

Programme Catalogue

PRIMARY LEVEL SCIENCE



**ADM
EDUCATION**

LIMITED LIABILITY PARTNERSHIP



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Food Science Programmes

THEME: CYCLES – CYCLES IN MATTER AND WATER
(LOWER BLOCK AND UPPER BLOCK)



TIME FOR ICE CREAM

Students will make their very own ice-cream using various ingredients to investigate how impurities can affect the process of freezing while they learn about emulsifiers and stabilisers in the making of ice-cream.

SUGARY RAINBOWS

Students will learn about the effect of sugar on the water cycle by observing its effect on ice as they explore the properties of sugar. Students will also get to learn about the concept of density by making a layered rainbow drink.



CANDY MAKING

Students will explore the cycles of matter by heating and mixing sugar syrup to create different types of candy such as lollipops and cotton candy, while learning about the effect of impurities on the melting point of sugar.

WHAT IS PLASMA?

Students will be introduced to plasma as a state of matter, and differentiate it from the other states of matter in terms of shape and volume. Students will also create a non-Newtonian matter called oobleck using food substances.

Eco-Science Programmes

THEME: CYCLES - CYCLES IN PLANTS AND ANIMALS
(LOWER BLOCK AND UPPER BLOCK)



INSECT INVESTIGATION

Students will learn about the typical life cycle of an insect by getting to observe live insect specimens in a closed environment, and under magnification, before identifying the different parts of the insect.

DECONSTRUCT DISPERSAL

Students will appreciate the reproductive life cycle of plants by studying different types of fruit and seed specimens before classifying them based on the seed dispersal methods based on their physical characteristics.



METAMORPHOSIS MANIA

Students will perform a side-by-side comparison of butterflies and moth specimens under the light microscope to elucidate their life cycles and differentiate between metamorphosis and incomplete metamorphosis of the two insects.

FROG OR TOAD?

Students will get to handle live specimens of frogs and toads to observe, label and differentiate the various parts of the organisms before outlining the stages of their life cycles and creating a tadpole paper craft.

Nature Science Programmes

THEME: ENERGY - PHOTOSYNTHESIS
SYSTEMS - PLANT SYSTEMS



PLANET OF PLANTS

Students will examine specimens of flowering and non-flowering plants to differentiate between the various parts of a plant and their functions before embarking on a nature trail in the school premises.

GARDEN IN A BOTTLE

Students will create their own bottle plants by learning how to cultivate plants as they appreciate how different parts of the plants serve in the processes of photosynthesis and food storage.



MAKING MARMALADE

Students will make their very own strawberry jam and orange marmalade by extracting different parts of the fruit as they appreciate their roles in reproduction, and learn how to classify the fruits into different groups.

LEARNING ABOUT LATEX

Students will learn about the different parts of the rubber plant, especially its circulatory system that releases latex, before using it to create a fake wound craft. Students will also learn to appreciate the uses of latex in daily life.

Life Science Programmes

THEME: SYSTEMS - HUMAN SYSTEM
(LOWER BLOCK AND UPPER BLOCK)



RESPIRATION ACTION

Students will use simple materials to create a model pair of lung with a moving diaphragm and chest cavity to simulate the inhalation and exhalation process, and learn about the roles and functions of the human respiratory system.

RECORD THE RATE

Students will learn about the human circulatory system as they use different ways to measure the heart rate while sitting, standing and jumping. They will also get to construct a measurement device to record the heart rate.



DEMYSTIFYING DIGESTION

Students will apply their understanding of the human digestive system to conduct experiments on how the churning actions and acidic environment of the stomach can be resisted by developing a durable pill coating.

MOVE THOSE MUSCLES

Students will appreciate the muscular and skeletal systems of the human body by designing, constructing, and testing their own assistive devices to help people recover from a strained bicep, and from motor skill disabilities.

Life Science Programmes

THEME: SYSTEMS - CELL SYSTEM (UPPER BLOCK)



STOP THE OUTBREAK!

Students will try to identify the cause of a food poisoning outbreak by learning to culture bacteria by the streaking method, and identify the basic shapes of bacteria by staining and viewing it under the microscope.

WORLD OF CELLS

Students will get to explore and observe plant and animal cells by preparing sample slides using simple staining and viewing them under the light microscope to identify different parts of the cells and appreciate their significance.



DNA AND GENES

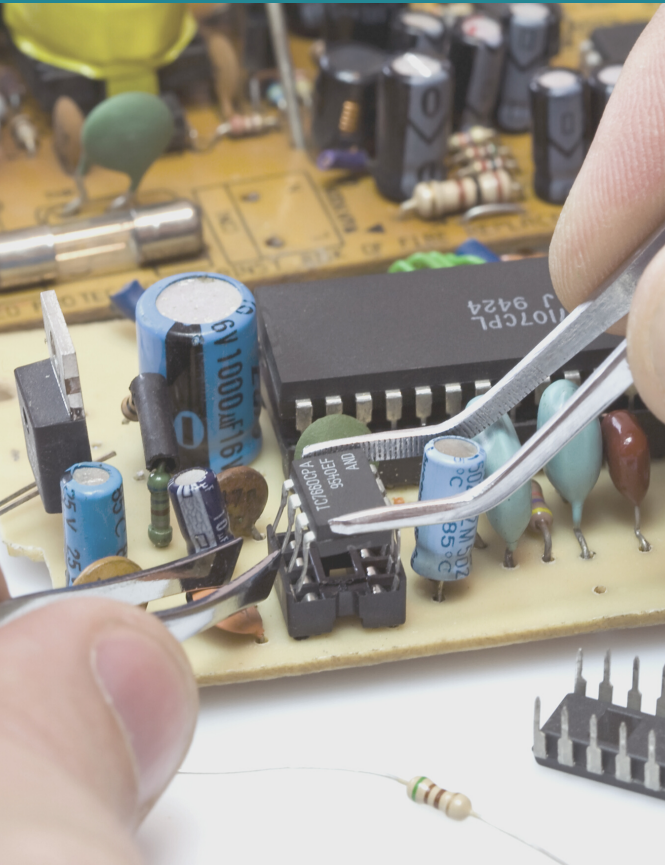
Students will get to see what DNA looks like by extracting DNA from wheat germ, and make a 3D DNA model to bring home. Students will also learn about the role of DNA by identifying their physical traits that are determined by genes.

