



Education Support Package - Science



Individual Education Plans		Teaching Strategies		Classroom Management		Glossary of Terms		References	
The Arts	English	Health and Education	Languages Other than English	Mathematics	Science	Society and Environment	Technology and Enterprise		

Preface

To assist in meeting outcomes for students with disabilities, the preface outlines modifications of the environment and curriculum together with specialised equipment.

Outcome Statements - Foundation to level 3

[Top](#) This section contains Foundation Outcome Statements, and an overview of Strand and Substrand Outcome Statements from Level 1 to Level 3.

Strand Outcome Statements are a sequence of statements which describe what students demonstrate as they develop their understanding or skills for a strand. (NB: The Strand Outcome Statements are a synthesis of Sub-strand Outcomes).

Sub-strand Outcome Statements are a sequence of statements which describe what students demonstrate as they develop their understanding or skills for a sub-strand. (NB: Not all strands have sub-strands).

Elaboration of foundation Outcome Statements for each strand

Foundation Outcome Statements with Focus Skills

This section contains Foundation Outcome Statements and pointers and a list of Focus Skills for each outcome. The Focus Skills were developed to give teachers further guidance about skills which students could work on, mastery of which would further a student's progress towards achieving the outcome. The list of Focus Skills is neither prescriptive nor exhaustive. Individual teachers are encouraged to generate new Focus Skills to fit the needs of their particular students.

Spreadsheets

Spread sheets contain teaching/learning information related to a sample of Foundation Outcomes for each learning area. Not all outcomes are covered in this section and teachers may wish to develop their own or other outcomes as a point of reference.

Science Preface

Students with disabilities

To assist in meeting outcomes and ensure the participation of all students, please note:

Modification of the environment may be necessary.

- Handrails (toilets, hallways etc.)
- Ramps
- Playground/classroom structures
- Table tops for desks
- Seating (posture/supports etc.)

- Seating location (preferential seating)

Specialised/modified equipment to assist with mobility may be required.

- Wheelchairs
- Walking frames
- Long cane/tactile guides
- Orthotics, inserts in shoes
- Prostheses

To access the curriculum, the student may require:

Specialised/modified activities -

- Audio books/texts for reference
- Photos and/or 3D models instead of diagrams/drawings
- Shorter/simpler activities - same concept or theme
- Oral responses rather than written responses for some activities
- Using calculators for computation
- Typing instead of 'writing' notes
- Peer support/buddy system when involved in activities such as:
 - drawing
 - observing
 - investigating
 - collecting/sorting data

Specialised/modified equipment such as:

- Electronic typewriters
- Braille
- Templates/raised line drawing kits for writing/drawing
- Various splints (e.g. hand splints)
- Head pointers
- Writing frames
- Special furniture (angled desk tops, corner chairs etc.)
- CCTV (Closed Circuit TV) and other magnification aids
- Hand held magnifier/s
- Telescope for distance work
- FM Systems (for hearing impaired)
- Captioning (for television/video programs)
- Hearing aids
- Speech processors
- Tape recorder/s

Computers with appropriate software plus peripherals such as -- Talking calculators, large display calculators

- Large print screens
- CAD for drawing, designing
- Word processors with Spell check
- Mind Reader (predictive word processor)
- First Draft
- Style Writer
- Switches/single switch access (Ke: nx)

Alternative keyboards such as -

- Intellikeys
- Concept keyboard
- Voice output devices (Intellitalk)
- Robotron Eureka (voice output, Braille keyboard)
- Touch window

Communication aids such as -

- Aided language stimulation boards
- Pictorial symbols (e.g. COMPIC)
- Voice output devices (e.g. Hawk/Macaw)
- Single message device (BIGmack)
- Timetable systems

Alternative formats for materials/books/resources

- Braille
- Large print
- Audio (talking books)
- Raised line/tactile drawings
- 3D models

NOTE

Physical assistance/prompts may be necessary where tasks include activities such as

- Drawing graphs/diagrams
- Building, constructing, designing, measuring
- Collating, sorting
- Mobility - field excursions etc.
- Positioning (e.g. correct posture/seating)

Terms such as 'oral', 'speak', 'ask', 'talk', 'tell', 'say', 'explain', etc. are understood to include all forms of verbal and non-verbal communication such as:

- Auslan
- Signed communication - Signed English, Makaton etc.

