

Eukaryotes and Prokaryotes



Eukaryotes have a nucleus; prokaryotes don't.

Importance	8
Difficulty	5
Exam	5
Application	8

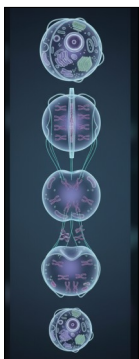
Cell Structure



Cells are the basic building blocks of life, with different parts for different jobs.

Importance	6
Difficulty	6
Exam	6
Application	10

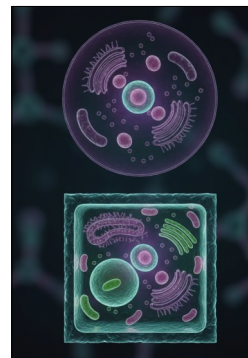
Cell Division



Cells make copies of themselves to grow and repair.

Importance	5
Difficulty	8
Exam Frequency	10
Application	10

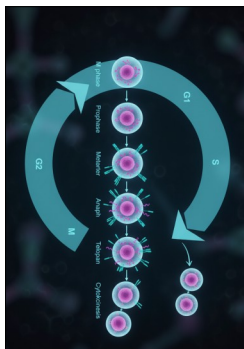
Animal and Plant Cells



Plant cells have walls, chloroplasts, & vacuoles; animal cells don't.

Importance	5
Difficulty	8
Exam	9
Application	7

Mitosis and the Cell Cycle



Mitosis makes identical cells for growth & repair.

Importance	9
Difficulty	6
Exam	9
Application	7

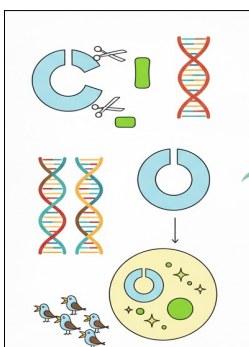
Chromosomes



Long strands of DNA that carry genes.

Importance	10
Difficulty	10
Exam	9
Application	7

Genetic Inheritance



Traits are passed from parents to offspring through DNA.

Importance	8
Difficulty	6
Exam Frequency	9
Application	6

Stem Cells



Unspecialised cells that can turn into many different cell types.

Importance	5
Difficulty	5
Exam Frequency	9
Application	7

Cell Structure



Eukaryotes and Prokaryotes



Animal and Plant Cells



Cell Division



Chromosomes



Mitosis & the Cell Cycle



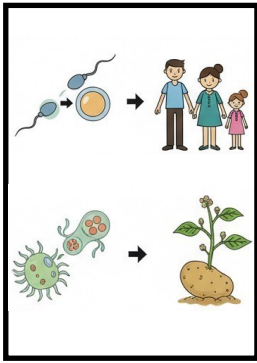
Stem Cells



Genetic Inheritance



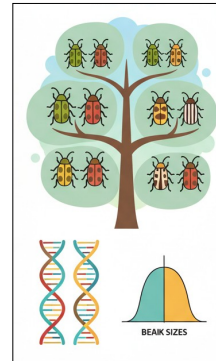
Sexual and Asexual Reproduction



Sexual mixing creates variation, asexual produces clones

Importance	8
Difficulty	7
Exam	8
Application	8

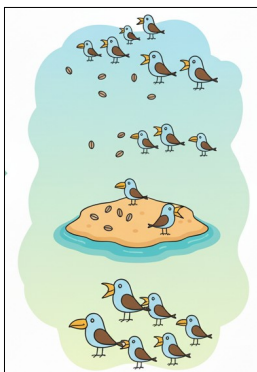
Variation and Evolution



Differences between organisms help drive natural selection.

Importance	7
Difficulty	8
Exam Frequency	9
Application	6

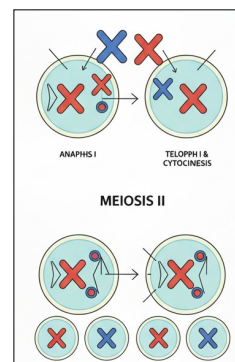
Genetic Engineering



Scientists alter DNA to give organisms new traits.

