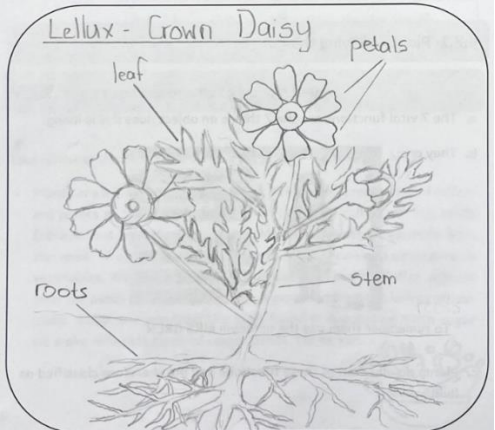


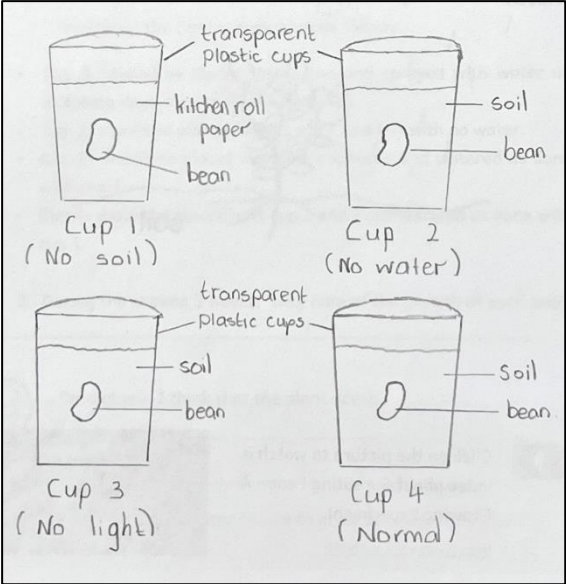
Sample Answers for Year 4 Students' Resource Pack

Learning Outcome 2: How do we stay alive?		
Student's Pack page number	Activity reference	Sample Answer
Page 4	Activity 1	<p>The following is an example of a drawing:</p>  <p>The drawing shows a daisy plant with a central stem and several flowers. The flowers have many small petals. There are several leaves on the stem. The roots are shown as a network of lines extending from the base of the stem into the ground. The drawing is enclosed in a rounded rectangular border.</p>



Page 5	Activity 1 - Question B	<table border="1"> <tr><td>A</td><td>Leaves</td></tr> <tr><td>B</td><td>Stem</td></tr> <tr><td>C</td><td>Roots</td></tr> <tr><td>D</td><td>Petals</td></tr> <tr><td>E</td><td>Seeds</td></tr> </table>	A	Leaves	B	Stem	C	Roots	D	Petals	E	Seeds	<table border="1"> <tr><td>B</td><td>Support the plant upwards towards the light.</td></tr> <tr><td>D</td><td>Attract the insects with their bright colours.</td></tr> <tr><td>A</td><td>Make food for the plant, while changing carbon dioxide gas into oxygen.</td></tr> <tr><td>E</td><td>Protects and nourishes the baby plant inside.</td></tr> <tr><td>C</td><td>Holds the plant in place while extracting water and nutrients from the ground.</td></tr> </table>	B	Support the plant upwards towards the light.	D	Attract the insects with their bright colours.	A	Make food for the plant, while changing carbon dioxide gas into oxygen.	E	Protects and nourishes the baby plant inside.	C	Holds the plant in place while extracting water and nutrients from the ground.
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Page 7	Activity 2 - Question A	<p>Some examples:</p> <ul style="list-style-type: none"> • Books and copybooks • Wooden furniture • Fruit and vegetables in our lunch boxes • Rubber • Clothes made from cotton • Coffee • Tea • Sugar 																					