The term 'attend to' can be defined as 'paying attention to' or 'giving sensory focus to' (e.g. touch).

Terms such as 'look at', 'listen to', 'watch', can be defined as 'attending to' particular vision and/or hearing impaired students.

Students with marked vision impairment may 'visualise' by using other senses (e.g. touch).

Students with marked hearing impairment may 'listen' by using other senses (e.g. feeling vibrations, lip reading).

Outcome Statements Foundation to Level 3**Investigating Scientifically**

	Planning	Conducting	Processing Data	Evaluating
FOS	IS F.1 Demonstrates an awareness of familiar objects and events.	IS F.2 Explores the environment using the senses.	IS F.3 Responds to an object or event	IS F.4 Demonstrates choice making skills
	IS F Demonstrates an awareness of, explores and responds to objects and events in the environment using the senses; and is able to make choices based on experience			
LEVEL 1	IS 1.1 Focuses on problems and responds to teacher's suggestions and questions	IS 1.2 Carries out activities involving a small number of steps, and observes and describes.	IS 1.3 Shares observations.	IS 1.4 No outcome specified at this level.

LEVEL 2	IS 2.1 Identifies, given a focus question in a familiar context, some of the variables to be considered	IS 2.2 Observes, classifies, describes and makes simple non-standard measurements and limited records of data; and uses independent variables that are usually discrete.	IS 2.3 Makes comparisons between objects or events observed.	IS 2.4 Comments on what happened and can say whether what happened was expected.
	IS 2 When given a focus question and a familiar situation, contributes elementary ideas about variables and procedures, collects and makes limited records of data and can say whether what happened was expected.			
LEVEL 3	IS 3.1 Plans for investigations, showing some awareness of the need for fair testing; makes simple predictions (not guesses) based on personal experience.	IS 3.2 Uses simple equipment in a consistent manner; and records data in simple tables, diagrams or observations	IS 3.3 Displays numerical data as tables or bar graphs, and identifies patterns in data and summarises the data	IS 3.4 Identifies difficulties experienced in doing the investigation.
	IS 3 Shows some awareness of the need for fair testing and makes simple predictions; collects and organises numerical data and descriptive information using simple tables, diagrams and graphs; and identifies main features, patterns and difficulties in the investigation			

Earth and Beyond

FOS	EH F	Demonstrates an awareness of local environmental features
LEVEL 1	EH 1	Understands that easily-observable environmental features, including the sun and moon, may influence life.
LEVEL 2	EH 2	Understands how some changes in the observable environment, including the sky, influence their life.
LEVEL 3	EH 3	Understands changes and patterns in different environments and space and relates them to resource use.

Energy and Change

FOS	EC F	Demonstrates an awareness that energy is present in daily life.
LEVEL 1	EC 1	Understands that energy is required for different purposes in life.
LEVEL 2	EC 2	Understands ways that energy is transferred and that people use different types of energy for different purposes.
LEVEL 3	EC 3	Understands patterns of energy use and some types of energy transfer.

Life and Living

FOS	LL F	Demonstrates an awareness of own personal features and basic needs.
LEVEL 1	LL 1	Understands that people are examples of living things and that, like all living things, they change over time.

LEVEL 2	LL 2	Understands that needs, features and functions of living things are related and change over time.
LEVEL 3	LL 3	Understands that living things have features that form systems which determine their interaction with the environment.

Natural and Processed Materials

FOS	NPM F	Demonstrates an awareness of materials and their properties.
LEVEL 1	NPM 1	Understands that different materials are used in life and that materials can change.
LEVEL 2	NPM 2	Understands that materials have different uses, different properties and undergo different changes.
LEVEL 3	NPM 3	Understands that properties, changes and uses of materials are related.

