

St. Mary's College

Integrated Science

Form One

Course Outline

Term 1

Unit/ Section	Topics	Modules
01	Science and scientific processes	<ul style="list-style-type: none">• Science and technology• Impacts of science and technology• Scientific skills
		<ul style="list-style-type: none">• Writing a lab report• Making scientific drawings• Labelling scientific diagrams
01 02	Safety in Science	<ul style="list-style-type: none">• Scientific apparatus• Safety symbols• Safety in the school laboratory
03	Scientific Measurement and SI Units	<ul style="list-style-type: none">• Measurement and SI units• Measuring length• Measuring length with calipers
		<ul style="list-style-type: none">• Measuring volumes of liquids• Measuring volume of an irregular solid object• Measuring volume of a small regular object
		<ul style="list-style-type: none">• Measuring mass• Measuring time• Measuring temperature
11	Forces and Energy	<ul style="list-style-type: none">• Introduction• Action of forces• Types of forces• Friction
		<ul style="list-style-type: none">• Water resistance and air resistance• Representing forces• Resultant forces acting along the same line

		<ul style="list-style-type: none"> • Mass and weight • Gravity • Weight in places other than Earth
		<ul style="list-style-type: none"> • Force and Pressure • Pressure and Gases • Everyday examples of pressure
		<ul style="list-style-type: none"> • Revision

Term 2

Unit/Section	Topic	Modules
12	Energy transformations	<ul style="list-style-type: none"> • What is energy? • Potential energy • Kinetic energy • Heat and light energy
		<ul style="list-style-type: none"> • Sound energy • Electrical energy • Nuclear energy • Thermal Energy
		<ul style="list-style-type: none"> • Energy transformations • Renewable energy sources • Biofuels
		<ul style="list-style-type: none"> • Transforming energy • Sankey diagrams • Conservation of energy 1 • Conservation of energy 2
08	Properties of Matter	<ul style="list-style-type: none"> • Matter • Properties of gases • Density
		<ul style="list-style-type: none"> • States of matter • Particles of matter • The effect of heat on matter
		<ul style="list-style-type: none"> • Melting and solidifying • Boiling and condensation • Sublimation
09	Atoms and Elements	<ul style="list-style-type: none"> • Matter's building blocks

		<ul style="list-style-type: none"> • Some Common elements • Atoms
		<ul style="list-style-type: none"> • Structure of atom • Electronic structure • Periodic table
10	Compounds and Mixtures	<ul style="list-style-type: none"> • Compounds and mixtures • Atoms and molecules • Molecules that are elements
		Revision of term's work

Term 3

Unit/Section	Topic	Modules
04	Characteristics of Living things	<ul style="list-style-type: none"> • Growth • Respiration • Irritability • Movement
		<ul style="list-style-type: none"> • Nutrition • Excretion • Reproduction
05	What are cells?	<ul style="list-style-type: none"> • Animal and Plant cells • Using a microscope • Preparing a specimen of animal cells
		<ul style="list-style-type: none"> • Structure of an animal cell • Preparing a specimen of plant cells • Structure of plant cells
06	Cells, tissues and organs	<ul style="list-style-type: none"> • Unicellular organisms • Respiratory system • Circulatory system
		<ul style="list-style-type: none"> • Digestive system • Excretory system • Skeletal and muscular systems
		<ul style="list-style-type: none"> • Reproductive system • Specialized animal cell

		<ul style="list-style-type: none">• Plant systems• Specialized plant cells
07	Cellular processes-	<ul style="list-style-type: none">• Diffusion• Osmosis• Photosynthesis
		Revision