

Year 9

Biology booklet

Topic 1 - cells

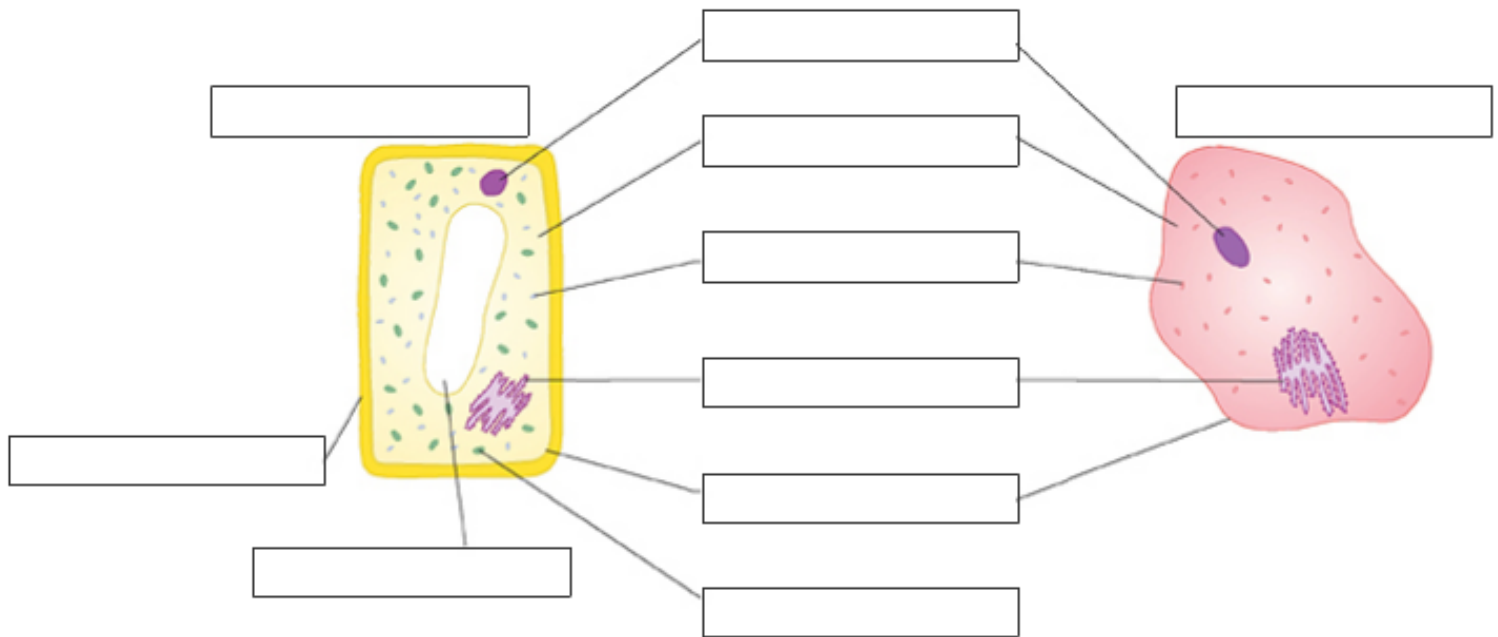
Name: _____

Cells

Give a definition for each of these key words:

Cell	
Cell wall	
Cytoplasm	
Nucleus	
Cell membrane	
Chloroplasts	
Vacuole	
Mitochondria	
Ribosomes	
Diffusion	
Active transport	
Osmosis	
Microscope	
Electron microscope	
Magnification	

Label the plant and animal cell



Connect each part with its description

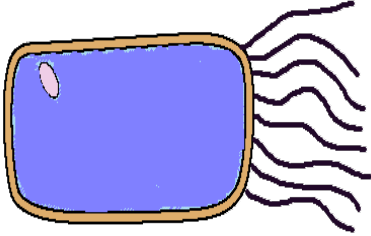
The diagram shows a plant cell (top) and an animal cell (bottom) for a matching exercise. To the left of the plant cell is a list of parts, and to the right of the animal cell is a list of descriptions. Each item has a blue dot next to it.

- Cellulose cell wall
- Nucleus
- Cytoplasm
- Mitochondria
- Ribosomes
- Cell membrane
- Vacuole
- Chloroplasts

- Liquid gel in which chemical reactions take place
- Makes proteins
- Gives structure and strength
- Filled with cell sap
- Contain chlorophyll
- Allows selective passage of gases, water and minerals
- Stores genetic information and controls activities of the cell
- Releases energy during respiration

SPECIALISED CELLS

C _____ CELL

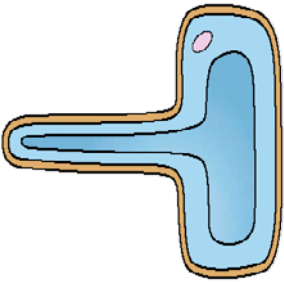


- What is special about this cell?

- Where is this cell found? _____
- What does it do? _____

- How can smoking damage them? _____

R _____ H _____ CELL

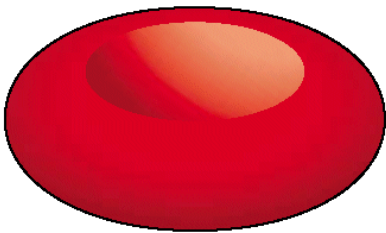


- What is special about this cell?

- Where is this cell found? _____
- What does it do? _____

- Describe one thing different about this plant cell compared to other plant cells

R _____ B _____ CELL



- What is special about this cell?

