

Science (1999)

Years 1 to 10

Sourcebook Guidelines (Part 4 of 8)

Note: The PDF version of this document has been split into sections for easier download. This file is Part 4 of 8.

Elaborations for Foundation Level Years 1 to 10 Science key learning area

When the Years 1 to 10 Science curriculum materials were initially developed, they did not include elaborations at the Foundation Level. They did, however, include level statements and example learning outcomes (see pp. 58–59 Science Sourcebook Guidelines) for this level.

Elaborations are lists of possible contexts, contents, and activities through which students working at Foundation Level might demonstrate learning outcomes. They assist teachers in their planning for learning, teaching and assessing students at this level. Elaborations are not learning outcomes. They are neither core nor mandated.

The lists of elaborations that follow are not intended to be exhaustive and are not intended as checklists. They provide examples only and it is not expected that all aspects of the elaborations will be addressed.

It is not intended that all elaborations will 'suit' all students. It is intended that teachers select specific contexts and contents to meet the needs, abilities and interests of their students. Teachers can use these elaborations to assist in the development of individualised learning outcomes. At the class program level, teachers are encouraged to develop purposeful and authentic learning activities that incorporate a number of learning outcomes from various key learning areas.

These elaborations were developed from the level statements and key concepts for each of the strands in Science.

These elaborations are not meant to be goals for students' Individual Education Plan (IEP). However, there should be links between the school / class curriculum program and students' IEP goals.

The examples of Foundation Level learning outcomes link with the sequence of core learning outcomes in Levels 1 to 6. For example, first set of example outcomes at the Foundation Level (F.1) aligns with the first core learning outcome at Level 1 (1.1) in each of the respective strands. The second set of example outcomes at the Foundation Level (F.2) aligns with the second core learning outcome at Level 1 (1.2), and so on.

Foundation Level	→	Level 1	→	Level 2	→	Level 3	→
F.1	→	1.1	→	2.1	→	3.1	→
F.2	→	1.2	→	2.2	→	3.2	→
F.3	→	1.3	→	2.3	→	3.3	→

The Years 1 to 10 Studies of Society and Environment (SOSE) Sourcebook Guidelines include elaborations at Foundation Level on pages 28–31. The soon to be published Years 1 to 10 The Arts and Years 1 to 10 Technology curriculum materials will also have elaborations, level statements and example learning outcomes for Foundation Level in Sourcebook Guidelines.

Teachers, therapists and principals from special schools, teachers from special education units, key learning area specialists, and representatives from the following associations and organisations were involved in the development of these elaborations:

- the Association of Special Education Administrators of Queensland (ASEAQ)
- the Australian Association of Special Education (AASE)
- the Queensland Teachers' Union (QTU)
- Education Queensland
- The Association of Independent Schools of Queensland (AISQ)
- the Queensland Catholic Education Commission (QCEC).

The elaborations were further developed through consultation with a range of organisations, associations and individuals throughout the state via print and electronic media.

For each of the sets of elaborations a communication statement is included. This is to draw attention to the breadth and variety of modes and ways in which students may demonstrate the learning outcomes.

Communication statement

Students with disabilities may communicate their understandings in a variety of ways and modes (both unaided and aided), for example:

Gestural: pointing, touching, manipulating, hand squeezing, giving eye contact, eye blinking, moving towards/away from, miming, signing, using body language or facial expressions

Vocal: vocalising, communicative vocalisations, speaking

Visual / Written: cutting and pasting, using books, drawing pictures or diagrams, matching, sorting, Braille, software programs, multi-level communication book, using spell and phrase board

Aided: using a manufactured aid which is either: low-tech, for example: object symbol, daily schedule, multi-level communication book, topic pages, spell and phrase board; or high-tech, for example: voice output communication devices (VOCAs), computers

Context statement

Learning opportunities should be provided through a variety of contexts, routines and activities to assist students develop their knowledge, practices and dispositions. Opportunities for demonstrations of the learning outcomes should be in these same contexts, routines and activities.

