

Knowledge organiser for KS4 Biology Cells at Saint Ambrose College 2020+

What is covered in this unit?

Cell structure; eukaryotes and prokaryotes; magnitude calculations; animal and plant cells; cell specialisation; cell differentiation; microscopy, differences in magnification and resolution; culturing microorganisms; chromosome; mitosis and cell cycle; stem cells

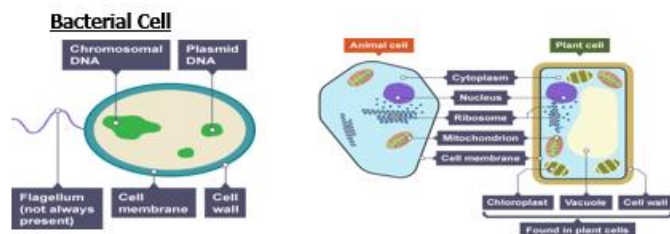
Key vocabulary

Specialised Cells – cells that have adapted to perform a specific role/function

Resolution – The ability of a microscope to distinguish between two separate points

Cell membrane – Controls what enters and leaves the cell

Key facts-



Cell Differentiation - Animals

- All cells start as a stem cell and differentiate (change) at an early stage to become a specialised cell.
- Embryo Stem Cells – can become **any** type of cell.
- Adult Stem Cells – can become **some** types of specialised cell.
- Cells must differentiate to **repair** and **replace** damaged/dead cells.

Cell Differentiation – Plants

- Retain the ability to differentiate throughout their life.
- **Meristem** in root tip and shoot tip continuously grows to replace dead/dying cells.

Possible homework tasks

H/W: including project, Kerboodle, Kahoot, Exam Pro

Stretch & challenge (wider reading/independent work)

Stretch: modelling tasks, Biological Science Review research, Oxford Uni