

Classroom Workshop: Energy

Primary school curriculum references:

1. Science

Curriculum	Science
Level	3 rd & 4 th classes
Strand	Living things
Strand Unit	Human Life
Objective	<ul style="list-style-type: none"> • develop an awareness of the importance of food for energy and growth • explore and investigate how people move <i>actions of muscles, bones and joints</i>

Curriculum	Science
Level	3 rd & 4 th classes
Strand	Living things
Strand Unit	Plant and animal life
Objective	<ul style="list-style-type: none"> • understand that plants use light energy from the sun • come to appreciate that animals depend on plants and indirectly on the sun for food • investigate the factors that affect plant growth <i>water, light, types of soil, temperature</i>

Curriculum	Science
Level	3 rd & 4 th classes
Strand	Energy and forces
Strand Unit	Light
Objective	<ul style="list-style-type: none"> • learn that light is a form of energy • recognise that light comes from different natural and artificial sources • investigate the relationship between light and materials <i>transparent, translucent, opaque</i> • recognise that the sun gives us heat and light, without which people and animals could not survive

Curriculum	Science
Level	3 rd & 4 th classes
Strand	Energy and forces
Strand Unit	Sound
Objective	<ul style="list-style-type: none"> • learn that sound is a form of energy • explore the fact that sound travels through materials <i>air, water, wood, metal</i>

Curriculum	Science
Level	3 rd & 4 th classes
Strand	Energy and forces
Strand Unit	Heat
Objective	<ul style="list-style-type: none"> • learn that heat can be transferred • recognise that temperature is the measure of how hot

	<p>something is</p> <ul style="list-style-type: none"> • understand that the sun is the Earth's most important heat source • identify ways in which homes, buildings and materials are heated <p><i>cookers, kettles, electric radiators</i></p>
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Curriculum	Science
Level	3 rd & 4 th classes
Strand	Energy and forces
Strand Unit	Magnetism and electricity
Objective	<ul style="list-style-type: none"> • learn that magnets can push or pull magnetic materials • examine and classify objects as magnetic and non-magnetic • explore the effects of static electricity <p><i>plastic ruler, comb, glass rod</i></p> <ul style="list-style-type: none"> • observe the effects of static electricity on everyday things in the environment <p><i>use of lightning conductor on buildings use of earthing strips for cars</i></p> <ul style="list-style-type: none"> • learn about electrical energy • investigate current electricity by constructing simple circuits <p><i>use wire, bulbs and batteries experiment with simple switches design and make a marine warning system (e.g. buoy with light or buzzer, lighthouse)</i></p> <ul style="list-style-type: none"> • examine and group materials as conductors and insulators

Curriculum	Science
Level	3 rd & 4 th classes
Strand	Energy and forces
Strand Unit	Forces
Objective	<ul style="list-style-type: none"> • explore how objects can be moved <i>by pushing and pulling</i> <i>by twisting and stretching</i> <i>by machines (e.g. rollers, wheels, pulleys)</i> <i>design and make a pulley system to help a Norman builder to carry stone to the top of a castle</i> • explore how some moving objects may be slowed down <i>a bicycle wheel by a brake</i> <i>a falling object by a parachute</i> <i>design and make a parachute to help transport a small object (e.g. marble, square of chocolate, matchbox)</i> • explore the effect of friction on movement through experimenting with toys and objects on various surfaces <i>tiled surface, carpet, concrete, grass,</i> • investigate falling objects • explore how levers may be used to help lift different objects <i>design and make safe see-saws</i>

Curriculum	Science
Level	3 rd & 4 th classes
Strand	Materials
Strand Unit	Properties and characteristics of materials
Objective	<ul style="list-style-type: none"> • recognise that materials can be solid, liquid or gaseous

Curriculum	Science
Level	3 rd & 4 th classes
Strand	Materials
Strand Unit	Materials and change
Objective	<ul style="list-style-type: none"> • explore the effects of heating and cooling on a range of liquids, solids and gases <i>the effects of heating and cooling on water</i> <i>heat causing air to rise</i> • experiment to establish which materials are conductors of heat or insulators <i>explore ways in which liquids and objects may be kept hot or cold</i> <i>design and make a tea-cosy or a cover for a hot-water bottle</i> • examine the changes that take place in materials when physical forces are applied <i>when materials are beaten, whisked, mixed, squashed, pulled or bent</i>

Curriculum	Science
Level	3 rd & 4 th classes
Strand	Environmental awareness and care
Strand Unit	Environmental awareness
Objective	<ul style="list-style-type: none"> • become aware of the importance of the Earth's renewable and non-renewable resources <i>recycling of materials, turning off lights, identifying materials which can be used for a variety of purposes</i> • come to appreciate the need to conserve resources <i>reducing the amount of water used</i>

Curriculum	Science
Level	3 rd & 4 th classes
Strand	Environmental awareness and care
Strand Unit	Science and the environment
Objective	<ul style="list-style-type: none"> begin to appreciate the application of science and technology in familiar contexts <i>at home</i> <i>at school</i> <i>in shops</i> <i>in designing and making activities</i> identify some ways in which science and technology contribute positively to society <i>insulation of houses, transport</i>

Curriculum	Science
Level	3 rd & 4 th classes
Strand	Environmental awareness and care
Strand Unit	Caring for the environment
Objective	<ul style="list-style-type: none"> identify and discuss a local, national or global environmental issue