

Biology 104 Study Notes

Key

Domain

Kingdom

Clade

Phylum

Class

Subclass

Introduction Info

Prokaryotes

- Bacteria and Archaea
- Always single celled
- Reproduce by binary fission (asexually)
- No membrane-bound organelles

Eukaryotes

- Eukarya (plants, animals, etc.)
- Multicellular or single celled
- Reproduce both asexually and sexually
- All cells have membrane-bound organelles

Nutrition Modes

	C Source	Energy Source	Examples
Photoautotrophs	CO ₂	Light	Most plants, some prokaryotes (e.g. cyanobacteria) and protists
Chemoautotrophs	CO ₂	Oxidising organic substrates (H ₂ S, NH ₃)	Certain prokaryotes, deep sea vent archaea
Photoheterotrophs	Organic molecules	Light	Purple non-sulphur bacteria
Chemoheterotrophs	Organic molecules	Organic molecules	Many prokaryotes, protists, fungi, animals and some plants

Classification

Bacteria

- Spherical (cocci), rod-like (bacilli), spirals (spirilla)
- Most live symbiotically and are the main decomposers
- Asexual reproduction by binary fission
- Cell surface covered by a cell wall to keep shape and for protection
- Produce sticky substances or have fimbriae/pili for attachment
- Move by use of flagellum (flagellum is rigid)