Importance	6
Difficulty	5
Exam	10
Application	7

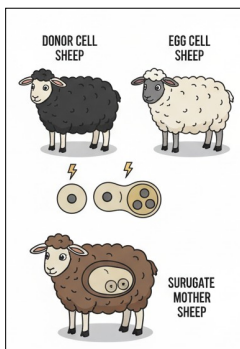
Meiosis



Special cell division that makes gametes (sperm and egg cells).

Importance	8
Difficulty	7
Exam	9
Application	5

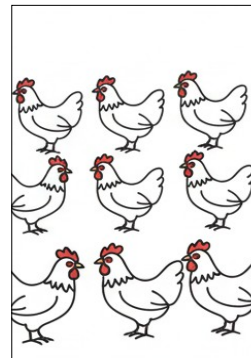
Cloning



Making genetically identical copies of organisms.

Importance	10
Difficulty	9
Exam Frequency	10
Application	9

Selective Breeding



Choosing parents with the best traits to produce desired offspring.

Importance	7
Difficulty	7
Exam Frequency	8
Application	6

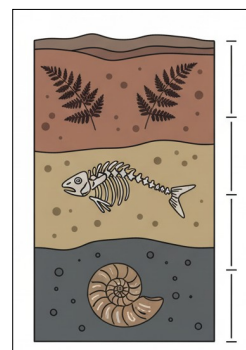
Evolutionary Trees



Diagrams that show how species are related through evolution.

Importance	7
Difficulty	8
Exam Frequency	7
Application	6

Fossils and Extinction



Fossils show how life has changed, extinction removes species.

Importance	7
Difficulty	10
Exam Frequency	8
Application	8

Variation and Evolution



Sexual and Asexual Reproduction



Meiosis



Genetic Engineering



Selective Breeding



Cloning



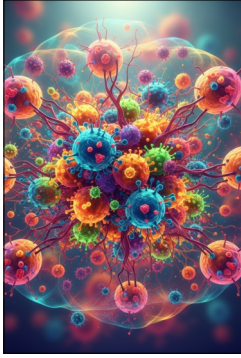
Fossils and Extinction



Evolutionary Trees



Viral Diseases



Caused by viruses like measles or HIV.

Importance	6
Difficulty	7
Exam Frequency	8
Application	7

Bacterial Diseases



Caused by bacteria like salmonella or gonorrhea.

Importance	7
Difficulty	9
Exam Frequency	6
Application	10

Fungal Diseases



Caused by fungi, e.g. athlete's foot.

Importance	8
Difficulty	9
Exam	6
Application	6

Protist Diseases



Protists like malaria parasites cause illness.

Importance	10
Difficulty	6
Exam	7
Application	7

Human Defense Systems



The body defends itself with skin, white blood cells, and mucus.

Importance	5
Difficulty	5
Exam	10
Application	10

Vaccination



Choosing parents with the best traits to produce desired offspring.

Importance	9
Difficulty	9
Exam	6
Application	8

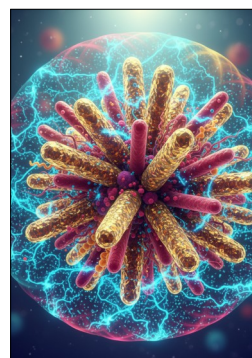
Antibiotics & Painkillers



Antibiotics kill bacteria; painkillers ease symptoms.

Importance	7
Difficulty	9
Exam Frequency	10
Application	8

Resistant Bacteria



Some bacteria evolve to survive antibiotics.

Importance	5
Difficulty	6
Exam Frequency	8
Application	10

Bacterial Diseases



Viral Diseases



Protist Diseases



Fungal Diseases



Vaccination



Human Defense Systems



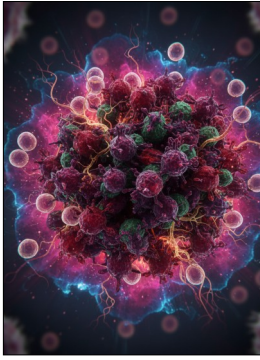
Resistant Bacteria



Antibiotics & Painkillers



Cancer



Uncontrolled cell growth that can form tumors.

