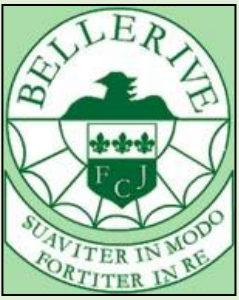


Lesson 1 – The Microscope

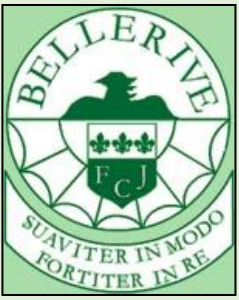


Key points to learn:

- 1) A microscope makes objects look bigger (**magnifies** them).
- 2) The light microscope has two lenses, the **objective** lens and the **eyepiece** lens.
- 3) Objects are placed on a **slide** to view them under the microscope.
- 4) A microscope must be **focused** to see the object clearly.
- 5) A microscope is delicate and expensive and must be handled carefully.

Ref: CGP Biology page 7

Lesson 2 – Viewing cells with a microscope

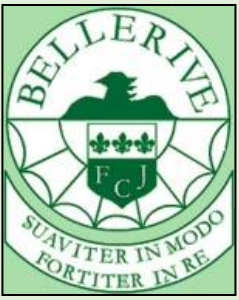


Key points to learn:

- 1) Plant cells can be seen under a light microscope.
- 2) A **thin, flat** piece of plant tissue is needed.
- 3) A **stain** is needed to show the main parts of the cell.
- 4) The magnification is the **objective lens x eyepiece lens**.
- 5) Slides and coverslips are **glass** so take care handling them.

Ref: CGP Biology page 8.

Lesson 3 – Plant cells

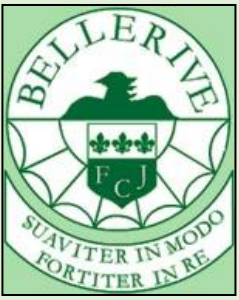


Key points to learn:

- 1) Plants are made from tiny building blocks called **cells**.
- 2) Plant cells have a **nucleus, cytoplasm, mitochondria, cell membrane, cell wall** and a **large vacuole**.
- 3) Most plant cells have **chloroplasts**.

Ref: CGP Biology page 10.

Lesson 4 – Animal cells

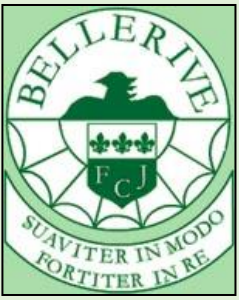


Key points to learn:

- 1) Animals are made from tiny building blocks called **cells**.
- 2) Animal cells have a **nucleus, cytoplasm, mitochondria** and a **cell membrane**.
- 3) Animal cells do **NOT** have a cell wall, a large vacuole or chloroplasts.

Ref: CGP Biology page 10.

Lesson 5 – Model cell

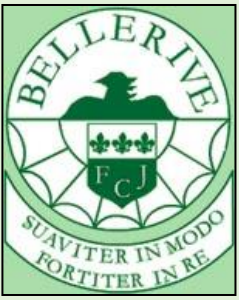


Key points to learn:

- 1) Animal cells have a **nucleus, cytoplasm, mitochondria** and a **cell membrane**.
- 2) Animal cells do **NOT** have a cell wall, a large vacuole or chloroplasts.
- 3) Plant cells have a **nucleus, cytoplasm, mitochondria, cell membrane, cell wall** and a **large vacuole**.
- 4) Most plant cells have **chloroplasts**.

Ref: CGP Biology page 10.

Lesson 6 – Diffusion

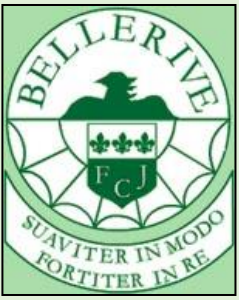


Key points to learn:

- 1) Diffusion is the **movement** of substances from an area of high concentration to an area of low concentration.
- 2) Substances move into and out of living cells by **diffusion**.
- 3) Glucose and oxygen diffuse into cells and are needed for **respiration**.
- 4) Carbon dioxide a **waste** product of respiration leaves cells by diffusion.

Ref: CGP Biology page 14.

Lesson 7 – Unicellular organisms

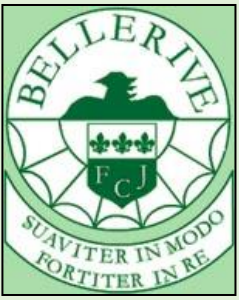


Key points to learn:

- 1) Unicellular organisms are made up of **ONE** cell.
- 2) Bacteria and yeast are **unicellular**.
- 3) Euglena is a single celled plant with a **flagellum**.
- 4) Amoeba is a single celled animal.

Ref: CGP Biology page 11.

Lesson 8 – Multicellular organisms.

