



Characteristics of Major Groups of Organisms



Plants

- **Multicellular** organisms.
- Cells contain **chloroplasts** → can carry out **photosynthesis**.
- Cells have **cellulose cell walls**.
- Store carbohydrates as **starch or sucrose**.
- **Examples:** maize (cereal), peas/beans (legumes).



Animals

- **Multicellular** organisms.
- **No chloroplasts** → cannot photosynthesise.
- **No cell walls**.
- Have **nervous coordination** → can move from place to place.
- Store carbohydrates as **glycogen**.
- **Examples:** humans (mammals), housefly/mosquito (insects).



Fungi

- Cannot photosynthesise.
- Body often organised into a **mycelium** (network of hyphae).
 - **Hyphae:** thread-like structures with many nuclei.
- Some fungi are **single-celled** (e.g. yeast).
- Cells have **chitin cell walls**.
- Nutrition: **saprotrophic** (secrete digestive enzymes onto food, then absorb nutrients).
- Store carbohydrates as **glycogen**.

- **Examples:** Mucor (hyphal structure), yeast (single-celled).



Protocists

- **Microscopic, single-celled** organisms.
- Some have features like **animal cells** (e.g. Amoeba).
- Others have features like **plant cells** (e.g. Chlorella).
- **Examples:** Amoeba (animal-like), Chlorella (plant-like).



Exam Tip:

- Learn the **store of carbohydrates** for each group (Plants → starch/sucrose, Animals & Fungi → glycogen).
- Remember **cell wall material** (Plants = cellulose, Fungi = chitin, Animals = none).
- Examples are often asked in exams (especially maize, humans, yeast, Amoeba).