

## B2 – Cells Quiz

1. Name the part of a cell that controls the passage of substances in and out of a cell.

Cell membrane.

2. Name the part of a cell that is filled with cell sap.

Vacuole

3. Give the name of two parts that can be found in a leaf cell but not in a human liver cell.

Chloroplasts, vacuole, cell wall

4. What is the function of a ribosome?

Protein synthesis/ enzyme synthesis

5. How are plant cells different from bacterial cells?

Plant cells have a nucleus, vacuole, chloroplasts, are larger, have a cell wall made from cellulose, have fewer ribosomes

6. Why don't bacterial cells contain mitochondria?

The cells are too small

7. How do mitochondria help a sperm cell carry out its function?

Mitochondria release energy which the sperm cell requires to reach the egg. They are packed closely near the site of movement to ensure energy is available quickly.

8. How is the nucleus of sperm cells different from the nucleus of all other human body cells?

Only contains 23 chromosomes

9. Why are stem cells from human embryos used to treat some diseases in humans?

The stem cells are unspecialised and are able to become differentiated (can form other types of cells).

10. How are muscle cells adapted to release lots of energy?

They contain many mitochondria where respiration occurs and energy is released

11. What is the function of chloroplasts?

Absorb light needed for photosynthesis

12. What is the function of the nucleus and the cytoplasm?

Reactions take place in the cytoplasm, the nucleus contains the genetic material and controls cell activity

13. What controls the rate of chemical reactions inside the cytoplasm?

Enzymes

14. What is the main job of a leaf mesophyll cell? How does the structure of the cell help it carry out its job?

Absorbs light for photosynthesis; has many chloroplasts

15. What is the job of red blood cells and white blood cells?

White blood cells fight microbes, red blood cells transport oxygen

16. What do scientists call a group of similar cells?

Tissue

17. How are bacterial and yeast cells different?

Bacterial cell has no nucleus and no vacuole

18. Which word describes a whole leaf?

Organ

19. What is the role of muscular tissue?

Contracts to cause movement

20. What is the function of glandular tissue?

To release hormones and enzymes

21. What is the function of epithelial tissue?

To cover parts of the body

22. What is the function of a cell wall?

It strengthens the cell. It is made of cellulose

23. What is the role of the flagella in bacterial cells?

They are used for movement

24. What are plasmids?

Small circular bits of DNA found in the cytoplasm of bacterial cells

25. How do yeast cells reproduce?

Through asexual budding where a new yeast cell grows out from the original cell

26. How are yeast cells specialised to survive?

When there is little oxygen available they carry out anaerobic respiration:  
Glucose → ethanol + carbon dioxide. This process is called fermentation

27. How are root cells specialised to carry out their function?

Have root hairs which increase the surface area for water to move into the cell. They have a large permanent vacuole that speeds up the movement of water.

28. What is diffusion?

The net movement of gas or solute particles from an area of high concentration to an area of low concentration as a result of random movement of particles

29. What is the function of epidermal tissue in plants?

To cover the surfaces of plants and protect them

30. What is the function of mesophyll tissues in plants?

To contain lots of chloroplasts for photosynthesis

31. What is the function of the xylem and phloem?

To transport substances (water and dissolved mineral ions and dissolved glucose) around the plant

32. What tissues make up the stomach?

Muscular tissue to churn the food and digestive juices together; glandular tissue to produce the enzymes (digestive juices); epithelial tissue to cover the inside and outside of the organ

33. What tissues make up the leaf?

The Epidermis to cover the plant; mesophyll tissue contains many chloroplasts for photosynthesis; phloem and xylem to transport water and dissolved substances around the plant

34. What is the function of villi and micro villi?

Villi and micro villi are formed through the folding's of the cell membrane to increase the surface area of the cell membrane to allow for quicker diffusion

35. Where do you find villi and micro villi?

Inside the small intestines to absorb all the products of digestion into the blood stream; inside the lungs to diffuse oxygen and carbon dioxide into and out of cells

36. Why do cells inside the salivary glands and pancreas contain many ribosomes?

Ribosomes produce proteins and enzymes. The enzyme amylase is made in the pancreas and salivary glands