1. What feature is similar among all organisms?
   A. They can transform sunlight into food for sustenance.
   B. They are composed of multiple tissue types.
   C. They are composed of one or more cells that function to sustain life.
   D. They can consume other organisms to create energy.

2. Which of the following is true about living organisms and cells?
   A. Some living organisms are made of cells, but most organisms are not.
   B. All living organisms are made of at least one cell.
   C. Most living organisms are made of cells, but some organisms are not.
   D. All living organisms are made of multiple cells.

3. Every cell is surrounded by a thin membrane. What is the main function of this cell membrane?
   A. to separate the inside of the cell from the outside environment
   B. to limit the size of the cell and keep the shape of the cell the same
   C. to allow each cell to form connections with other cells
   D. to protect the cell from invasion by bacteria and viruses

4. Every cell contains certain structures that perform specialized functions for the cell. What are these structures called?
   A. organelles
   B. organs
   C. tissues
   D. cells

5. Which of the following processes occurs in the cells of plants?
   A. making energy for the organism through photosynthesis
   B. getting rid of wastes
   C. exchange of CO₂ and O₂
   D. all of these

6. The diagram below shows the levels of organization present in a multi-cellular organism from least to most complex.

   Cells → Tissue → Organs → Organ Systems → Organism

   Which level of organization can be described as several different kinds of cells working together to perform one task?
   A. tissues
   B. organs
   C. organism
   D. cells
7. The diagram to the right shows the structures of an animal cell. What is structure 3, and how does it help sustain life?

A. Structure 3 is the nucleus, which serves as the control center of the cell.
B. Structure 3 is the cell membrane, which controls what enters and leaves the cell.
C. Structure 3 is the cytoplasm, which contains organelles and is the site of many cell processes.
D. Structure 3 is a chloroplast, which is the site of photosynthesis.

8. The organelle pictured to the right is a ____________.

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

9. Examine the diagram of the cell. What is the cytoplasm?

A. a fluid in which organelles are suspended
B. a type of organelle that assembles proteins
C. the inner surface of the cell's wall
D. the exterior envelope surrounding the nucleus
10. What is the function of mitochondria in cells?
   A. They make proteins from instructions created and sent by the nucleus.
   B. They control which substances move into and out of the cell.
   C. They trap light energy from the Sun to make glucose.
   D. They convert glucose into another form of energy used by cells.

11. What are the most basic building blocks of all organisms?
   A. tissue
   B. organs
   C. cells
   D. blood

12. In a living organism, what is an organ?
   A. the shell or skin of an organism
   B. functional unit, or building block, of all organisms; smallest unit that can carry on the activities of life
   C. a group of similar cells that perform a common function
   D. a structure composed of a number of tissues that work together to perform a specific task

13. In a living organism, what is a tissue?
   A. a group of similar cells that perform a common function
   B. smallest unit that can carry on the activities of life
   C. a group of organs that regulates the body's responses to stimuli
   D. the shell or skin of an organism

14. An organ is a structure made up of two or more tissues working together to perform a specific function. Which of the following organs would contain the most nerve tissue according to its functional role in the body?
   A. lungs
   B. brain
   C. heart
   D. stomach

15. A ________ is a rigid layer that surrounds a plant cell, providing structural support.
   A. vacuole
   B. cell membrane
   C. cell wall
   D. lysosome
16. Both animal and plant cells are eukaryotic cells. What is the difference between animal and plant cells?
   A. Plant cells have cell walls and chloroplasts, while animal cells do not.
   B. Plant cells have nuclei and mitochondria, while animal cells do not.
   C. Animal cells have nuclei and ribosomes, while plant cells do not.
   D. Animal cells have cell walls and vacuoles, while plant cells do not.

17. Chlorophyll is found in
   A. animal cells.
   B. plant cells.
   C. plant and animal cells.
   D. neither plant nor animal cells.

18. The diagram to the right shows the structures of a plant cell. What is structure 2, and how does it help sustain life?

   A. Structure 2 is a vacuole, which temporarily stores wastes.
   B. Structure 2 is the nucleus, which is the control center of the cell.
   C. Structure 2 is the cell wall, which provides structural support for the cell.
   D. Structure 2 is a chloroplast, which is the site of photosynthesis.

19. Ian is looking at cells using a microscope. He sees a nucleus and a large vacuole in the central area of a cell. What type of cell is he most likely looking at?
   A. animal cell
   B. prokaryotic cell
   C. white blood cell
   D. plant cell
20. The Venn diagram below compares the parts of plant and animal cells. According to the diagram, which of the following is found only in plant cells?

A. chloroplasts
B. nucleus
C. lysosomes
D. cell membrane

21. Examine the diagram of the cell.

What can you conclude about this cell?