Importance	6
Difficulty	10
Exam	9
Application	10

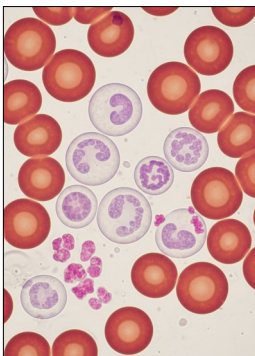
Plant Disease



Plants also suffer from viruses, bacteria, and fungi.

Importance	7
Difficulty	5
Exam	10
Application	5

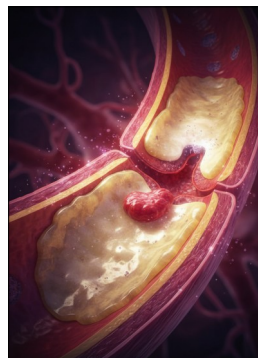
Blood Components



Red cells carry oxygen, white cells fight infection, platelets clot blood.

Importance	6
Difficulty	9
Exam	8
Application	8

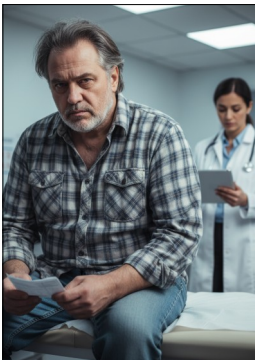
Coronary Heart Disease



Fatty deposits block blood flow to the heart.

Importance	6
Difficulty	9
Exam	5
Application	9

Health Issues



Ill health can be physical, mental, or social.

Importance	8
Difficulty	8
Exam Frequency	5
Application	8

Lifestyle Effects on Non-Communicable Diseases



Poor diet, smoking, and lack of exercise increase risks.

Importance	9
Difficulty	9
Exam	8
Application	7

The Nervous System



Sends quick electrical messages through the body.

Importance	6
Difficulty	7
Exam Frequency	7
Application	10

The Endocrine System



Glands release hormones for slower, long-lasting control.

Importance	7
Difficulty	10
Exam Frequency	9
Application	7

Plant Disease



Cancer



Coronary Heart Disease



Blood Components



Lifestyle Effects on Non-Communicable Diseases



Health Issues



The Endocrine System



The Nervous System



Plant Hormones



Chemicals that control plant growth and responses to light/gravity.

Importance	8
Difficulty	6
Exam Frequency	10
Application	6

Photosynthesis



Plants use sunlight to make glucose and oxygen.

Importance	7
Difficulty	7
Exam	9
Application	6

Photosynthetic Reaction



Carbon dioxide + water → glucose + oxygen (needs light).

Importance	5
Difficulty	6
Exam	9
Application	8

Respiration



Cells release energy from glucose.

Importance	9
Difficulty	9
Exam	9
Application	8

Aerobic & Anaerobic Respiration



Aerobic uses oxygen, anaerobic doesn't.

Importance	9
Difficulty	10
Exam Frequency	8
Application	8

Metabolism



The sum of all chemical reactions in the body.

Importance	9
Difficulty	5
Exam	10
Application	9

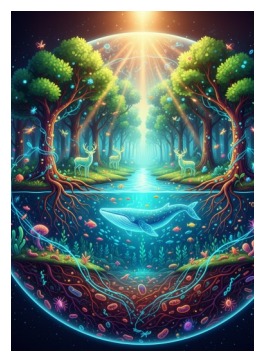
Recycling of Molecules



Nutrients like carbon and nitrogen cycle through ecosystems.

Importance	6
Difficulty	5
Exam Frequency	8
Application	6

Ecology



The study of how organisms interact with each other and their environment.