Elaboration of Foundation Outcome Statements for each strand

Investigating Scientifically Foundation

Students demonstrate an awareness of their environment by showing interest, identifying objects and/or events and anticipating familiar routines, such as lunchtime and swimming sessions. They search for and explore objects using their senses: for example, accessing a sensory environment or turning their head in direction of sound stimuli. They anticipate effects and respond to changes in their environment, such as smiling at a Jack-in-the-Box toy. They make personal choices based on prior experiences, such as repeatedly choosing a favourite material because of its texture.

Earth and Beyond Foundation

Students demonstrate an awareness of environmental factors that influence their daily lives: for example, adjusting their behaviour according to different environments such as the playground, classroom or bus. They are aware of and respond to different features of the environment such as looking at trees blowing in the wind and finding their own classroom. They explore, tolerate and respond to various sensory experiences within the environment, such as sand and water play. Students show an awareness of and respond to features in the sky: for example, they turn their eyes away from the bright sun and look up at a kite. They react to various weather conditions, such as pointing to hail on the ground.

Energy and Change Foundation

Students participate in and respond to activities involving the use of various forms of energy. They demonstrate an awareness of a range of energy sources, such as looking at lights, dancing to music and standing under fans. They are aware that appliances and machines have functions and purposes. Students use switches to operate appliances to produce a desired effect: for example, they will turn on the computer in order to interact. Students are aware that physical activity results in changes to the body temperature and fatigue levels.

Life and Living Foundation

Students are aware of their own personal features, such as eyes, nose, mouth, legs, arms, and body. They are able to recognise themselves by responding to their image in a mirror or a photograph. Students can indicate their basic needs, such as sleeping, eating, drinking and toileting: for example, pointing to a drink when thirsty or to a pictorial symbol of toilet when required. They can recognise personal shelters, such as their own house and classroom.

Natural and Processed Materials Foundation

Students are aware of familiar materials used in daily life: for example, they respond to water during washing and cleaning activities and show interest in the immediate environment. They respond to materials in terms of their distinctive textures, such as stroking a furry toy or squeezing clay. They are able to demonstrate an awareness of the relevant properties of materials, such as indicating the item that they are able to drink or selecting from a choice of solids and liquids. Students are aware of and tolerate a range of materials with varying properties, such as splashing in water, smelling different substances and exploring heavy and light objects.

Foundation Outcomes with Focus Skills List

Investigating Scientifically

Planning	Conducting	Processing Data
<p>IS F.1 The student demonstrates an awareness of familiar objects and events.</p>	<p>IS F.2 The student explores the environment using the senses.</p>	<p>IS F.3 The student responds to an object or event.</p>
<p>This will be evident when students, for example:</p> <p>anticipate familiar routines, eg put school bags in correct place</p> <p>give sensory focus to a display or investigation, eg look, touch, smell, hear, taste</p> <p>identify objects, eg point to lunch box.</p>	<p>This will be evident when students, for example:</p> <p>follow one or two-step instruction</p> <p>search for source of stimuli, such as turning their head to the direction of music</p> <p>explore objects using the senses, such as smelling and tasting ingredients during cooking.</p>	<p>This will be evident when students, for example:</p> <p>respond to a change in familiar routine, such as showing excitement when celebrating a birthday in class</p> <p>respond to sensory stimulation, such as smiling when cause-and-effect toy is activated</p> <p>communicate response to an experience, such as change facial expression after tasting various foods.</p>
<p>Focus Skills for IS F.1</p> <p>Participate in simple routines</p> <p>Display anticipation of events</p> <p>Attend to stimuli</p> <p>Randomly activate switch</p> <p>Focus on display or investigation</p> <p>Show awareness of object/event</p> <p>Respond to familiar object/event</p> <p>Get ready for activity</p>	<p>Focus Skills for IS F.2</p> <p>Attend to instructions</p> <p>Follow one-step instruction</p> <p>Participate in simple routines</p> <p>Manipulate object in a variety of ways</p> <p>Attempt to activate switch</p> <p>Show interest in the environment</p> <p>Maintain focus</p> <p>Demonstrate motor control</p> <p>Manipulate objects in a variety of ways, eg build, stack, arrange, construct</p> <p>Seek source of stimuli</p>	<p>Focus Skills for IS F.3</p> <p>React to change in routine</p> <p>Describe or name objects and actions</p> <p>Express thoughts about things seen and/or experienced</p> <p>Respond to sensory stimulation</p> <p>Ask simple questions</p> <p>Respond to information</p> <p>Comment on event/objects</p> <p>Recognise familiar objects, people in photos, pictorial symbols</p> <p>Imitate simple routines</p>

