

## Science Scope and Sequence

	Early Childhood			Middle Childhood		Late Childhood	
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
<b>Earth and Beyond</b>	<p><b>Science in daily life</b>  <b>Ourselfs:</b> Awareness of our experiences and thoughts. Physical similarities and differences.  <b>Early experiences:</b> Using our senses to collect information about our environment.  <b>Early exploration:</b> Tools to help explore surroundings.  <b>Investigations:</b> Discuss and compare features of the human body. Explore using the five senses. Technology that aids our senses.</p>	<p><b>Earth and water environments</b>  <b>Earth:</b> Landforms. Internal and external forces. How forces create landforms.  <b>Water sources:</b> Provide habitats which support life. Differences in habitats, animals and plants near/away from water.  <b>Sea and sky:</b> Important resources/habitats. Features.  <b>Investigations:</b> Mountain formation and volcanoes. Nature of local waterways. The night sky.</p>	<p><b>Air and wind</b>  <b>Air:</b> The earth is enveloped by air. Air is essential to life. Characteristics of air.  <b>Wind:</b> Wind is moving air, and occurs as a result of differences in pressure. Wind determines our weather. Destructive winds.  <b>Climate:</b> Changes in weather affect our life e.g. clothes, recreation, work.  <b>Investigations:</b> Air inside balloons/balls etc. Cyclones. Weather reporting.</p>	<p><b>Soils are dynamic</b>  <b>Formation of soil:</b> The breaking down of rock into soil.  <b>Fertile soils:</b> Elements required for plant life. Water retention. Availability of fertile soils on earth.  <b>Soil problems:</b> Salinity and erosion. The effects on agriculture and society.  <b>Investigations:</b> Comparing different soils. Water retention and plant growth. Salinity, erosion and agriculture.</p>	<p><b>Value of astronomy</b>  <b>Universe:</b> Components, movements, solar system, planets. The sky's influence on life. The importance and effects of sun on our lives.  <b>Earth:</b> Motion and placement. Special features that allow life.  <b>Atmosphere:</b> Contains oxygen. Ozone layer.  <b>Gravity:</b> Force, purpose, impact.  <b>Investigations:</b> Star gazing. Why is there life on earth? Gravity and the solar system.</p>	<p><b>Weather, climate and water resources</b>  <b>Weather:</b> The condition of the atmosphere. Observations. Changes in weather.  <b>Forecasting:</b> Movement of air - weather patterns. Air masses. Pressure cells.  <b>Water cycle:</b> Stages. Impact upon our lives.  <b>Investigations:</b> Collection of weather data. Factors affecting weather conditions. Weather maps.</p>	<p><b>Alert to ecological sustainability</b>  <b>Environmental change:</b> Patterns and systems that allow us to control our environment.  <b>Human impact on the biosphere:</b> Damage and misuse of the environment.  <b>Sustainability:</b> Development that is compatible with our environment.  <b>Investigations:</b> Human effects on atmosphere, water and land. Marine pollution on the WA coast.</p>
<b>Energy and Change</b>	<p><b>Energy and me</b>  <b>Movement:</b> Things require energy to move. Examine pushing and pulling forces. Uses of energy in our daily lives.  <b>Sounds:</b> What are sounds? Different types of sounds. How do we hear?  <b>Heat:</b> Compare hot and cold objects.  <b>Investigations:</b> Uses of energy in our lives. Ways things move. Sounds from musical instruments.</p>	<p><b>People, pendulums and energy</b>  <b>People and energy:</b> Use of energy in workplaces. Energy transfer (dominos). People and animals move in different ways.  <b>Bouncing ball:</b> Forces acting on objects affect motion, shape and energy. Movement. Bouncing.  <b>Pendulum:</b> Energy transfer can be controlled, changed and varied.  <b>Investigations:</b> Human and animal motion. Falling dominos. Force and energy transfer in the context of bouncing balls and pendulums.</p>	<p><b>Light, sight, shadows and magnets</b>  <b>Light:</b> The sun is a major source of light, but we are also able to make light. Light allows us to see the objects it is reflected off.  <b>Sight:</b> The sense which detects light. The danger of direct sunlight on sight. Importance of sight to quality of life.  <b>Magnets:</b> Properties and laws.  <b>Investigations:</b> Sources of light. Shadow, reflection and refraction. Dangers of exposing eyes to sunlight. Playing with magnets.</p>	<p><b>Different forms of energy</b>  <b>Forms of energy:</b> Wind, water, solar, elastic, electricity. Select one: features, uses, benefits, limitations.  <b>Appliances:</b> Sources of energy for common devices. Car, torch, fan, gas heater.  <b>Sources and receivers:</b> Using energy for different purposes. Cause and effect. Causation in everyday events.  <b>Investigations:</b> Types of energy Australian's use. Solar power. How appliances use energy.</p>	<p><b>Storing and transferring energy</b>  <b>Storing energy:</b> Energy is stored in different ways e.g. potential, elastic, chemical and food energy.  <b>Electrical energy:</b> Flows in a circuit. Compare conductors and insulators.  <b>Food energy:</b> Living things get energy from food. Energy is transferred along the food chain.  <b>Investigations:</b> Energy storage. Using a circuit that makes light. How eating affects our bodies. Eating disorders.</p>	<p><b>Energy transfer - heat and sound</b>  <b>Heat energy:</b> Heat production, and effects. Changes of state: solid, liquid, gas. Sources of heat: solar, mechanical, electricity, chemical, nuclear.  <b>Sound energy:</b> Production and properties. Transmission, absorption, reflection. Sound quality.  <b>Investigations:</b> Variables affecting friction. Reactions of substances to heat and cold. Human control of heat. Making musical instruments.</p>	<p><b>Electrical circuits and energy efficiency</b>  <b>Electricity:</b> A form of energy. Flows through circuits. Electricity and magnetism are closely related. This relationship is used in many devices.  <b>Efficiency:</b> Different energy sources. Importance of energy conservation.  <b>Investigations:</b> Construct an electric circuit. Battery-powered toys. The 3 R's - reduce, reuse, recycle.</p>