Some of these contexts replicate real-life situations and so provide practical opportunities for students to engage with learning outcomes from a number of key learning areas. For example: cooking activities might include learning outcomes from Health and Physical Education, Science, Mathematics and English; going shopping might include learning outcomes from Studies of Society and Environment, Mathematics, Health and Physical Education, The Arts and English.

When monitoring and reporting on students' demonstrations of learning outcomes, the contexts, routines, activities and personnel involved in the learning opportunities and demonstrations should be indicated. Students may demonstrate their learning in one context, routine or activity but not another; with one person, but not with another. Therefore, it is important to engage students in purposeful activities in a range of contexts and with a variety of personnel.

The following are examples of contexts in which learning experiences and assessment opportunities might take place:

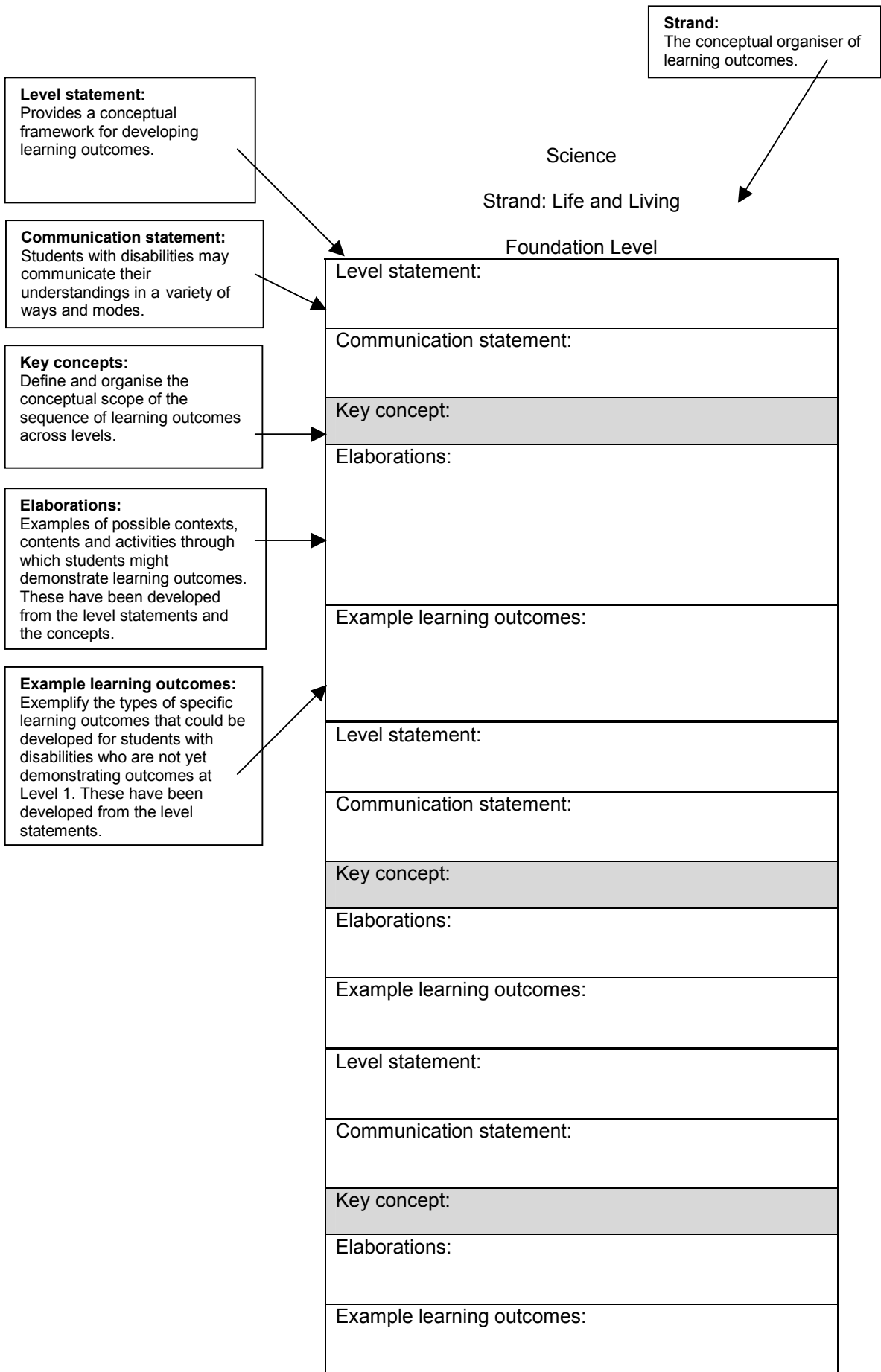
Places:

- School
 - multi-sensory environments
 - classroom
 - playground
- Residential
 - home
 - respite
 - camp
- Community
 - recreation, leisure and cultural centres or facilities
 - services: health, social, transport, financial, retail
 - workplaces

The following are examples of personnel who might be involved in the learning experiences and assessment opportunities:

- parents, immediate family, extended family, carer
- friends
- teachers, therapists
- familiar people in the school and the community
- unfamiliar people in the community.

For further information on assessment and reporting, refer to the Council's *Position Paper and Guidelines: An Outcomes Approach to Assessment and Reporting*.



SCIENCE
Strand: Science and Society
FOUNDATION LEVEL

<p><i>Level statement: Students are developing an understanding of the ways science affects aspects of their lives. They are developing an intuitive understanding of some common natural phenomena.</i></p>	
<p>Students may communicate their understandings in a variety of ways and modes (both unaided and aided), for example: Gestural: pointing, touching, manipulating, hand squeezing, giving eye contact, eye blinking, moving towards/away from, miming, signing, using body language or facial expressions Vocal: vocalising, communicative vocalisations, speaking Visual / Written: displaying, cutting and pasting, using books, drawing pictures or diagrams, matching, sorting, Braille, pre-writing, software programs, multi-level communication book, using spell and phrase board Aided: using a manufactured aid which is either: low-tech, for example: object symbol, daily schedule, multi-level communication book, topic pages, spell and phrase board; or high-tech, for example: voice output communication devices (VOCAs), computers</p>	
<p>Key concept: <i>Historical and cultural factors influence the nature and direction of science which, in turn, affects the development of society</i></p>	
<p>Identifies / recognises a range of natural phenomena that affect their lives in different ways, for example:</p> <ul style="list-style-type: none"> • weather conditions: <ul style="list-style-type: none"> – wind – dries washing; sails boats; flies kites, causes tree branches to fall down, messes up your hair, can be noisy /distractive – rain – makes the garden grow, limits play outside, makes you wet if you stand in it – hot – go swimming, drink more water, want to be near a fan / in airconditioning • day and night: <ul style="list-style-type: none"> – day – go to school, sunlight, wear clothes – night – dark, go to bed, wear pyjamas • seasons: <ul style="list-style-type: none"> – spring / summer – warm / hot, rain, go swimming, holidays – autumn / winter – cool / cold, clothing choices <p>Identifies /recognises / responds to common easily observable natural elements, for example:</p> <ul style="list-style-type: none"> • grass / sand / water / sea creatures • gravel / grass / gardens / wildlife at school • ponds / animal life / plant life in parks 	<p>Identifies /recognises / responds to changes in familiar natural environments, for example:</p> <ul style="list-style-type: none"> • growth and ageing in both plants and animals (seedlings, caterpillars, butterflies) • human intervention (pruning or removal of trees, feeding animals) • effects of weather (storm clouds, wind in trees) <p>Responds to a variety of changes in familiar settings, for example:</p> <ul style="list-style-type: none"> • sensory stimulation (massage, aromas, music, tastes, colours, multi-sensory experiences) • range of weather conditions (sunny/cloudy; raining / fine; still / breezy; lightning / thunder) • range of environments (home / school / transport; beach / rainforest; indoors / outdoors) • day to night, night to day
<p>Example learning outcomes: F.1</p> <ul style="list-style-type: none"> • Students identify basic cause–effect relationships across a range of environments, e.g. because the sun has set, it is night-time. • Students recognise obvious weather phenomena, e.g. wind, rain, thunder, lightning. • Students identify changes in plants and animals (including humans), e.g. aspects of growth; ageing; life cycles. 	