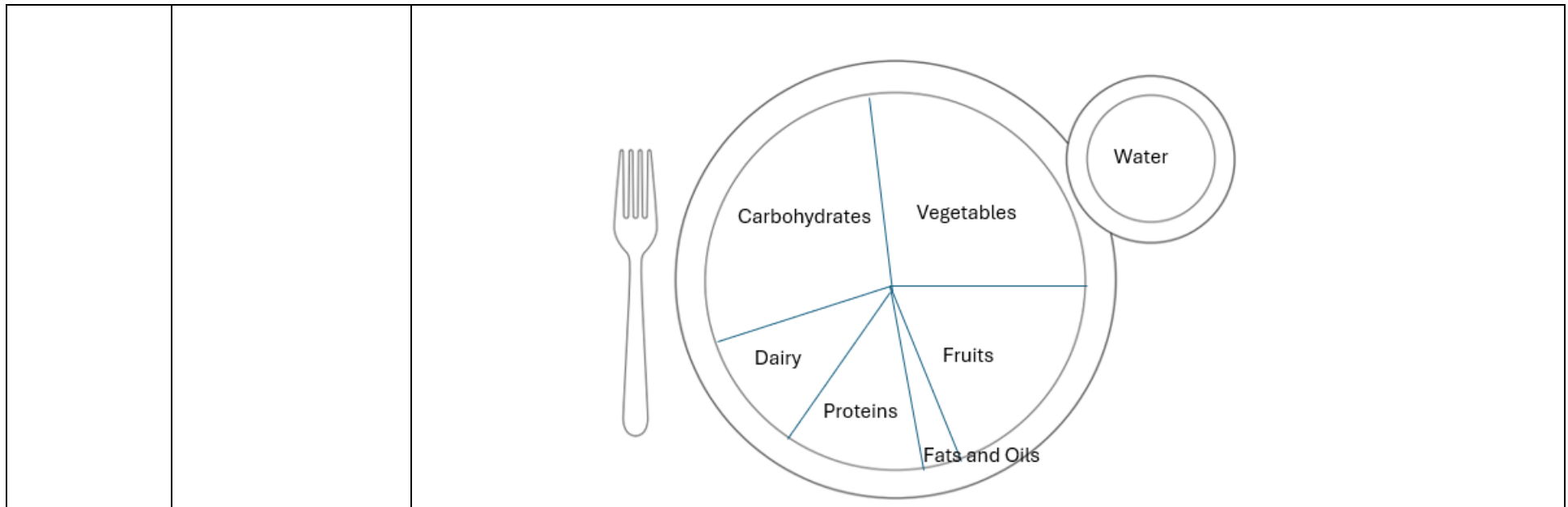


<p>Page 7</p>	<p>Activity 2 - Question B</p>	<p>Plants are very important as:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Plants and trees provide us with food and oxygen. <input type="checkbox"/> The stem of the plants attracts many insects. <input checked="" type="checkbox"/> Trees provide shade and shelter to various living things. <input type="checkbox"/> Plant and trees do not need sunlight to grow. <input type="checkbox"/> Plants and trees absorb nutrients from the soil through the roots. <input checked="" type="checkbox"/> Many plants around us are edible.
<p>Page 10</p>	<p>Investigation - Diagram</p>	<p>The following is an example:</p> 