	Observe change	
IS 1.1 The student focuses on problems and responds to teacher's suggestions and questions.	IS 1.2 The student carries out activities involving a small number of steps and observes and describes.	IS 1.3 The student shares observations.

Evaluating

IS F.4 The student demonstrates choice making skills.

This will be evident when students, for example:

- request actions and activities to experience desired effect;
- indicate likes/dislikes, such as choosing a preferred toy
- demonstrate that objects have the same function in different environment.

Focus Skills for IS F.4

- Respond to questions about their experiences
- Use information to make choices
- Answer simple questions about events/objects
- Express likes/dislikes of objects/events
- Match objects
- Group objects
- Use objects by function
- Describe function of objects

IS 1.4 No outcome specified at this level.

Earth and Beyond

EB F The student demonstrates an awareness of local environmental features.

Demonstrate an awareness of local environmental factors which influence daily life, e.g. :	Demonstrate an awareness of the environment, such as :	Show awareness of the sky, such as :
<ul style="list-style-type: none"> • Respond to light and dark, responding when the light is switched on in a dark room, and protect their eyes from a bright light • Respond to immediate changes in the weather, e.g. : looking outside during a hail storm 	<ul style="list-style-type: none"> • Respond to sensory experiences in different environments, e.g. : smiling when at the beach or attending to different stimuli when shopping • Show awareness of features within their immediate environment, e.g. : putting their bags on hooks 	<ul style="list-style-type: none"> • Features relating to the sky, e.g. : looking at a cloud, lightning and shading eyes from the sun • Features of the night sky, e.g. : pointing to the stars and the moon • Respond to objects in the sky, e.g.: looking up at a kite, reaching for an aeroplane

Focus Skills for EB F	Focus Skills for EB F	Focus Skills for EB F
<ul style="list-style-type: none"> • Respond to sensory stimuli • Respond to environmental changes • Use environmental cues to anticipate change • Identify day and night • Identify inside/outside • Recognise and locate significant items in own environment • Identify hot, cold, windy, rain • Show awareness of activities associated with day and night • Respond to environmental space, eg play in playground and not on bus 	<ul style="list-style-type: none"> • Attend to the environment • Explore characteristics of the environment, eg feel playground equipment • Respond to changes in the environment, eg watches the rain • Tolerate sensory experiences in the environment • Recognise personal belongings, eg, bag, jacket • Recognise objects in their environment, eg lunch box • Recognise natural features in the local environment, eg tree, sky, ocean • Use a range of senses when interacting with the environment • Respond to tactile, visual, auditory experiences • Distinguish between different types of weather • Listen to sounds in the environment • Observe the elements, ego wind, rain • Attend to different smells 	<ul style="list-style-type: none"> • Respond to features of weather patterns, eg thunder, clouds • Recognise light and dark • Look at flock of birds, moving clouds • Look at kite in sky • Recognise picture of moon, stars • Respond to mobile above head • Lift head to look up • Track objects in a vertical plain
<p>EB 1 The student understands that easily observable environmental features, including the sun and moon, may influence life</p>		

Energy and Change

EC F The student demonstrates an awareness that energy is present in daily life.