<p>Key concept: <i>Science as a 'way of knowing' is shaped by the way humans construct their understandings.</i></p>	
<p>Reacts to a range of sensory experiences, for example:</p> <ul style="list-style-type: none"> • multi-sensory experience rooms • colours, sizes, shapes, sounds, tastes, smells, textures <p>Indicates when sensory experiences are 'new' or different</p> <p>Makes choices and establishes preferences for particular sensory stimuli, for example:</p> <ul style="list-style-type: none"> • indicates likes and dislikes • requests preferred sensory stimuli 	<p>Explores a range of familiar natural phenomena, for example:</p> <ul style="list-style-type: none"> • movement of water or sand • action of wind • light and heat from the sun • effects of magnets • fallen leaves on the ground • action of waves, tides • lightning and thunder <p>Assembles collections of various objects and artefacts, for example:</p> <ul style="list-style-type: none"> • rocks, leaves, toys, cards
<p>Example learning outcomes: F.2</p> <ul style="list-style-type: none"> • Students use their senses to identify differences between familiar objects, e.g. texture — food, fabrics, floor coverings; smells — food, flowers, body odour. • Students use their senses to collect information about their immediate environment, e.g. classroom, school, home, playground, shop. • Students participate in water-play activities to investigate, e.g. wave action in pool, pond or basin; exploring whether objects float or sink. 	
<p>Key concept: <i>Decisions about the ways that science is applied have short- and long-term implications for the environment, communities and individuals.</i></p>	
<p>Recognises own specialised equipment, for example:</p> <ul style="list-style-type: none"> • switches, splints, glasses, hearing aids, communication systems, wheelchairs <p>Explores connections and/or uses simple patterns of cause and effect and/or time sequences in familiar environments, for example:</p> <ul style="list-style-type: none"> • food – raw, fresh, cooked • plants – water, soil, sun • switches – on / off; fans, TV, radio • 'buttons' – to open / close (doors) to move up / down (in elevators), 'walk / don't walk' (road crossings) • plants / animals – changes, young to old • hot / cold – stove / fridge, hot water / ice • sun – dry clothes, heat, sunburn, creates shade • pool – getting wet, getting cool 	<p>Follows procedures that apply science concepts to meet personal needs, for example:</p> <ul style="list-style-type: none"> • to grow – eating and drinking • health and safety – dressing appropriately for prevailing weather conditions • movement – playing, getting to particular destinations • materials – making things <p>Follows procedures to apply science concepts to familiar environments, for example:</p> <ul style="list-style-type: none"> • water plants • feed animals • hang washing to dry • use switches • participate in cooking activities • carry out domestic chores • have mobility in the community – walk / ride • use community facilities: toilets, rubbish bins, grocery shops, park lands • use various forms of transportation: bicycles, buses, trains, lifts, escalators
<p>Example learning outcomes: F.3</p> <ul style="list-style-type: none"> • Students recognise familiar health-care workers, e.g. physiotherapist, occupational therapist, nurse, doctor. • Students identify their own specialised equipment, e.g. wheelchair, glasses, communication board, hearing aid. • Students demonstrate healthy hygiene practices when preparing food, e.g. washing hands beforehand; cleaning preparation surfaces; cleaning utensils. 	