<b>Life and Living</b>	<p><b>Features of plants and animals</b>  <b>Plants:</b> Use the five senses to explore edible fruits. Examine and classify leaves. Explore flowers.  <b>Animals:</b> Mammals and their young. Adaptations to their environment. Feeding habits  <b>Birds:</b> The only animals with feathers.  <b>Investigations:</b> Eating fruits. The structure of birds. Mammals.</p>	<p><b>Living things: needs, features and functions</b>  <b>Animals:</b> Need food, shelter and water. Different animals have different homes. Examine the ways animals move. Humans are animals too.  <b>Worms:</b> Characteristics, needs features, habitats.  <b>Investigations:</b> Find small animals living in different habitats. Examine the nature of worms. Research how different animals move.</p>	<p><b>Plant processes, structures and functions</b>  <b>Whole plants:</b> Plants have similar characteristics but their functions may differ.  <b>Vegetables:</b> The structure of the plant is applied to the context of vegetables.  <b>Snails:</b> Nature and behaviour.  <b>Investigations:</b> Examine the structure of common garden plants. Apply knowledge to a cauliflower. Examine snails.</p>	<p><b>Stages of change: silkworms and root vegetables</b>  <b>Silkworms:</b> Animals change as they grow. Some animals like silkworms have very distinct stages of development.  <b>Root vegetables:</b> Different parts of some plants may be edible. Water usually enters a plant through its roots.  <b>Investigations:</b> Observe the life cycle of silkworms/larvae. Examine and compare root vegetables.</p>	<p><b>Characteristics and responses of spiders and reptiles</b>  <b>Spiders:</b> Have special adaptations to their environment which distinguish them from other animals.  <b>Reptiles:</b> Adaptations and classifications.  <b>Investigations:</b> Observe spiders and compare them to types of insects. Research reptiles, their habitat and role in nature.</p>	<p><b>Human body systems and animal life cycles</b>  <b>Human systems:</b> Systems that allow us to function e.g. digestive and circulatory systems.  <b>Animal cycles:</b> Stages of development and reproduction.  <b>Investigations:</b> Research and discuss human systems. Examine the life cycle of frogs.</p>	<p><b>People and environments</b>  <b>The earth:</b> The earth is self sufficient with finite resources, so we must conserve our resources. Human impact on the earth. Renewable resources.  <b>Investigations:</b> Develop the concept of 'spaceship earth'. Research the biosphere and renewable resources.</p>
<b>Natural and Processed Materials</b>	<p><b>Features and uses of familiar materials</b>  <b>Materials:</b> Students understand that different materials have different properties. They use their senses to explore and play with a range of materials.  <b>Sand:</b> Granular substances. Features and uses.  <b>Pliable materials:</b> Properties.  <b>Investigations:</b> Word games. Arts activities with pliable materials. Classifying sands.</p>	<p><b>Raw materials can be processed and changed</b>  <b>Food:</b> Compare raw and processed foods.  <b>Plastics:</b> Made by people. Processed material. Special qualities. Disadvantages.  <b>Traditional objects:</b> Natural materials used by traditional cultures.  <b>Investigations:</b> Raw and processed oats/flour. Compare plastic and natural materials.</p>	<p><b>Materials have different uses because of their characteristics</b>  <b>Fibres, threads and fabrics:</b> Their properties and uses.  <b>Wool:</b> Characteristics. Raw and processed wool.  <b>Powders:</b> Origin. Responses to heat and water.  <b>Investigations:</b> Classify and compare threads. Process raw wool. Make powders and see the effects of heat and water.</p>	<p><b>Materials in our environment - water</b>  <b>Ice:</b> Solid and liquid states of water. The freezing process.  <b>Evaporation:</b> Liquid water converting to gas. Heat and humidity affect the evaporation rate. Condensation is the reverse process.  <b>Clouds:</b> Types and properties.  <b>Investigations:</b> Explore the factors involved in freezing, melting and evaporation. Modelling cloud formation.</p>	<p><b>Structures and chemical solutions</b>  <b>Structures:</b> By controlling the shape of a material we can control its usefulness.  <b>Solutions:</b> Factors affecting how things dissolve.  <b>Investigations:</b> Making structures strong. Controlling falling parachutes. Examine the solubility of materials, the rate of dissolution and recrystallisation.</p>	<p><b>Minerals in our everyday lives</b>  <b>Metals:</b> Look at the origin and properties of a variety of metals. From their properties, determine their usefulness.  <b>Rocks:</b> Origin, structure and properties of rocks. Ores.  <b>Investigations:</b> Classification of metals based on a variety of properties. Uses of metals. Growing crystals. Comparing ores.</p>	<p><b>Physical and chemical change: new materials, new properties</b>  <b>Physical change:</b> No new substance is formed. Changes of state.  <b>Chemical change:</b> Creates a new substance.  <b>Investigations:</b> Acid/base indicators, corrosion, souring of milk. Identifying physical changes. Comparing biodegradable materials.</p>

# Schedule

<b>Week 1</b>		
<b>Week 2</b>		
<b>Week 3</b>		
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<b>Week 6</b>		
<b>Week 7</b>		
<b>Week 8</b>		
<b>Week 9</b>		
<b>Week 10</b>		