This will be evident when students, for example:

- demonstrate an awareness that energy is used in daily life, such as :
 - operate simple switches for a purpose, e.g. turn television on in order to watch it.
 - show awareness of an object and its function, e.g. a fan blows hair, a heater produces heat
- demonstrate awareness that physical activity makes one hot and tired, e.g. students communicate their limitations during strenuous activity.
- demonstrate an awareness of a range of energy sources, such as
 - respond to local sources of energy, e.g. look at a light, stand near a heater in winter or fan in summer
 - respond to environmental energy sources, e.g. hold a hat on in the wind, stand in the shade on a hot day
 - respond to sound, e.g. turn head when called, move to music.

Focus Skills for EC F

- Observe the use of energy, ego watch food rotating in microwave, look at the fan
- Observe cause and effect, ego paper windmill turning, push car and it rolls
- Operate simple switches on classroom appliances, ego turn music on
- Engage in cause and effect activities
- Put cold foods back in fridge, ego milk, margarine
- Express feelings during physical activity, ego verbalise 'hot', changes pace/speed when tired
- Look at light source

- Turn toward sound source
- Respond to heat source, ego move toward heater in winter
- Respond to fan, ego position self to feel the effect of a fan
- Hold streamer in front of a fan

EC 1 The student understands that energy is required for different purposes in life.

Life and Living

LL F The student demonstrates an awareness of their own personal features and basic needs.

This will be evident when students, for example:

- demonstrate an awareness of basic needs of self, such as :
- indicate personal needs, e.g. communicate hunger, thirst, the need for toilet or sleep.
- recognise personal shelter by responding to photo of own bedroom, home, classroom or school.
- show awareness of the need to breathe oxygen by holding breath when under water.

This will be evident when students, for example:

- demonstrate an awareness of personal features, such as
- recognise self, by smiling at own image
- recognise major body parts
- produce simple representation of self in drawings.

Focus Skills for LL F

- Respond to body outline drawn of self
- Identify leg, arm, neck, head
- Identify facial features, ego eyes, nose, mouth, ears
- Identify body parts on self/others
- Recognise image of self
- Explore characteristics of living things
- Compare/contrast characteristics of living things, eg look at own/ others hands
- Draw around own hand on paper
- Make footprints/hand-prints

- Indicate need to go to the toilet
- Point to picture/symbol of food/drink when hungry/thirsty
- Identify own home from a range of photographs
- Identify own bedroom from a range of photographs
- Can find own classroom
- Find own personal belongings, ego lunch box
- Blow bubbles in water
- Demonstrate awareness of own home when traveling on bus

LL 1 The student understands that people are examples of living things and that, like all living things, they change over time

Natural and Processed Materials

NPM F The student demonstrates an awareness of materials and their properties.		
<p>This will be evident when students, for example:</p> <p>Demonstrate an awareness of the properties of materials, such as :</p> <ul style="list-style-type: none"> • respond to a range of textures, e.g. respond to having face washed, walking barefoot in sand explore properties of solids and liquids, e.g. move hand through water • respond differently to different properties of materials, e.g. pull away from rough surface, smile when stroking a furry animal 	<p>This will be evident when students, for example:</p> <p>Demonstrate an awareness of materials in their daily life, such as :</p> <ul style="list-style-type: none"> • show interest in the environment, e.g. reach for coloured paper in art • give sensory focus to materials, e.g. smell differently-flavoured drinks • explore a variety of materials in different settings, e.g. splash water, watch sand run between fingers. 	
<p>Focus Skills for NPM F</p> <ul style="list-style-type: none"> • Explore a variety of materials using their senses • Respond to familiar materials, e.g. sand, water • Recognise familiar materials, e.g. sand, water • Respond if material falls off desk on to lap • Reach for and grasp materials in student's immediate environment • Feel texture of bricks, wood, plastic • Smell raw ingredients during cooking 	<ul style="list-style-type: none"> • Increase tolerance to a range of textures • Communicate response to matter in their own terminology, eg "yuck" • Respond to tactile, visual, auditory experiences • Reach for and grasp solid matter, eg reach and grasp blocks • Indicate the difference between solids and liquids, e.g. points to water when thirsty • Explore water and its properties, e.g. splash, pour 	
<p>NPM 1 The student understands that different materials are used in life and that materials can change.</p>		

Spreadsheets

Teaching/learning information related to selected Foundation Outcomes

Each strand in the Science Learning Area has been represented by one spreadsheet that provides information related to a selected Foundation Outcome.