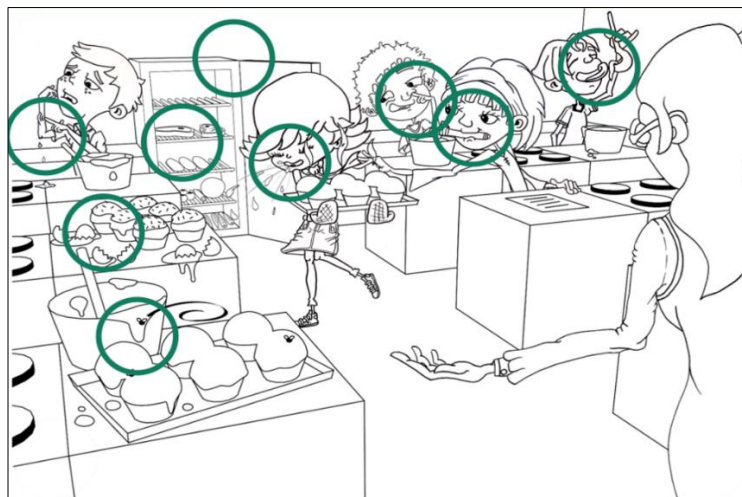
Page 11	Prediction	Accept students' prediction.												
Page 12	Results: Conclusion:	Students' observations may include the length of the plant and drawing of the plant. a. Students should conclude that the plant grows best in cup 4 as it had all the right conditions in which to grow. b. Light, water, nutrients and air to grow healthy.												
Learning Outcome 3: How do we keep fit and healthy?														
Page 17	Activity 1 exercise A	<table border="1"> <thead> <tr> <th>Meal or snack</th> <th>Food Group 1</th> <th>Food Group 2</th> </tr> </thead> <tbody> <tr> <td>Salad</td> <td>vegetables</td> <td>fruit</td> </tr> <tr> <td>Chicken Sandwich</td> <td>proteins</td> <td>carbohydrates</td> </tr> <tr> <td>Steak and potatoes</td> <td>proteins</td> <td>carbohydrates</td> </tr> </tbody> </table>	Meal or snack	Food Group 1	Food Group 2	Salad	vegetables	fruit	Chicken Sandwich	proteins	carbohydrates	Steak and potatoes	proteins	carbohydrates
Meal or snack	Food Group 1	Food Group 2												
Salad	vegetables	fruit												
Chicken Sandwich	proteins	carbohydrates												
Steak and potatoes	proteins	carbohydrates												
Page 17	Activity 1 exercise B	<p>Students have to choose four food items from four different food groups. The following is an example.</p> <table style="display: inline-table; margin-right: 20px;"> <thead> <tr><th>A</th></tr> </thead> <tbody> <tr><td>bread</td></tr> <tr><td>chicken</td></tr> <tr><td>lettuce</td></tr> <tr><td>tomatoes</td></tr> </tbody> </table> <table border="1"> <thead> <tr><th>B</th></tr> </thead> <tbody> <tr><td>carbohydrates</td></tr> <tr><td>proteins</td></tr> <tr><td>vegetables</td></tr> <tr><td>fruits</td></tr> </tbody> </table>	A	bread	chicken	lettuce	tomatoes	B	carbohydrates	proteins	vegetables	fruits		
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Page 18	Activity 2	Students should include the following food groups when designing their plate.												

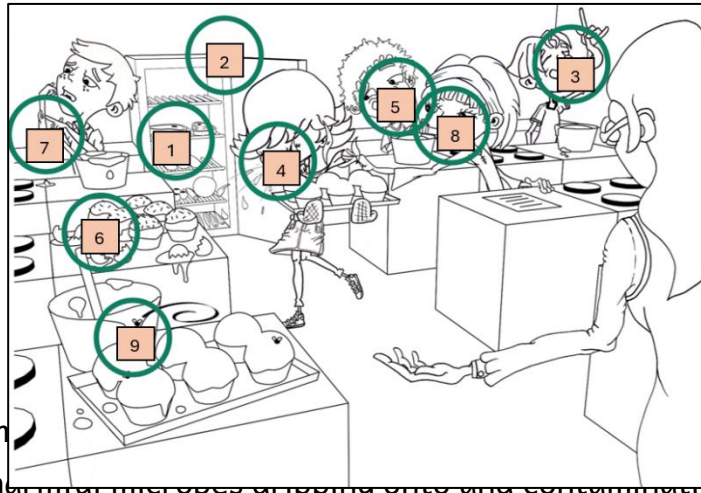




Page 21

Activity 3
exercise A





1. Raw n... dge or on a plate to prevent the blood and harmful microbes dripping onto and contaminating the other items in the fridge.
2. Normal fridge temperatures (2–5°C) slows down microbes from growing and multiplying. Leaving the fridge door open heats up the fridge and allows the microbes to grow and multiply until there are enough to become dangerous.
3. Licking the spoon can spread any harmful microbes from the mouth into the food mixture or alternatively, any unwanted microbes in the raw mixture into the mouth.
4. Using a tissue to cover your mouth when coughing or sneezing helps prevent the spread of infection.
5. Hair and mucus on the inside of the nose trap any unwanted microbes we may breathe in. The 'snot' picked from the nose may contain many harmful microbes which can be spread onto our food or other people by our hands.