A. The cell is most likely a plant cell.
B. The cell is most likely a human cell.
C. The cell is most likely an animal cell.
D. The cell is most likely a bacterium cell.

22. Many plant cells have very large membrane-covered organelles that can store water and other liquids. What is the name of this organelle?

A. mitochondrion
B. vacuole
C. lysosome
D. chloroplast
23. Which of the following is a chemical change that occurs every day?
   A. a student pours milk onto his breakfast cereal
   B. a doctor slices an apple with a knife
   C. a newspaper editor dips a doughnut in milk
   D. a chef bakes muffins in the oven

24. Which of the following statements is true about physical and chemical changes?
   A. They occur only during the week, at workplaces.
   B. Only chemical changes occur every day.
   C. They occur everywhere, every day.
   D. Only physical changes occur every day.

25. If you were to pour 4 different liquids into a glass and the liquids separated into 4 layers, which liquid would have the highest density?
   A. the third layer from the bottom of the glass
   B. the layer at the top of the glass
   C. the layer at the bottom of the glass
   D. the second layer from the bottom of the glass

26. You are playing a game called "Will It Float?" In this game, you are given a large, square can of tuna. If you know the density of water, what is the minimal information you need to decide if the tuna will float in the water?
   A. the mass and the volume of the can of tuna
   B. the volume of water displaced by the can of tuna
   C. the mass of the can of tuna
   D. the volume of the can of tuna

27. When you heat the air inside a hot air balloon, it rises. Why does this occur?
   A. The mass of cold air displaced by the balloon is less than the mass of hot air inside the balloon.
   B. The volume of the balloon decreases.
   C. The hot air inside the balloon becomes denser than the air outside the balloon.
   D. The hot air inside the balloon becomes less dense than the air outside the balloon.

28. A square block of steel with volume 10 cm³ and mass of 75 g is cut precisely in half. The density of the two smaller pieces is now...
   A. the same as the original density.
   B. two times the original density.
   C. one-fourth the original density.
   D. one-half the original density.
29. Debbie was doing a science lab, and she was instructed to decide whether a piece of plastic would float or sink without actually putting the plastic in the water. How could she do this?

   A. This is not possible.
   B. find the mass of the plastic and compare it to the mass of a beaker of water
   C. find the density of the plastic and compare it to the density of water
   D. find the volume of the plastic and compare it to the density of water

30. Jordan placed three blocks in a tub of water. He recorded what happened in the picture below. What can Jordan conclude about the three blocks?

   A. Block X weighs more than block Y.
   B. Block Z is made of a denser material than block Y.
   C. Each block is made of the same material.
   D. Block Y is made of a denser material than block X.

31. Which of the following completes the sentence below? The term boiling point refers to the change from

   A. liquid to solid.
   B. solid to liquid.
   C. liquid to gas.
   D. gas to liquid.

32. Hannah does an experiment. She has two colorless chemicals that she mixes together in a beaker. Which of the following indicates that a chemical change occurs when she mixes the two chemicals together?

   I. The chemicals change color from colorless to purple.
   II. A yellow gas forms.
   III. A brown solid forms in the bottom of the beaker.
   IV. The temperature of the chemicals rises 15°C.

   A. II and III only
   B. I and III only
   C. I, II, III, and IV
   D. I, II, and III only
33. Michael mixes two chemicals together in a beaker. The chemicals change color, and the beaker heats up quickly. What kind of change most likely occurred?
   A. A chemical change occurred.
   B. Only a physical change occurred.
   C. No change occurred.
   D. A mixture formed.

34. When substances go through chemical changes, which of the following will always happen?
   A. One or more substances with different chemical properties will form.
   B. One or more substances will be completely destroyed.
   C. A poisonous gas will form or a white solid will precipitate.
   D. all of these

35. Of the following processes in nature, which one involves only a physical change?
   A. A bird digests a worm.
   B. Photosynthesis occurs in a leaf.
   C. A chunk of iron ore rusts.
   D. An earthquake causes a rockslide.

36. A plant uses the energy from sunlight to create oxygen and glucose from carbon dioxide and water. Which statement is true about the changes that have occurred?
   A. A physical change has occurred because the plant looks different.
   B. A chemical change has occurred because new compounds have been produced.
   C. A physical change has occurred because the substances are still gases.
   D. A chemical change has occurred because energy was needed.

37. A change of ________, such as a liquid changing to a gas, is an example of a physical change.
   A. charge
   B. state
   C. energy
   D. location

38. A solution of salt water is boiled. The water evaporates and solid salt remains. Which statement is true?
   A. The salt has undergone a physical change, and the water has undergone a chemical change.
   B. The salt has undergone a chemical change, and the water has undergone a physical change.
   C. The salt and the water have both undergone chemical changes.
   D. The salt and the water have both undergone physical changes.