Year 7 Science Revision

This booklet contains all the content from the Science skills and Cellular Basis of Life topic. There are activities throughout the booklet and you can also use the information to create your own revision resources too. Highlight/underline the key information, annotate it and identify your strengths and weaknesses.

Cellular Basis of Life

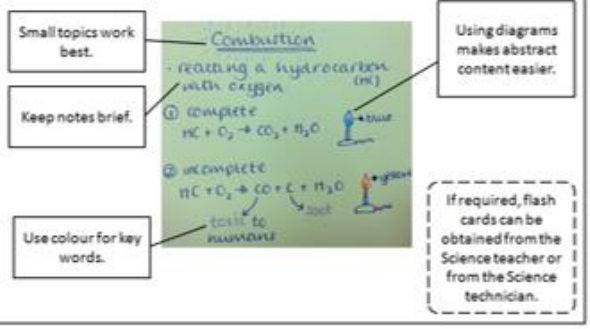
- Living, dead or never been alive
- Animal cells
- Plant cells
- Specialised cells
- Microscopes
- Amoeba
- Diffusion
- Cells, tissue, organs and organ systems
- Digestive system
- Circulatory system
- Gas exchange system

Investigative skills

- Lab equipment
- Methods
- Tables and units
- How to interpret data and graphs
- Variables
- Risk assessments

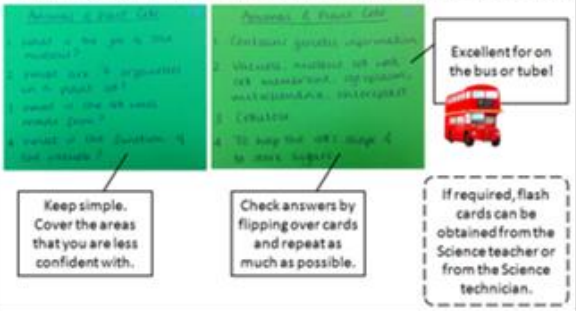
Flash Cards

- Use small pieces of card or paper to make concise notes on a topic.

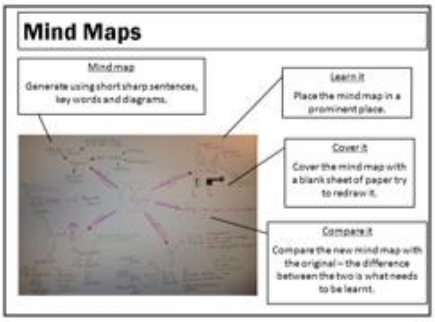


Q&A Cards

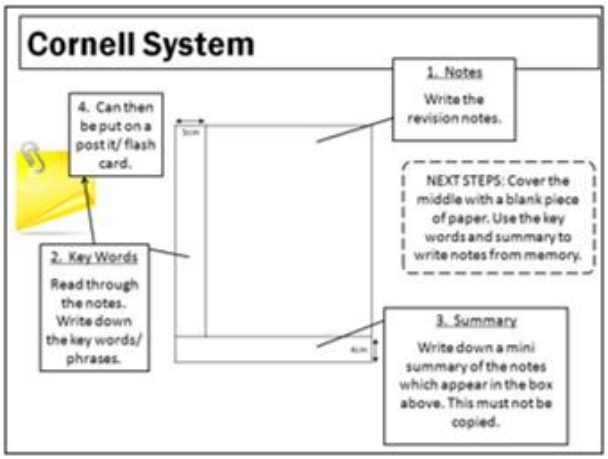
- Use small pieces of card or paper to write questions on a particular topic. The answer should be written on the other side.



Mind Maps



Cornell System



ARTICLE 28 – RIGHT TO EDUCATION: Every child has the right to an education.

Chestnut Grove Academy

BCL: The cellular basis of life

What's the big idea?

Organisms are made of one or more cells. Multicellular organisms have a hierarchical organisation of

cells, tissues, organs and organ systems that work together to keep the cells alive. Cells need a

supply of energy and molecules to carry out life processes.

Topic BCL1
Cells

Key concepts:

BCL1.1	Living, dead and never been alive
BCL1.2	Cells and cell structures
BCL1.3	Cell shape and size
BCL1.4	Diffusion and the cell membrane

Topic BCL2
From cells to organ systems

Key concepts:

BCL2.1	Working together – cells, tissues and organ systems
BCL2.2	Supplying cells – the human circulatory, digestive and gas exchange systems
BCL2.3	The human skeleton and muscles

Science story

Cells
Organisms, living and dead, are made up of cells. Cells are made of molecules organised into membranes and other structures.
Most cells are too small to be seen with the naked eye but can be seen using a light microscope.
There are many different types of cells with different shapes and sizes, but all cells are made up of common parts: all cells have a genome and cytoplasm contained by a cell membrane; all animal and plant cells store their DNA within a nucleus, and they also have mitochondria; plant cells additionally have a cell wall and can have chloroplasts and a vacuole. These parts have common functions in all cells. Molecules move through the cytoplasm by diffusion, and some molecules can enter and leave a cell by diffusing through the cell membrane.
A single cell can carry out all the processes of life. An organism may be made up of a single cell or many cells working together. This is why scientists think of cells as the basic units of life.

Tissues, organs and systems
To stay alive, cells need a constant supply of energy and molecules for chemical reactions, and they

need to get rid of waste. In a multicellular organism the cells are organised into tissues, organs and organ systems that work together to support the life processes of cells to keep the organism alive.

In humans, the circulatory system transports useful molecules and waste around the body. The blood transports useful molecules to cells from food that has been broken down by the digestive system. The blood also transports oxygen to cells from the gas exchange system, and transports waste carbon dioxide away from cells back to the gas exchange system to be removed from the body.

Humans and other animals have a skeleton and muscles, which are types of tissue made up of cells.

Bones provide support and protection for organs. Bones and muscles work together to enable humans to move around, and muscles have vital roles in organs and organ systems.