		<p>6. Raw eggs have been known to harbour harmful bacteria such as <i>Salmonella</i>, which could lead to a gut infection if ingested.</p> <p>7. All cuts and spots should be covered when cooking, to stop microbes spreading from blood to food.</p> <p>8. The pencil may have come into contact with harmful microbes around the room and putting it in the mouth can spread these microbes to the mouth or gut.</p> <p>9. Flies are known to carry potentially harmful microbes from source to source.</p>
Page 24	Results (second question)	<ul style="list-style-type: none"> • Wash hands before and whilst preparing food • Wash vegetables • Use different chopping boards for cutting up the chicken and preparing the raw ingredients • Cook food thoroughly • Store food correctly
Page 25	My Conclusions	<p>1. Raw chicken may contain <i>Salmonella</i>, <i>E. coli</i> or <i>Campylobacter</i> bacteria all of which can cause food poisoning in humans. If we do not wash our hands after touching the raw chicken, we could transfer these harmful microbes all over their kitchen.</p> <p>2. We can stop the microbes from raw chicken spreading to other areas by:</p> <ol style="list-style-type: none"> a) Washing hands on a regular basis when preparing food, especially after handling raw meat and before touching food which should be eaten raw, i.e. salad vegetables. b) Using separate chopping boards for raw meat, cooked meat, vegetables, bread, etc.




		<p>c) Using separate knives for raw meat and cooked meat.</p> <p>3. They would probably get ill with food poisoning.</p>
Learning Outcome 4: How do our senses help us gather information?		
Page 29	Activity 1	<ul style="list-style-type: none"> • There is fire - you can smell the smoke and will be able to identify where the fire is coming from. • When the food you eat is too hot - the sense of touch protects you from being burnt. Our taste buds also provide feedback on temperature which signals us to wait before taking another bite. • When someone is driving and an ambulance is coming - the sense of sight will help you see the ambulance approaching and the sense of hearing will enable you to hear the siren, so you can make way for it to pass. • On a nature walk - the sense of smell, hearing and sight makes you aware of what is going on around you including if there are any animals nearby.
Page 30	Activity 2	<p>a) When the drum is hit, the rice seems to jump due to the vibrations of the drum.</p> <p>b) The water will splash because of the vibration from the tuning fork to the water.</p> <p>c) You will feel the vibrations from the speaker.</p>
Page 31	Activity 3	<ul style="list-style-type: none"> • Sound is produced by vibrations. • Sound is a form of energy.



		<ul style="list-style-type: none"> • Sound travels in the form of waves. • Sound travels through solids, liquids and gases. • Sound can be heard under water.
Page 32	Activity 4	<ul style="list-style-type: none"> • Hit: drums, xylophone, tambourine • Shake: maracas, tambourine • Pluck: guitar, violin, harp • Scrape: violin • Blow: saxophone, clarinet
Page 33	Activity 5	Students should write their observations, mainly that different objects made from different materials produce different sounds.
Page 34	Activity 6	<p>Natural sources: lightning, sun, fire, firefly</p> <p>Artificial sources: computer, lamp, torch, neon sign</p>
Page 36	Activity 7	The part of the globe facing the sun (torch) is receiving light from the sun and therefore it is daytime. The other side of the globe is in darkness showing that it is nighttime.
Page 37	Activity 8	C, E, A, D, B
Page 39	Diagram	<p>The diagram shows a 3D perspective of a rectangular shadow box with an orange top edge and a grey side. To its right is a small blue circle labeled 'object'. Further right is a black flashlight labeled 'torch' with a yellow beam of light directed towards the object.</p>