SCIENCE
Strand: Earth and Beyond
FOUNDATION LEVEL

<p>Level statement: <i>Students are developing an understanding of the features of the Earth and sky. They are developing an understanding of their immediate non-living environment and uses made of it.</i></p>	
<p>Students may communicate their understandings in a variety of ways and modes (both unaided and aided), for example: Gestural: pointing, touching, manipulating, hand squeezing, giving eye contact, eye blinking, moving towards/away from, miming, signing, using body language or facial expressions Vocal: vocalising, communicative vocalisations, speaking Visual / Written: displaying, cutting and pasting, using books, drawing pictures or diagrams, matching, sorting, Braille, pre-writing, software programs, multi-level communication book, using spell and phrase board Aided: using a manufactured aid which is either: low-tech, for example: object symbol, daily schedule, multi-level communication book, topic pages, spell and phrase board; or high-tech, for example: voice output communication devices (VOCAs), computers</p>	
<p>Key concept: <i>The Earth, solar system and universe are dynamic systems.</i></p>	
<p>Identifies / recognises / responds to different features of the Earth, for example:</p> <ul style="list-style-type: none"> • beaches • hills • watercourses • oceans • rocks • deserts <p>Identifies / recognises / responds to differences, for example:</p> <ul style="list-style-type: none"> • earth <ul style="list-style-type: none"> – ground / water – flat / hilly – grass / gravel • sky <ul style="list-style-type: none"> – day / night – cloudy / clear 	<p>Identifies / recognises / responds to different features of the sky, for example:</p> <ul style="list-style-type: none"> • sky • sun • mist, fog • clouds • rain • rainbows • sunsets • moon • wind
<p>Example learning outcomes: F.1</p> <ul style="list-style-type: none"> • Students identify different aspects of a feature of the Earth, e.g. beach, garden, ocean, desert. • Students identify features of the sky, e.g. stars, clouds. • Students identify differences between the sun and the moon. 	

Key concept:

Events on Earth, in the solar system and in the universe occur on different scales of time and space.

Identifies / recognises / responds to events, for example:

- day / night
- storms
- wind
- rain
- tides
- sun

Matches a range of events to their daily activities, for example:

- When the tide is out, walk out to the water to swim.
- When it is raining, play inside.
- When it is night-time, wear pyjamas and go to bed.

Example learning outcomes: F.2

- Students recognise aspects of their school environment, e.g. classroom, toilet, oval.
- Students identify aspects of their classroom, e.g. desk, table, chair, communication board.
- Students identify different sounds, smells and sights of their immediate environment.
- Students identify the difference between daytime and night-time.

Key concept:

Living things use the resources of the Earth, solar system and universe to meet their needs.

Identifies / recognises / responds to activities carried out in various natural environments, for example:

- beach / river / lakes / dams /
 - sensory experiences
 - swimming, fishing
 - boating or sailing
 - playing
- bush
 - camping, bushwalking
- garden
 - digging, painting, watering, playing
- sky
 - flying kites, balloons
 - blowing bubbles
 - stargazing

Follows routines for caring for the natural environment, for example:

- using water wisely; recycling
- being tidy by putting rubbish in bins

Identifies / examines how familiar animals use resources of the Earth, for example:

- familiar animals include birds, insects, lizards, frogs, ants, possums, fish, cows, horses, pets
- use of resources for eating, drinking, moving, building / finding homes

Identifies / examines how people use resources from the natural environment, for example:

- for eating, drinking, moving, building/finding homes
- for decoration: plants, flowers
- for making collections: feathers, rocks, shells, leaves

Example learning outcomes: F.3

- Students identify activities carried out on a beach, e.g. swimming, boating, building sand castles.
- Students demonstrate activities appropriate to going to the shops, e.g. buying food, staying with carer, sitting appropriately in cafe.
- Students locate places in their immediate environment according to their use, e.g. playground is for playing, lunch area for eating lunch.
- Students identify and grow plants appropriate for a specific style of garden, e.g. vegetables, flowers.

SCIENCE
Strand: Energy and Change
FOUNDATION LEVEL

Level statement: <i>Students are developing an understanding of the ways that things move and behave and can communicate some of these ideas.</i>	
Students may communicate their understandings in a variety of ways and modes (both unaided and aided), for example: Gestural: pointing, touching, manipulating, hand squeezing, giving eye contact, eye blinking, moving towards/away from, miming, signing, using body language or facial expressions Vocal: vocalising, communicative vocalisations, speaking Visual / Written: displaying, cutting and pasting, using books, drawing pictures or diagrams, matching, sorting, Braille, pre-writing, software programs, multi-level communication book, using spell and phrase board Aided: using a manufactured aid which is either: low-tech, for example: object symbol, daily schedule, multi-level communication book, topic pages, spell and phrase board; or high-tech, for example: voice output communication devices (VOCAs), computers	
Key concept: <i>The forces acting on objects influence their motion, shape, behaviour and energy.</i>	
Explores different ways of moving self, for example: <ul style="list-style-type: none"> • whole body: locomotor such as swimming, running, jumping, wheelchairs (manual and power), rolling, crawling, pedalling; non-locomotor such as rocking, twisting, swaying • body parts: upper/lower limbs, head, neck, hands, fingers, eyes, feet, toes 	Explores different ways of moving objects, with or without a motor (fans, waterwheels, straws, trolleys, squirting hose, water pistols), for example: <ul style="list-style-type: none"> • pushing, pulling, • throwing, kicking • turning, twisting • using switches • using wheels • floating • blowing
Example learning outcomes: F.1 <ul style="list-style-type: none"> • Students demonstrate that pushing or pulling objects on wheels will make them move. • Students demonstrate that running water can make some things move. • Students demonstrate that blowing some things will make them move, e.g. wind, fan, mouth. • Students demonstrate that they can move their bodies in various ways. • Students show that the shape of an object may change if it is dropped or thrown. 	

