

EXAMS

Genetic Fingerprinting

Recombinant DNA Technology

Using Genome Projects

Gene Expression and Cancer

Regulation of transcription and translation

THE CONTROL OF GENE EXPRESSION

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



Conservation

Adaptations

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

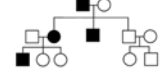


Sampling

Populations



Inheritance



GENETICS, POPULATIONS, EVOLUTION AND ECOSYSTEMS

Control of Blood Water Potential

Glucose in Urine

Blood Glucose Concentration

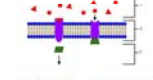
Homeostasis & Negative Feedback

Skeletal Muscles

Required Practical 11 - Production of a dilution series of a glucose solution and use of colorimetric techniques to produce a calibration curve with which to identify the concentration of glucose in an unknown 'urine' sample

Most of a cells DNA is not translated

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



Animal Responses

Control of Heart Rate

Respiration

ENERGY TRANSFERS IN AND BETWEEN ORGANISMS

ORGANISMS RESPOND TO CHANGES IN THEIR INTERNAL AND EXTERNAL ENVIRONMENTS

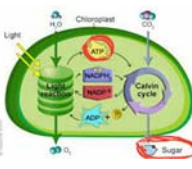
Photosynthesis

Fertilisers & Eutrophication

Energy Transfer in Ecosystems



Nutrient Cycles



Year 13

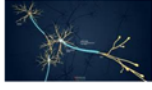
Required Practical 8 - Investigation into the effect of a named factor on the rate of dehydrogenase activity in extracts of chloroplasts

Farming Practices & Production

Investigating biodiversity

Species and taxonomy

Survival & Response



Receptors

Nerve Impulses

Synaptic Transmission

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

GENETIC INFORMATION, VARIATION AND RELATIONSHIPS BETWEEN ORGANISMS

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

Genetic Diversity and Adaptation



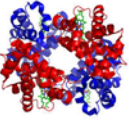
Surface area to volume ratio

DNA and Protein synthesis



Digestion and Absorption

Mass transport in plants



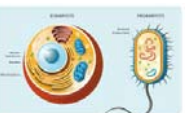
Haemoglobin

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

CELLS

ORGANISMS EXCHANGE SUBSTANCES WITH THEIR ENVIRONMENTS

Structure of prokaryotic cells and viruses



Methods of studying cells



Transport across cell membranes

Cell recognition and the immune system

Gas Exchange

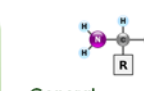
Mass transport in animals

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



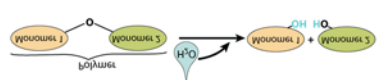
ATP

Structure of DNA & RNA



General Properties of Proteins

Monomers & Polymers

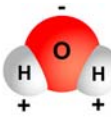


Structure of eukaryotic cells

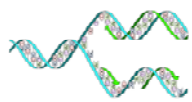


Inorganic Ions

Water



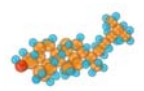
DNA Replication



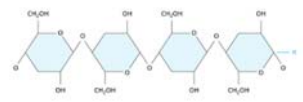
Many Proteins are Enzymes

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

Lipids



Carbohydrates



Year 12