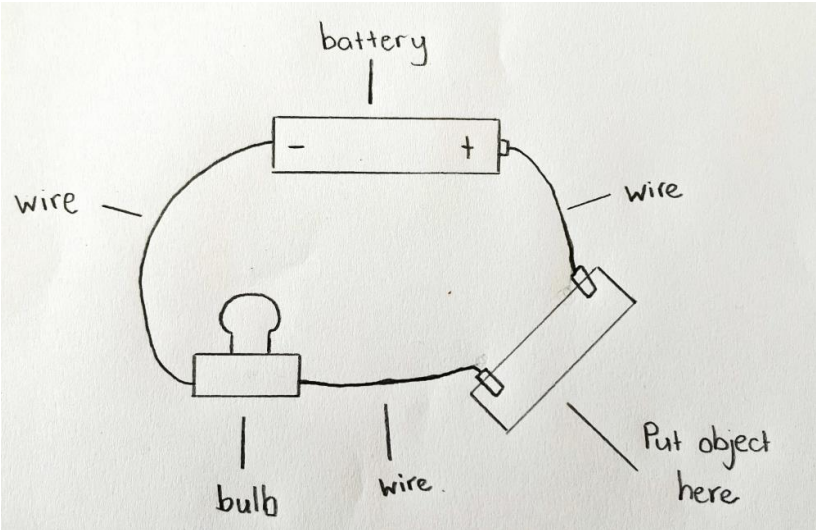


Page 39	Prediction	A correct prediction refers to how shadow is formed and how this changes as the distance of torch from object varies. The following key vocabulary may be included: light source, shadow, blocks light, bigger, smaller. Please refer to year 4 continuous assessment rubric for further details on assessing the prediction.
	Conclusion	 <p>Conclusion: Tick (✓) the correct statement.</p> <p>After carrying out the investigation, I found out that:</p> <ul style="list-style-type: none"> <input type="checkbox"/> The shadow is smallest when the object is closest to the source of light. <input type="checkbox"/> The shadow is largest when the object is furthest away from the source of light. <input checked="" type="checkbox"/> The shadow is largest when the object is closer to the source of light, while the shadow is smallest when the object is further away from the source of light. <input type="checkbox"/> The shadow is always the same, no matter the distance between the torch and the object.
Learning Outcome 5: What is energy?		
Page 45	Activity 1	<ul style="list-style-type: none"> • Rabbits- herbivores • Eagles – carnivores • Giant Pandas- herbivores • Racoons- omnivores • Leopards- carnivores • Cows- herbivores • Hamsters – omnivores

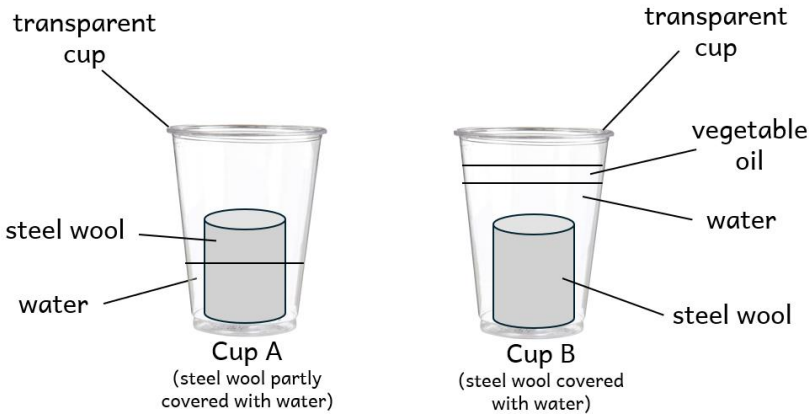


		<ul style="list-style-type: none"> Bears – omnivores
Page 48	Activity 2	<p>The diagram illustrates a simple food chain. At the top left is a sun with rays, labeled 'sun'. An arrow points from the sun down to a patch of grass labeled 'grass'. Another arrow points from the grass to a rabbit labeled 'rabbit'. A final arrow points from the rabbit to a red fox labeled 'red fox'.</p>
Page 50	Activity 3	<ul style="list-style-type: none"> Wheat – Mouse – Owl Sea-weed – Limpets – Crab – Seagull Pond weed – Tadpoles – Water Beetle – Salmon – Heron
Page 54	Activity 1	<p>The diagram shows a simple electrical circuit. At the top is a battery with a '-' sign on the left and a '+' sign on the right, labeled 'battery'. Two wires, labeled 'wire', connect the battery to a light bulb at the bottom, labeled 'bulb'. The wires form a closed loop, completing the circuit.</p>
Page 54	Investigation	Question: Direct reference to objects or materials being conductors or insulators.



	Diagram	
Page 56	<p>Prediction</p> <p>Results</p> <p>Conclusion</p>	<p>Students should tick whether the material listed is a conductor or an insulator.</p> <ul style="list-style-type: none"> • Aluminium foil – conductor • Plastic cap- insulator • Metal coin- conductor • Steel paper clip- conductor • Rubber band – insulator • Wooden match- insulator <p>Students refer to materials that conduct electricity.</p>
Page 57	Activity 2	Conductors: metal spoon, aluminium foil, paper clip, iron nail.

