
C. The dog is different because its cells are the only ones without a cell wall
D. The tree is different because its cells are the only ones with chloroplasts

20) A cell that is 35% water is placed in a solution that is 35% water. Which way will the net movement of water go?

A. Into the cell
B. Out of the cell
C. Neither way

21) Which best describes the function of a cell wall?

A. aids in cell reproduction
B. controls the activity of the cell
C. supports and protects the cell
D. moves material through the cell

22) Which answer best describes the function of the nucleus in the cell?

A. carries the protein to other parts of the cell
B. major controller of cell's activities
C. allows substances to enter and leave the cell
D. gets rid of the waste produced in the cell
E. aids in the transport of nutrients for the cell

23) How has technology influenced our ability to study cells?

A. Satellites allow scientists to test the chemicals in cells.
B. Electron microscopes allow us to see more detailed pictures of cells.
C. High-resolution amplifiers help scientists study cell parts.
D. Telescopes allow scientists to look for cells on other planets.

24) Plant cells can be distinguished from animal cells because plant cells have a second outer layer giving them additional shape and support. What is the name of this additional layer?

A. cell membrane
B. cell wall
C. chloroplast
D. cytoplasm

25) Which part of the cell contains a green pigment needed for photosynthesis?

A. centriole
B. chromatin
C. chloroplasts
D. cytoplasm
E. ribosomes

26) What is the function of the nucleus in the cell?

A. To package things made in the cell
B. To kill harmful things in the cell
C. To control what goes in and out of the cell
D. To control the activities and reproduction of the cell

27) Which process produces the energy needed to carry out life activities?

A. circulation
B. digestion
C. excretion
D. respiration

28) What is the function of the cell wall in the cell?

A. To control what goes in and out of the cell
B. To destroy harmful things in the cell
C. To provide rigid support for the cell
D. To hold the cell parts in place

29) What part of the cell contains instructions and information to be sent to all parts of the cell?

A. mitochondrion
B. nucleolus
C. nucleus
D. ribosome
E. vacuole

30) The brain controls the body. In an individual cell, which of the following is most comparable to the brain?

A. cell membrane
B. cell wall
C. cytoplasm
D. nucleus

31) Which of the following is an example of sexual reproduction?

A. Division of an amoeba because all of the parts of an amoeba have the same genes and will produce identical offspring.
B. Growth of an organism is reproduction because new organisms will result.
C. Joining of an egg and sperm because two different cells combine to form an organism with a new combination of genes.
D. One cell splitting into two as in bacteria is sexual reproduction because the new cells both have identical genes.

32) You are given 3 unknown organisms labeled A, B, C. When looking at the DNA of the three unknown organisms, you find that the DNA of organism C is a combination of the DNA from organism A and organism B. Which statement below is the most logical reason?

A. Organisms A, B, and C were reproduced asexually
B. Organisms A, B, and C were siblings
C. Organism A and B are the parents of C
D. Organism A, B, and C are unrelated

33) Female animals form _____ cells for sexual reproduction.

A. egg
B. ovary
C. sperm
D. zygote

34) Which of the following is an example of sexual reproduction?

A. division of one amoeba into two
B. growth of an organism
C. joining of egg and sperm
D. one cell splitting to form two cells

35) Which of the following is an organism that usually reproduces asexually?

A. ant
B. bacterium
C. clam
D. dolphin
E. earthworm

36) Bacteria reproduce asexually by dividing in two. If you were to examine the genetic material of two bacteria that had just been reproduced from the same parental cell, how would their genetic material compare? (Assume no mutations occur)

A. completely different
B. about 65% the same
C. about 50% the same
D. 100% the same

37) In the early 1800s, Jean-Baptiste Lamarck described how giraffes developed such long necks. He explained that a giraffe's neck grew longer as she stretched to reach leaves high in trees. The giraffe then passed on her longer neck to her offspring, so the next generation had longer necks than the generation before. Since Lamarck's time, we have learned more about how traits are passed from parent to offspring. Which statement below best evaluates Lamarck's ideas using current science knowledge?

A. Neck length is an inherited trait and can be changed by the giraffe's behavior, so Lamarck's ideas are valid.
B. Neck length is an inherited trait and cannot be changed by the giraffe's behavior, so Lamarck's ideas are not valid.
C. Neck length is an acquired trait, so giraffes' necks will be different lengths depending on the time of year they are born.
D. Neck length is an acquired trait, so giraffes' necks will change as they age.

37) Sickle Cell Anemia is a blood disease caused by genetic information. How does knowing that this disease is genetic help people?

A. Genetic diseases are inherited traits, so treatment will be different than treatment for diseases people can catch.
B. Genetic diseases are inherited traits, so we can learn what kind of germs carry Sickle Cell Anemia.
C. Genetic diseases are acquired traits, so we can learn how to avoid catching Sickle Cell Anemia.
D. Genetic diseases are acquired traits, so people with the disease can change their diet and lifestyle to get better.

38) Which of the following is an example of an organism reproduced asexually?