Importance	8
Difficulty	6
Exam Frequency	8
Application	5

Photosynthesis



Plant Hormones



Respiration



Photosynthetic Reaction



Metabolism



Aerobic and Anaerobic Respiration



Ecology



Recycling of Molecules



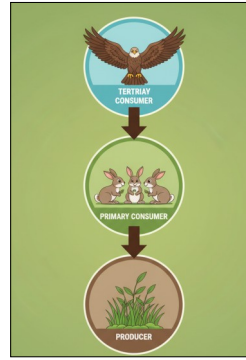
Ecosystems



Communities of organisms interacting with their surroundings.

Importance	5
Difficulty	10
Exam Frequency	5
Application	9

Food Chains and Webs



Show how energy passes from one organism to another.

Importance	6
Difficulty	6
Exam Frequency	8
Application	7

Biodiversity



The variety of life in an ecosystem.

Importance	5
Difficulty	10
Exam Frequency	9
Application	9

Waste Management



Humans must reduce, reuse, and recycle to protect the planet.

Importance	5
Difficulty	10
Exam Frequency	10
Application	9

Land Use



Farming, building, and quarrying affect habitats.

Importance	5
Difficulty	7
Exam Frequency	8
Application	8

Human Impact on the Environment



Pollution, farming, and industry can harm ecosystems.

Importance	6
Difficulty	8
Exam Frequency	9
Application	8

Deforestation



Cutting down forests destroys habitats and increases CO2.

Importance	6
Difficulty	5
Exam Frequency	10
Application	10

Global Warming



Greenhouse gases trap heat, raising Earth's temperature.

Importance	7
Difficulty	7
Exam Frequency	5
Application	9

Food Chains and Webs



Ecosystems



Waste Management



Biodiversity



Human Impact on the Environment



Land Use



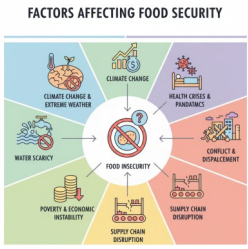
Global Warming



Deforestation



Factors Affecting Food Security

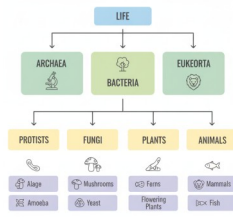


Population growth, pests, and climate change reduce food supply.

Importance	8
Difficulty	8
Exam	10
Application	10

Classification of Living Organisms

CLASSIFICATION OF LIVING ORGANISMS



Organisms are grouped based on shared features.

Importance	10
Difficulty	7
Exam Frequency	5
Application	6

Use of Apparatus & Techniques



Knowing how to use lab equipment safely and accurately.

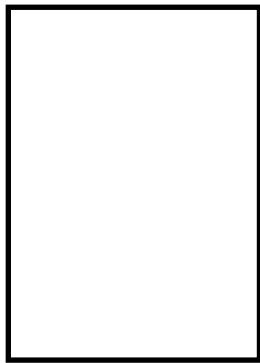
Importance	8
Difficulty	6
Exam	8
Application	7

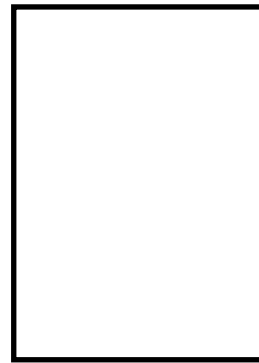
Working Scientifically



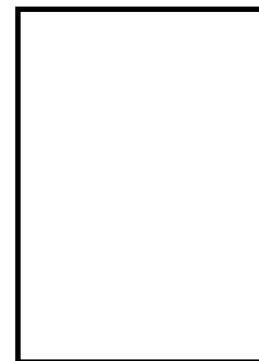
Planning, testing, and evaluating experiments.

Importance	6
Difficulty	5
Exam	7
Application	7









Classification of Living Organisms



Factors Affecting Food Security



Working Scientifically



Use of Apparatus & Techniques



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