

Biology Chapter 1 – Cells

Key Knowledge Questions

1. Name the organelle that controls cell activities
2. Name the organelle that controls substances entering and leaving the cells
3. Name the organelle that is the site of photosynthesis
4. Name the organelle that is the site of respiration
5. Name the organelle that produces proteins
6. Name the organelle that contains cell sap
7. Name the organelle that contains cellulose
8. Name the organelle that contains chlorophyll
9. Where in the cell does most chemical reactions take place?
10. What type of cells are animal and plant cells?
11. What type of cells are bacterial cells?
12. What is present in eukaryotic cells but not prokaryotic cells?
13. Name the circular piece of DNA found in bacterial cells
14. What is diffusion?
15. What is osmosis?
16. What is active transport?
17. State the three conditions that can affect the rate of diffusion
18. Name 1 adaptation that alveoli have to increase rate of diffusion
19. What does active transport allow plants to absorb through their roots
20. Name the adaptation of muscle cells
21. Describe an adaptation of a sperm cell
22. Name an adaptation of a root hair cell
23. Write the equation to calculate magnification
24. Name one advantage an electron microscope has over a light microscope
25. Name the cell division that is important in growth and development
26. What happens to the genetic material in the first stage of mitosis
27. What type of cells can differentiate into any type of cell
28. Where can stem cells be found in the human body
29. Where can stem cells be found in a plant
30. Name a condition that may be treated with stem cells

Key Knowledge Answers

1. Nucleus
2. Cell Membrane
3. Chloroplasts
4. Mitochondria
5. Ribosomes
6. Vacuole
7. Cell Wall
8. Chloroplasts
9. Cytoplasm
10. Eukaryotic
11. Prokaryotic
12. A Nucleus
13. Plasmid
14. Movement of particles from an area of high to low concentration
15. Diffusion of water molecules from a dilute solution to a concentrated solution through a partially permeable membrane
16. Movement of particles from an area of low to high concentration, which requires energy from respiration
17. Concentration, Temperature, Surface Area
18. Any of: Thin Cell Membrane, Large Surface Area, Efficient blood supply
19. Minerals
20. Ability to contract and relax
21. Tail for Movement, Acrosome Enzymes for breaking down egg, a lot of Mitochondria to transfer energy to tail
22. Large Surface Area
23. Image Size $\div$ Actual Size
24. Higher Magnification & Resolving Power
25. Mitosis
26. Doubles
27. Stem Cells
28. Embryo's or Adult Bone Marrow
29. Meristem Tissue
30. Diabetes or Paralysis