A. A sea star being cut in half and each half regenerating a full sea star
B. Female salmon laying eggs on gravel streambeds to be fertilized by a male
C. Pollen blown by wind from one flower to another resulting in a seed
D. Pollen carried by an insect from one flower to another

39) You are given 3 unknown organisms labeled A, B, C. When looking at the DNA of the three unknown organisms, you find that they all have the exact same sequence of DNA. Which statement below is the most logical explanation?

A. Organisms A, B, and C were reproduced asexually from a common parent
B. Organisms A, B, and C were reproduced sexually from a single pair of parents
C. Organism A and B are the parents of C
D. Organism A, B, and C are unrelated

40) Which answer below best describes the future of our knowledge about inherited traits that are passed from parents to child?

A. Knowledge about inherited traits will probably change because new technology will provide new information about inherited traits.
B. Knowledge about inherited traits will probably change because scientists like to change things.
C. Knowledge about inherited traits will probably stay the same. Scientists have learned all there is to know about inherited traits.
D. Knowledge about inherited traits will probably stay the same. Scientists don't like to learn new information.

41) Which is an example of how knowing about asexual reproduction helps people?

A. People can grow new plants by taking cuttings from other plants.
B. People can create new varieties of vegetables by cross-pollinating different plants.
C. People can breed livestock to create better meat producers.
D. People can spray for insects when it is egg-laying season.

42) Both parents of a Siamese cat have green eyes. Their offspring also have green eyes. This would be an example of

A. an acquired trait
B. an inherited trait
C. a learned trait
D. a found trait

43) Pat's mom is a concert pianist. People keep telling Pat that she will also be a great pianist one day because she will "get it from her mom." How could you describe this statement?

A. Inference - piano playing is an acquired trait
B. True - piano playing is an inherited trait
C. True - piano playing is an acquired trait
D. Inference - piano playing is an inherited trait

44) How many parents are required in sexual reproduction?

A. one
B. two
C. three
D. none

45) Which answer below best describes improvements that can be made in the types of crops farmers grow?

A. The crops farmers grow will probably stay the same. Scientists have learned all there is to know about crops.
B. The crops farmers grow will probably stay the same. We don't need any new crops.
C. The crops farmers grow may change because new technology can provide new information about crops.
D. The crops farmers grow may change because scientists like to change things.

46) The more classification levels shared by two organisms:

A. the easier it is to tell them apart
B. the more distantly related they are
B. the more distantly related they are
C. the more characteristics they have in common
D. the closer they live together in their environment

47) What would most directly benefit from the study of genetics?

A. dairy farmers
B. pianists
C. actors
D. cooks

48) Some organisms have colorful appearances to warn their predators (animals that would try to eat them) that they are harmful or do not taste good. If other organisms mimic these colors in areas where the predator is not exposed to the original organisms, how successful would the mimics be in survival?

A. They would be successful because predators are always afraid of colorful organisms
B. They will not be successful because predators avoid eating others only after an original harmful or distasteful experience
C. They will be successful because predators are colorblind and will not see them
D. They will not be successful because predators only avoid eating others after their original harmful experience kills them

49) A 7th grade science student travels to a rainforest and observes the leaves of jungle plants. He then travels to a desert and observes leaves on native plants there. He concludes that large, flat leaves give plants in the jungle an advantage, and plants in the desert do better if they have small leaves. Which statement best describes the student's conclusion?

A. It is a good conclusion because he based it on observable evidence.
B. It is a good conclusion because he already learned about it in science class.
C. It is a poor conclusion because he only saw what he expected to see.
D. It is a poor conclusion because he didn't do an experiment.

50) Birds in a desert climate survive on soft parts of cactus. Scientists observed that during a drought, many of the birds died. The ones that survived had larger beaks and were able to crack open and eat hard seeds that would ordinarily not be used. The next generation of birds all had large beaks. How did inherited traits help some birds survive?

A. all surviving birds migrated
B. inherited traits helped birds get water
C. inherited traits helped birds change foods
D. the inherited traits changed the environment

51) Students made a model ecosystem on their school lawn. They dropped equal numbers of different colored toothpicks in the grass to represent insects. They were given one minute to pick up as many toothpicks as they could. They picked up more red and blue toothpicks than green. How does this model represent nature?

A. The green toothpicks represent camouflage in insects.
B. This model is as accurate as real life.
C. The model is on the same scale as nature
D. The model shows that most insects live in grasses.

52) Many animals that live near the North Pole are white. Why is being white a helpful inherited trait for the North Pole environment?

A. white absorbs more heat
B. white blends in with the surroundings
C. white reflects sunlight
D. white helps animals to move faster

53) The human genetic material for insulin (a chemical that helps our bodies use sugar) is inserted into bacteria cells. The bacteria then produce human insulin, which is harvested and given to people with diabetes. What does this demonstrate?

A. Science affects human life.
B. All bacteria are helpful to humans.
C. Bacteria cannot be helpful to humans.
D. Science provides information, but it is irrelevant to life.