One Focus Skill has been chosen as an example. Learning experiences and teaching strategies have been written for this Focus Skill. The chosen Focus Skill is indicated by (EG).

Information contained in these spreadsheets is given as an example only and may require modification or addition to suit individual needs.

These spreadsheets are provided to give teachers a springboard for developing their own ideas

when programming or specific Focus Skills.

Understanding the Spreadsheets

Each spreadsheet contains the following information.

AREA	FOUNDATION OUTCOME STATEMENT	STUDENT OUTCOME STATEMENT
Learning Area	Outcome Statement	
STRAND	POINTERS Indicators or signals of the achievement of an outcome. Pointers are only typical examples and are not listed exhaustively. Other pointers could also indicate achievement of the outcome.	LEVEL 1 Outcome Statement

KEY ELEMENTS

These are the main components of the Outcome Statements .

CONSIDERATIONS

Factors which may affect the student's participation and/or progress in achieving the outcome

FOCUS SKILLS

Are 'non-exhaustive' lists of skills which are the focus for teaching outcomes.

INFORMATION

Suggestions for where you may access further information/resources/assistance.

TROUBLE SHOOTING

This provides suggestions of what to do if the student is not progressing towards achieving the Outcome Statements.

LEARNING EXPERIENCES

A range of activities which relate directly to the Outcome Statement.

TEACHING EXAMPLE/STRATEGIES

Examples of strategies/techniques and processes which may be used to teach a specific focus skill. The given example relates to the focus skill with the symbol.

Investigating Scientifically

AREA	FOUNDATION OUTCOME STATEMENT	STUDENT OUTCOME STATEMENT
Science	IS F.1 The student demonstrates an awareness of familiar objects And events.	
STRAND	POINTERS This will be evident when students for example:	LEVEL 1
Investigating Scientifically		151 The student focuses on problems and responds to teachers suggestions and questions.
SUB STRAND		
Planning	<ul style="list-style-type: none"> anticipate familiar routines, eg put school bag in correct place give sensory focus to a display or investigation, ego look, touch, smell, hear, taste identify objects, ego point to lunch box. 	

KEY ELEMENTS

Awareness of surroundings

FOCUS SKILLS

- **(EG)**. Participate in simple routines

- Display anticipation of events
- Attend to stimuli
- Randomly activate switch
- Focus on display or investigation
- Show awareness of object/event
- Respond to familiar object/event
- Get ready for activity

CONSIDERATIONS

- Level and means of communication
- Is this a realistic outcome for the student?
- Accessibility to experiences

INFORMATION

- Parents/care givers
- Speech Pathologist to assist with communication

TROUBLE SHOOTING

If not working

- Revisit 'Considerations';
- Is there a similar/parallel skill in another learning area that would support and reinforce this skill?
- Does the child have an awareness of an 'event' - Do you need to teach this?
- Does the student accept change?
- Is the routine being reinforced constantly by staff/volunteers/personnel?; Is the approach consistent?; and
- Does the student need more time to achieve this outcome?

LEARNING EXPERIENCES

- Cooking - follow recipe
- Follow daily timetable
- Any activity to which regular routines apply, e.g. packing up

TEACHING EXAMPLE/STRATEGIES

(EG) Participate in simple routines

- Have a chart of steps in the routine available for student to refer to. This could be written or pictorial (eg cooking recipe).
- Commence routine by looking at chart to determine the next step.
- Have student carry out first step.
- Refer to the chart to determine the next step.
- Complete next step in routine.
- Continue this process until the routine is completed .