CSI DETECTIVES

Students will solve a murder mystery by using different types of forensic techniques, including the analysis of DNA by performing agarose gel electrophoresis in order to identify the culprit.

Physical Science Programmes

THEME: SYSTEMS - ELECTRICAL SYSTEM
(UPPER BLOCK)

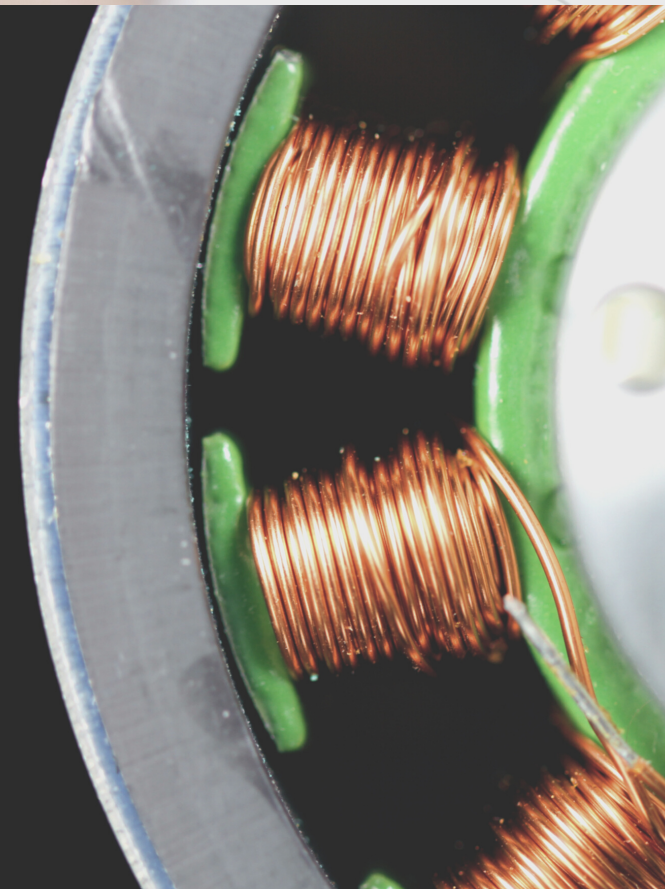


EXPLORING ELECTRICITY

Students will explore and experiment on creating series and parallel circuits using various electrical conductors and insulators, and discover how common electrical components like fuses and LEDs work.

INTRO TO ELECTRONICS

Students will get to create their very own electronic art by constructing a table lamp using LEDs and other electrical components such as wires and switches, while learning about their functions in an electrical system.



SOLAR & WIND ENERGY

Students will learn how to create electrical energy using renewable energy sources such as solar energy and wind energy, and investigate the effect of these renewable energy sources on their conversion into electrical output.

ELECTROMAGNETISM

Students will explore the phenomena and properties of electromagnetism by investigating its effects on different materials and its uses in everyday objects, before making their own electromagnet.

Physical Science Programmes

THEME: INTERACTIONS - INTERACTION OF FORCES
(UPPER BLOCK)



IMPACT OF GRAVITY

Students try to protect a raw egg from breaking when dropped by applying their understanding of gravitational force and air resistance. They will create a parachute to experiment its effect on the time taken for the raw egg to land.

LAUNCH WATER ROCKETS

Students will construct their very own water rockets to witness the demonstration of Newton's Laws, and observe the relationship between rocket design and frictional force as they launch their water rockets.



STRUCTURES & STABILITY

Students will compete with one another to build a stable structure by utilising the force in springs to withstand the impact of an earthquake, so as to be able to appreciate the effects of forces on structures.

AMAZING AIRPLANES

Students will design and create their own airplane using simple materials to learn how forces such as air resistance can affect the motion of an airplane, and its centre of gravity as they launch it to safely fly and land it.

Environmental Programmes

THEME: INTERACTIONS - INTERACTION WITHIN THE ENVIRONMENT (UPPER BLOCK)



A LIVING LEAF LITTER

Students will examine the leaf litter community in the school garden to record the organisms they observe and identify the decomposers, before analysing the effects of the physical conditions of the habitat on the organisms.

CALM THE CLIMATE

Students will conduct experiments on simulations to demonstrate the effects of global warming on climate change, and investigate the causes of ocean acidification, before identifying ways to prevent further climate change.



PONDER BY THE POND

Students will visit the school pond to scoop out water samples to examine the presence of aquatic life as they learn field techniques and view specimens under magnification to form understanding of the pond ecosystem.

STUDYING SLITHERERS

Students will experiment on earthworms and mealworms to obtain firsthand experience in handling live organisms to observe their environmental preferences while also labelling and describing their adaptive features.