<p>Key concept: <i>In interactions and changes, energy is transferred and transformed but is not created or destroyed.</i></p>	
<p>Explores different ways of stopping moving objects, for example:</p> <ul style="list-style-type: none"> balls: on the ground or suspended <p>Explores the effects (look, sound, smell, taste, feel) of gravity, for example:</p> <ul style="list-style-type: none"> by dropping objects such as playdough, eggs or food from a table <p>Observes changing shapes and behaviour of objects when moving, for example:</p> <ul style="list-style-type: none"> kites: soar, float, drop parachute games: inflation and deflation materials and fabrics: flags, mobiles, windsocks play equipment: ball with ribbons, ball in sock, ribbons on sticks, balloons stretching: elastics, rubber bands, balloons 	<p>Recognises that some appliances/objects become hot, for example:</p> <ul style="list-style-type: none"> heater, toaster, stove, kettle, hot food counters playground equipment, bike seats, concrete, sand, road, seatbelt buckle <p>Recognises that some appliances/objects make sound, for example:</p> <ul style="list-style-type: none"> radio, CD player, television, toys, cooking appliances, musical instruments, cars <p>Recognises that some appliances/objects make light, for example:</p> <ul style="list-style-type: none"> torches, light bulbs, sun, heaters, lamps, television, disco ball, digital displays, fireworks, candles
<p>Example learning outcomes: F.2</p> <ul style="list-style-type: none"> Students recognise that some objects move if pushed/pulled. Students recognise that some toys need something to make them work, e.g. pushing, batteries, electricity, winding up. Students recognise that light is needed at night-time to carry out various activities. Students demonstrate that the more energy transformed the more movement created, e.g. pushing harder on a swing makes it go faster and higher. 	
<p>Key concept: <i>There are different ways of obtaining and utilising energy and these have different consequences.</i></p>	
<p>Explores concepts of on/off, works/does not work, cause / effect, for example:</p> <ul style="list-style-type: none"> using a switch to turn on/off music, toys, lights, electrical appliances push/pull and wind-up toys such as friction cars blowing: hand-held windmills, wind chimes, noisemakers, windsocks, candles movement: waterwheel, sand wheel 	
<p>Example learning outcomes: F.3</p> <p>Students use various forms of energy to:</p> <ul style="list-style-type: none"> move an object along the floor by pushing, pulling, batteries, winding up, throwing; move a boat on water by pushing, pulling, batteries, winding up, throwing; move around on playground equipment in ways such as swinging, running, walking, pushing a swing, jumping; keep warm by running, rubbing hands together, putting on a heater, lighting a fire. 	