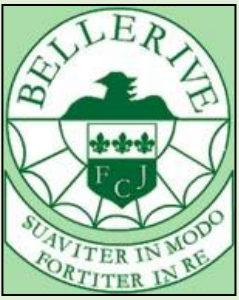


Key points to learn:

- 1) Multicellular organisms are made up of **MANY** cells.
- 2) There are many different types of cells in **multicellular** organisms.
- 3) Cells are **specialised** to carry out a particular job.
- 4) Nerve cells, muscle cells, blood cells are specialised cells in **animals**.
- 5) Root hair cells, palisade cells are specialised cells in **plants**.

Ref: CGP Biology page 13.

Lesson 9 – Organising animals.

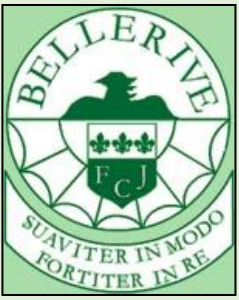


Key points to learn:

- 1) Tissues are made from **similar cells** which do the same job.
- 2) Animal tissues include: **muscle** tissue, **nervous** tissue and **blood**.
- 3) Several **different** tissues make an **organ**.
- 4) Animals organs include: the **heart**, the **stomach** and the **brain**.
- 5) Organs and tissues work together to form **organ systems**.
- 6) Organs systems include: **Circulatory**, **reproductive** and **nervous** systems.

Ref: CGP Biology page 13.

Lesson 10 – Organising plants.

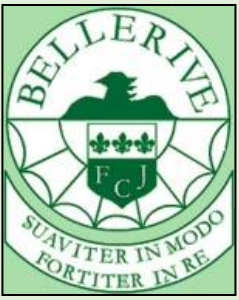


Key points to learn:

- 1) Plant tissues include: **root hair** tissue, **palisade** tissue, **xylem** tissue and **epidermal** tissue.
- 2) Several **different** tissues make an **organ**.
- 3) Plant organs include: **roots**, **stems**, **leaves** and **flowers**.
- 4) Organs and tissues work together to form **organ systems**.
- 5) Organ systems work together to make the **organism**.

Ref: CGP Biology page 13.

Lesson 11 – Plants make food.

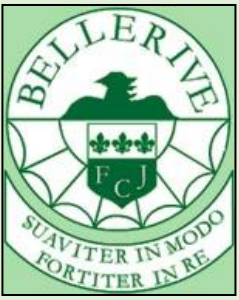


Key points to learn:

- 1) Plants make their own food (**glucose**) in **photosynthesis**.
- 2) Photosynthesis is a **chemical** reaction.
- 3) **Carbon dioxide** and **water** are the reactants.
- 4) **Glucose** and **oxygen** are the products.
- 5) **Light energy** is needed for this process.

Ref: CGP Biology page 58.

Lesson 12 – Photosynthesis.

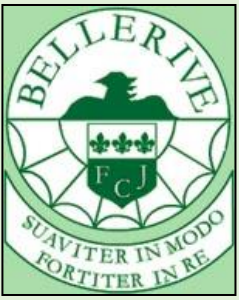


Key points to learn:

- 1) **Starch** in a leaf shows that photosynthesis has taken place.
- 2) **Iodine solution** turns blue/black if starch is present.
- 3) Ethanol is **flammable**.
- 3) Scientific ideas on photosynthesis have changed over time.
- 5) **Chlorophyll** is the green substance in the leaf.

Ref: CGP Biology page 58.

Lesson 13 – Leaf adaptations.

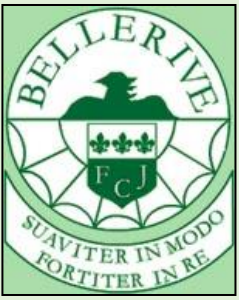


Key points to learn:

- 1) Leaves vary in **size** and **shape**.
- 2) Leaves with a **large surface area** absorb more sunlight.
- 3) **Waxy** leaves prevent water loss.
- 4) **Spiky** leaves do not get eaten.
- 5) **Swollen** leaves store water.

Ref: CGP Biology page 59.

Lesson 14 – Minerals requirements for plants.

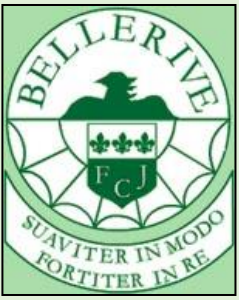


Key points to learn:

- 1) Plants need **minerals** from the **soil** to be healthy.
- 2) Minerals are absorbed by the **roots**.
- 3) **Nitrogen** is needed for **growth**.
- 4) **Magnesium** is needed to make **chlorophyll**.

Ref: CGP Biology page 59.

Lesson 15 – Gas exchange in a leaf.



Key points to learn:

- 1) **Stomata** are tiny holes on the surface of the leaf.
- 2) Stomata allow **gas exchange** in the leaf.
- 3) **Carbon dioxide** and **oxygen** gases move in and out of a leaf.
- 4) Stomata are formed from two **guard** cells.
- 5) Stomata can **open** and **close**.

Ref: CGP Biology page 59.