HINTS

- For the first few times the routine is followed, work with the student to teach the tasks that are required.
- Assistance may be required with some or all steps to enable the student to complete the activity; however, he/she may be able to independently follow the routine.
- Some method of indicating that the step has been completed may be useful, eg cross it off, colour it in

Earth and Beyond

AREA	FOUNDATION OUTCOME STATEMENT	STUDENT OUTCOME STATEMENT
Science	EB F The student demonstrates an awareness of local environmental features.	
STRAND	POINTERS	LEVEL 1
Earth and Beyond	<p>This will be evident when students for example:</p> <ul style="list-style-type: none"> • respond to light and dark, ego respond when light is switched on in dark room, protect eyes from bright light; and • respond to immediate changes in weather, eg look outside during a hail storm. 	<p>EB1 The student understands that easily observable environmental features including the sun and moon, may influence life.</p>

KEY ELEMENTS

Environmental factors

FOCUS SKILLS

- Respond to sensory stimuli
- **(EG)**. Respond to environmental changes
- Use environmental cues to anticipate change
- Identify day and night
- Identify inside/outside
- Recognise and locate significant items in own environment
- Identify hot, cold, windy, rain
- Show awareness of activities associated with day and night
- Respond to environmental space, ego play in playground and not on bus

CONSIDERATIONS

- Nature of disability
- Level of motivation
- Level of awareness
- How does the student communicate?
- Safety when using appliances
- Medical conditions which may limit inclusion in some activities, eg water play

INFORMATION

- Therapy personnel
- Resource Focus book - Science chapter (pp6-9)

TROUBLE SHOOTING

If not working:

- Provide a wider range of experiences; and
- Continue to encourage students to observe environmental factors.

LEARNING EXPERIENCES

- Sensory activities
- Regular morning activities involving weather discussions
- Washing hands
- Water play activities
- 'dress up' activities
- Incidental discussions as weather changes occur

TEACHING EXAMPLE/STRATEGIES

(E G). Respond to environmental changes

- Develop the concepts of warm and cold in different settings, eg using hot/cold water, during water play, using appliances, heater/fan.

- Informally emphasise temperature conditions throughout the day, eg "I'm hot standing near the heater", "its cold outside".
- Ask students to comment on how they feel in a variety of situations - eg when they come inside after recess on a cold day, when they are standing next to the heater.
- Complete daily weather chart. Discuss aspects of the weather. Ask students to comment on how they feel in relation to the weather eg "ifs a hot day, are you hot or cold?"
- Discuss clothing students are wearing relate this to the weather, eg "ifs raining, so what do you need to put on?"
- Match/sort/classify pictures of clothing appropriate to particular weather situations.

Energy and Change

AREA	FOUNDATION OUTCOME STATEMENT	STUDENT OUTCOME STATEMENT
Science	EC F The student demonstrates an awareness that energy is present in daily life.	LEVEL 1
STRAND	POINTERS	EC1
Energy and Change	<p>This will be evident when students for example:</p> <ul style="list-style-type: none"> • operate simple switches for a purpose, ego turn TV on to watch; • be aware of an object and its function, ego fan blows hair, heater produces heat; • demonstrate awareness that physical activity makes you hot and tired, eg students communicate their limitations during strenuous physical activity; • respond to local sources of energy, ego look at light, stand near heater in winter/fan in summer; • respond to environmental energy sources, ego hold hat on in the wind, stand in the shade on a hot day; and • respond to sound, eg turn head when called, move to music. 	The student understands that energy is required for different purposes in life.

KEY ELEMENTS

Energy use

FOCUS SKILLS

- EG). Observe the use of energy, eg watch food rotating in microwave, look at the fan
- Observe cause and effect, eg paper windmill turning, push car and it rolls
- Operate simple switches on classroom appliances eg turn music on
- Engage in cause and effect activities
- Put cold foods back in the fridge, eg milk, margarine
- Express feelings during physical activity, eg verbalise "hot", changes pace/speed when tired
- Look at light source
- Turns toward sound source
- Respond to heat source
- Respond to fan

CONSIDERATIONS

- The sensory/physical abilities of the students
- Is the activity appropriate to the needs of the students?
- Is the student aware of the immediate environment
- Safety when using appliances

INFORMATION

- Resource Focus book - Science chapter (pp.65-69)
- Therapists

TROUBLE SHOOTING

If not working

- Ensure the student is exposed to a wide range of experiences;
- Increase prompts if necessary;
- Ensure adequate time has been allowed for observation; and
- Is the activity motivating for the student.