SCIENCE
Strand: Life and Living
FOUNDATION LEVEL

<p>Level statement: <i>Students are developing an understanding that some things are living and some things are non-living, and can use observable features to communicate the difference.</i></p>	
<p>Students may communicate their understandings in a variety of ways and modes (both unaided and aided), for example: Gestural: pointing, touching, manipulating, hand squeezing, giving eye contact, eye blinking, moving towards/away from, miming, signing, using body language or facial expressions Vocal: vocalising, communicative vocalisations, speaking Visual / Written: displaying, cutting and pasting, using books, drawing pictures or diagrams, matching, sorting, Braille, pre-writing, software programs, multi-level communication book, using spell and phrase board Aided: using a manufactured aid which is either: low-tech, for example: object symbol, daily schedule, multi-level communication book, topic pages, spell and phrase board; or high-tech, for example: voice output communication devices (VOCAs), computers</p>	
<p>Key concept: <i>The characteristics of an organism and its functioning are interrelated.</i></p>	
<p>Observes that living things have certain needs and characteristics, for example:</p> <ul style="list-style-type: none"> • plants <ul style="list-style-type: none"> – needs: food, water, air, correct environment, growing medium – characteristics: grows, reproduces, dies • animals (including people) <ul style="list-style-type: none"> – needs: food, water, shelter, correct environment – characteristics: born, grows, reproduces, dies <p>Observes own body parts and their functions, for example:</p> <ul style="list-style-type: none"> • eyes for seeing • mouth for eating, drinking and talking • ears for hearing • nose for smelling • legs for moving 	<p>Uses senses to observe characteristics of animals, for example:</p> <ul style="list-style-type: none"> • touching: fur, feather; smooth, rough, texture; hard / soft, wet / dry • smelling: odours of some insects • hearing: noises of familiar/known animals • seeing: shapes, sizes, colours, body coverings, number of legs <p>Uses senses to observe characteristics of plants, for example:</p> <ul style="list-style-type: none"> • touching: smooth, rough, texture, hard / soft, wet / dry • smelling: flowers, bark, fruit, crushed leaves • hearing: seeds popping • seeing: shapes, sizes, colours, coverings, leaves/petals, roots, branches, thorns, prickles • tasting: vegetables, herbs, fruits
<p>Example learning outcomes: F.1</p> <ul style="list-style-type: none"> • Students identify and label some living things, e.g. people, cat, dog, plants, flowers, insects. • Students identify the observable features of particular animals, e.g. cats have fur (that can be seen and touched), legs (that can be seen or touched); miaow (that can be heard). • Students identify the observable features of particular plants, e.g. rose bush — flower, petals (see, touch); perfume (smell); thorns (touch, see); leaves (touch, see); branches (touch, see). • Students identify features about themselves that show they are living things, e.g. they eat, grow, breathe. 	
<p>Key concept: <i>Evolutionary processes have given rise to a diversity of living things which can be grouped according to their characteristics.</i></p>	
<p>Sorts animals from plants based on observable characteristics</p> <p>Uses senses to observe non-living objects, for example:</p> <ul style="list-style-type: none"> • playground equipment, balls, rivers, rocks, buildings, toys 	<p>Sorts living things from non-living objects:</p> <ul style="list-style-type: none"> • Non-living things do not eat, do not breathe, do not grow, are not plants, are not animals.
<p>Example learning outcomes: F.2</p> <ul style="list-style-type: none"> • Students identify and label some non-living things, e.g. rock, car, road, house, sun, shirt, cup. • Students recognise that non-living things have particular characteristics, e.g. they do not grow, breathe, reproduce. • Students identify observable features that differentiate non-living things from dead animals or plants. • Students identify features of a non-living object (e.g. rock, car, shirt, cup) that show that it is not living. 	

Key concept:

Environments are dynamic and have living and non-living components which interact.

Identifies / sorts / examines the living and non-living things in a range of environments, for example:

- beach:
 - living: people, fish, crabs, birds, seaweed
 - non-living: empty shells, sand, water, rocks, plastic bags, rubbish
- playground:
 - living: children, grass, ants, teachers
 - non-living: rubbish bins, equipment, clothes.
- classroom:
 - living: children, fish, bird, teachers, aides
 - non-living: furniture, carpet, books, pens

Example learning outcomes: F.3

- Students group various objects as living or non-living, e.g. person, cat, insect, rock, car.
- Students communicate the observable differences between living and non-living things to show an understanding of their status.
- Students group features of a garden according to whether they are living or non-living, e.g. trees, flowers, insects and grass are living; rocks, soil, water and garden gnomes are non-living.

