

Genetic Fingerprinting

Recombinant DNA Technology

Using Genome Projects

Gene Expression and Cancer

Regulation of transcription and translation

Required Practical 7 - Use of chromatography to investigate the pigments isolated from leaves of different plants, e.g. leaves from shade-tolerant and shade-intolerant plants or leaves of different colours



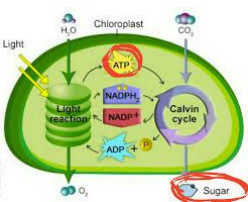
Nutrient Cycles

Fertilisers & Eutrophication

Energy Transfer in Ecosystems

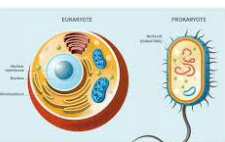
Photosynthesis

Respiration



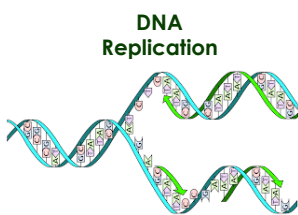
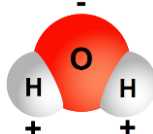
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Structure of prokaryotic cells and viruses

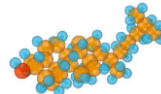


Structure of eukaryotic cells

Required Practical 1 - Investigation into the effect of a named variable on the rate of an enzyme-controlled reaction

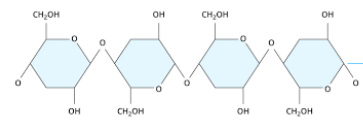


Many Proteins are Enzymes



Lipids

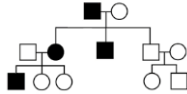
Carbohydrates



TEACHER 1

TEACHER 2

A-LEVEL BIOLOGY LEARNING JOURNEY



Control of Blood Water Potential

Glucose in Urine

Blood Glucose Concentration

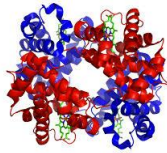
Homeostasis & Negative Feedback

Skeletal Muscles

Required Practical 10 - Investigation into the effect of an environmental variable on the movement of an animal using either a choice chamber or a maze

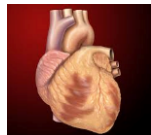


DNA, Genes and Chromosomes



Haemoglobin

Required Practical 5 - Dissection of animal or plant gas exchange or mass transport system or of organ within such a system



Year 12

Year 13

EXAMS

THE CONTROL OF GENE EXPRESSION

GENETICS, POPULATIONS, EVOLUTION AND ECOSYSTEMS

ENERGY TRANSFERS IN AND BETWEEN ORGANISMS

ORGANISMS RESPOND TO CHANGES IN THEIR INTERNAL AND EXTERNAL ENVIRONMENTS

GENETIC INFORMATION, VARIATION AND RELATIONSHIPS BETWEEN ORGANISMS

ORGANISMS EXCHANGE SUBSTANCES WITH THEIR ENVIRONMENTS

BIOLOGICAL MOLECULES

CELLS

Methods of studying cells



Inorganic Ions

ATP

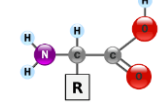


Structure of DNA & RNA

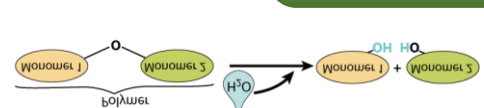
General Properties of Proteins

Monomers & Polymers

Gas Exchange



Mass transport in animals



Required Practical 4 - Investigation into the effect of a named variable on the permeability of cell-surface membranes

Cell recognition and the immune system

Surface area to volume ratio

Genetic Diversity and Adaptation



Biodiversity within a community



All Cells arise from other cells

Required Practical 3 - Production of a dilution series of a solute to produce a calibration curve with which to identify the water potential of plant tissue

Species and taxonomy



Survival & Response

Control of Heart Rate



Nerve Impulses

Synaptic Transmission

Required Practical 6 - Use of aseptic techniques to investigate the effect of antimicrobial substances on microbial growth

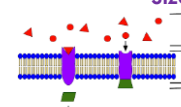
Genetic Diversity can arise as a result of mutation during meiosis

Required Practical 8 - Investigation into the effect of a named factor on the rate of dehydrogenase activity in extracts of chloroplasts

Farming Practices & Production

Required Practical 9 - Investigation into the effect of a named variable on the rate of respiration of cultures of single-celled organisms

Succession



Animal Responses

Receptors

Variation, Evolution & Speciation

Most of a cell's DNA is not translated

THE CONTROL OF GENE EXPRESSION

GENETICS, POPULATIONS, EVOLUTION AND ECOSYSTEMS

Populations



Sampling



Adaptations



Conservation

Required Practical 12 - Investigation into the effect of a named environmental factor on the distribution of a given species

Alteration of the sequence of bases in DNA can alter the structure of proteins

Gene Therapy

Recombinant DNA Technology

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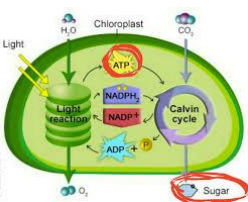
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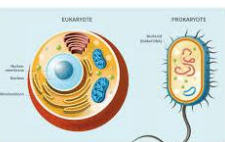
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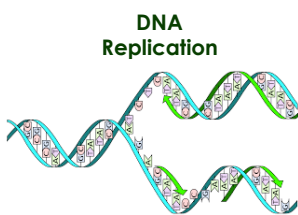
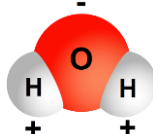
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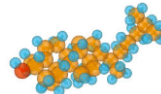


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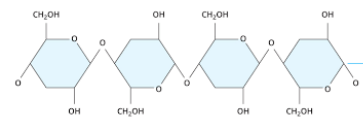


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TEACHER 2