LEARNING EXPERIENCES

- Cooking activities, ego using blender, microwave
- Using technology, ego turning computer on, lights on/off
- Science experiments, ego using magnets, chemical reactions
- Incidental discussions about energy, eg wind blowing trees

TEACHING EXAMPLE/STRATEGIES

(EG). Observe the use of energy

- Under supervision allow students to operate switches on classroom appliances, eg.turn cassette player on and off to observe what happens.
- Give experience of different conditions produced by energy - use fans, heaters, hairdryers, torches, lights to allow students to see and feel energy at work.
- Plan activities which will demonstrate changes caused by energy, ego simple cooking activities such as making jelly. Let students feel ingredients before/during and after the activity to allow them to observe/experience the change which takes place .

Natural and Processed Materials

AREA	FOUNDATION OUTCOME STATEMENT	STUDENT OUTCOME STATEMENT
Science	NPM F The student demonstrates an awareness of materials and their properties.	
STRAND	POINTERS	LEVEL 1
Natural and Processed Materials	This will be evident when students for example: <ul style="list-style-type: none"> • respond to a range of textures, ego respond to having face washed, walking barefoot in sand • explore properties of solids and liquids, ego move hand through water • respond differently to different properties of materials, ego pull away from rough surface, smile when stroking a furry animal • show interest in the environment, ego reach for card/paper in art • give sensory focus to materials, ego smell different flavoured drinks; and • explore a variety of materials in different settings, ego splash water, watch sand run through fingers. 	NPM1 The student understands that different materials are used in their life and that materials can change.

KEY ELEMENTS

- Exploration of materials
- Responses to material

FOCUS SKILLS

- Explore a variety of materials using their senses Respond to familiar materials, eg sand, water
- Reach for and grasp materials in immediate environment
- Feels texture of materials
- Smell raw ingredients during cooking
- Show interest in the environment, eg reach for card/paper in art
- Give sensory focus to materials, eg smell different flavoured drinks
- Explore a variety of materials in different settings, eg splash water, watch sand run through fingers
- Increase tolerance to a range of textures
- Communicate response to matter in own terminology, eg "Yuck"
- Respond to tactile, visual, auditory experiences
- Reach for and grasp solid matter, ego reach and grasp blocks
- Indicates the difference between solids and liquids, ego points to water when thirsty
- **(EG)**. Explore water and its properties, ego splash, pour

CONSIDERATIONS

- Nature of disability
- Levels of motivation, eg likes/dislikes
- Levels of sensory awareness
- Access to materials

INFORMATION

- Therapy personnel
- Parents for information about likes/dislikes

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TROUBLE SHOOTING

If not working

- Has the student been given enough time to fully explore and respond?
- Use materials with distinct properties, making contrasts extremely obvious, eg pair really coarse sandpaper with plain paper to demonstrate rough and smooth; and
- Provide activities which include all senses, ego encourage students to touch, smell, look at, listen to, and taste (where appropriate).

LEARNING EXPERIENCES

- Art activities - using a range of materials and textures, ego paper, glue, clay, string etc.
- Nature walks - exploring a range of materials, ego leaves, twigs, flowers, feathers etc.
- Swimming - exploring what effects water and the body have on each other
- Cooking

TEACHING EXAMPLE/STRATEGIES

(E G). Explores water and its properties

- Water play activities - provide students with a variety of objects and containers. Encourage pairing, filling, emptying, floating. Play with students, comment on what they do, and what happens as they do it, ego "hit the water - you made a splash".
- Cooking - heat water, chill in fridge, make ice blocks, make a hot drink. Have children look, and feel water before and after activities to experience/observe changes.
- Self care/hygiene - ego when washing hands give students experience of different water temperatures, and speed of water flow .

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