SCIENCE

Strand: Natural and Processed Materials FOUNDATION LEVEL

<p><i>Level statement: Students are developing and can communicate an understanding that familiar materials have different properties and particular uses, and that the properties of materials may change.</i></p>	
<p>Students may communicate their understandings in a variety of ways and modes (both unaided and aided), for example: Gestural: pointing, touching, manipulating, hand squeezing, giving eye contact, eye blinking, moving towards/away from, miming, signing, using body language or facial expressions Vocal: vocalising, communicative vocalisations, speaking Visual / Written: displaying, cutting and pasting, using books, drawing pictures or diagrams, matching, sorting, Braille, pre-writing, software programs, multi-level communication book, using spell and phrase board Aided: using a manufactured aid which is either: low-tech, for example: object symbol, daily schedule, multi-level communication book, topic pages, spell and phrase board; or high-tech, for example: voice output communication devices (VOCAs), computers</p>	
<p>Key concept: <i>The properties and structure of materials are interrelated.</i></p>	
<p>Groups / sorts / explores familiar materials according to their observable properties, for example:</p> <ul style="list-style-type: none"> • seeing: colours, shapes, sizes • touching: textures such as hard or soft, rough or smooth, wet or dry • smelling: pleasant or unpleasant • tasting: same or different foods • hearing: talking or music 	
<p>Example learning outcomes: F.1</p> <ul style="list-style-type: none"> • Students group familiar materials according to an observable property, e.g. physical state (same or different, liquid or solid, wet or dry), size (same or different, big or small). • Students identify observable properties of a familiar material or object, e.g. they identify the taste, smell, texture and colour of a particular food. • Students recognise their personal belongings (e.g. bag, chair, clothing), according to observable features. 	
<p>Key concept: <i>Patterns of interactions between materials can be identified and used to predict and control further interactions.</i></p>	
<p>Uses senses to observe changes that occur in materials or objects, for example:</p> <ul style="list-style-type: none"> • by mixing or dissolving: <ul style="list-style-type: none"> – water and cordial concentrate – varying ratios of ingredients for playdough – noting the changing properties of ingredients when making a cake • by dropping: <ul style="list-style-type: none"> – playdough – eggs • by temperature changes: <ul style="list-style-type: none"> – freezing: iceblocks, ice-creams, water – heating / cooking: eggs – raw, boiled, fried, scrambled; vegetables – raw, boiled, fried, mashed; melting ice-cream and iceblocks – toasting: bread, waffles, crumpets, marshmallows 	<p>Uses previous experiences to predict changes in materials, for example:</p> <ul style="list-style-type: none"> • Yesterday I put bread in the toaster and it became toast. Today when I put the bread in the toaster ... • Yesterday when I got into the pool, my togs got wet. Today when I get into the pool
<p>Example learning outcomes: F.2</p> <ul style="list-style-type: none"> • Students recognise an object or material after its properties have changed, e.g. egg (raw, boiled, scrambled); writing paper (different colours, sizes, shapes); apple (red, green, tinned, dried). • Students observe changes that occur in materials through: • dissolving, for example, sugar/ salt/coffee/tablets; • mixing, for example, cordial/flour in water, food colouring in playdough; • burning, for example, toast, wood, marshmallows. 	

Key concept:

The uses of materials are determined by their properties, some of which can be changed.

Identifies the uses of familiar materials, for example:

- food for eating
- toys for playing
- clothes for wearing, keeping warm
- furniture for sitting on or at
- water for drinking, bathing, playing, swimming
- leaves for making collages, paintbrushes, decorations, cooking, eating
- sand for playing, building, pouring, painting, growing plants in
- paper for making hats, planes, wall charts, cards, collages, paintbrushes, decorations
- plastic for straws used for drinking, painting, blowing bubbles, bending, gluing, threading, sucking, blowing
- fabrics, materials, cords or threads for making mats, and carpets; can be sewn, cut, glued, folded, frayed or fringed

Example learning outcomes: F.3

- Students can identify different familiar materials that have similar uses, e.g. you can drink from a cup, glass or mug; to keep warm you can put on a jumper or gloves, put on a heater, eat hot food and drinking warm drinks.
- Students can identify different uses for familiar materials, e.g. paper can be used for drawing, cutting, gluing and folding; sand can be used to play with in a sandpit, in gardening and in collages.
- Students group different familiar materials according to their use, soap, detergent and cloths are used for cleaning.