- Where is this cell found? _____
- What does it do? _____

- Describe one thing different about this cell compared to other cells

S _____ CELL



- What is special about this cell?

- Where is this cell found? _____
- What does it do? _____

P _____ CELL

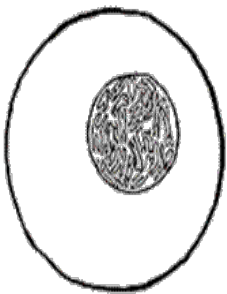


- What is special about this cell?

- Where is this cell found? _____
- What does it do? _____

- Describe one thing different about this plant cell compared to other plant cells

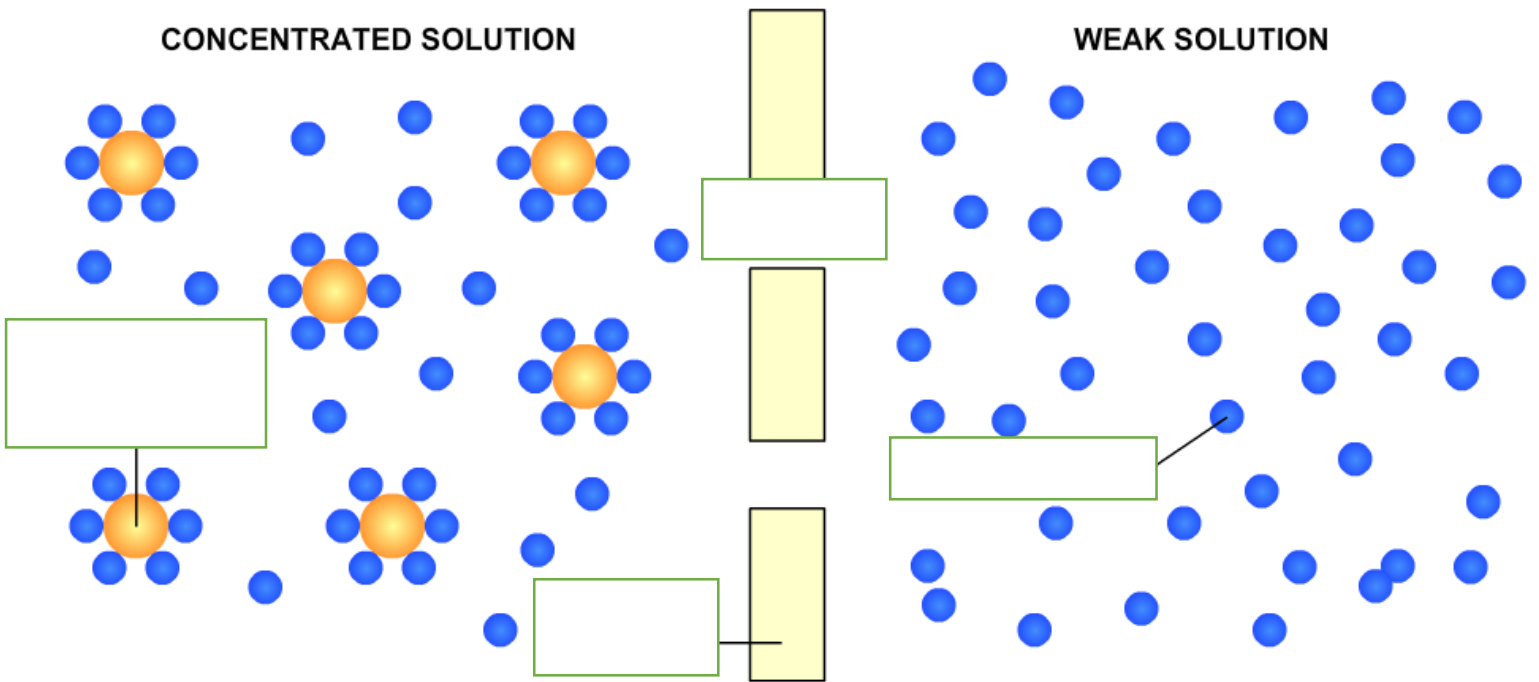
E _____ Cell



- What is special about this cell?

- Where is this cell found? _____
- What does it do? _____

Osmosis



Task 1-

Fill in the boxes with the missing words.

- Pore in cell membrane
- Cell membrane
- Water molecules
- Glucose surrounded by water molecules

Task 2-

Draw an arrow on your diagram to show the direction of the movement of water molecules.

In your own words explain why this has happened.

Membrane Transport

There are three types of membrane transport:

- 1.
- 2.
- 3.

Animal cells contain _____, a semi-fluid solution of salts and other molecules, and are surrounded by a _____. When in distilled water, the animal cells _____ because the cell has a _____ water potential than the surrounding water. Plant cells do not have this problem because they are surrounded by a _____.

In the gut, soluble food substances such as _____ cross the gut lining into the capillaries by the process of _____, which is the movement of molecules down a _____. When an equilibrium is reached between the contents of the gut and the blood, glucose may continue to be moved using the process called _____, which consumes _____ and can move molecules _____ a concentration gradient.

The leaves of green plants obtain the gas _____, which they require for the process of photosynthesis, by the process of _____. They also lose the gas oxygen, produced during _____, by the same process.

Word bank:

Active transport	photosynthesis
cell wall	lower
diffusion	glucose
swell	concentration gradient
against	cytoplasm
cell membrane	energy
Carbon dioxide	
cytoplasm	