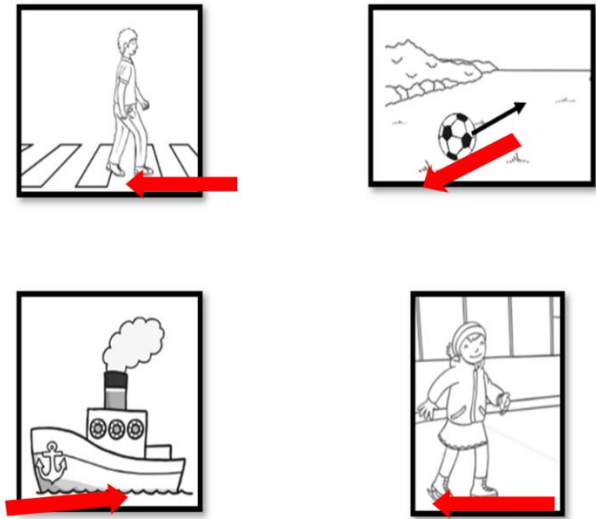


Learning Outcome 6: What are things made of?		
Page 59	Activity 1	Stacey is right because although we cannot see the salt, it is still there as it dissolves in water.
Page 60	Prediction Conclusion	Students predict whether the mixtures are a solution or not a solution. Students conclude whether the mixtures are a solution or not a solution.
Page 62	Investigation Diagram Prediction	<p>Question: Reference to the reaction of steel wool to water. E.g. What happens when the steel wool is put in water? Will the steel wool change when put in water?</p>  <p>The diagram illustrates two experimental setups. Cup A is labeled 'Cup A (steel wool partly covered with water)'. It shows a transparent cup containing water and a piece of steel wool. The water level is such that only the bottom portion of the steel wool is submerged. Cup B is labeled 'Cup B (steel wool covered with water)'. It shows a transparent cup containing two layers: vegetable oil on top and water on the bottom. A piece of steel wool is placed at the bottom of the water layer, fully submerged. Labels with leader lines identify the 'transparent cup', 'steel wool', 'water', 'vegetable oil', and 'steel wool' in both setups.</p> <p>A correct prediction may include any/the following key vocabulary: rust more, rust less. Please refer to year 4 continuous assessment rubric for further details on assessing the prediction.</p>



Page 63	Results Conclusion	Students should observe that the steel wool partly covered with water will rust while the steel wool completely covered with water and oil will take longer to rust. Students should conclude that the steel wool covered partly in water will rust much quicker than the one covered in oil as the layer of oil acts as a barrier between the steel wool and air. Rust takes place when iron (steel is primarily made of iron) reacts with both water and air.
Page 65	Activity 3	<ul style="list-style-type: none"> • Iron rust - irreversible • Toasting bread - irreversible • Melting butter - reversible • Ice melting - reversible • Burning wood - irreversible • Blowing a balloon – reversible
Page 67	Activity 1	Some examples: Natural materials in class – wood, stone, cork (corkboard), cotton. Man –made materials in class – plastic, glass, nylon, paper, steel.
Page 68	Activity 2	Natural Materials - cotton balls, iron nail, sheep woollen hat, shell, stone, real leather belt, log. Man-Made Materials - water bottle, plastic duck, paper, glass mug, plastic blocks.
Learning Outcome 7: How does planet Earth support life?		
Page 76	Activity 1 - Give possible reasons for your results	This result is mainly based on the conditions in the areas tested. Here are a few possibilities: <ul style="list-style-type: none"> • A classroom may not have blinds and can be directly facing the sun.



		<ul style="list-style-type: none"> • If the classroom is full of people and there are electronics switched on, the temperature might rise in the room. • Corridors may be surrounded by a courtyard full of trees creating shade, lowering the temperature inside. • If corridors have a lot of windows, these might become hot due to the greenhouse effect.
Learning Outcome 8: How do things move?		
Page 85 & 86	Activity 1	Answers: push, twist, pull, push, twist, push, push, twist, pull
Page 88	Activity 2 Exercise A	 <p>The illustrations show: 1. A person walking on a path with a red arrow pointing left. 2. A soccer ball on a field with a red arrow pointing right and an arrow pointing up-right. 3. A steamship moving to the right with a red arrow pointing right. 4. A person on a slide with a red arrow pointing left.</p>
Page 89	Activity 2 Exercise B	<ul style="list-style-type: none"> • Going down the slide – not useful • Walking on slippery floors – useful



	Results	Please refer to year 4 continuous assessment rubric for further details on assessing the prediction.
	Conclusion	Students should list the different surfaces used underneath material and how far the toy car moved from the end of the ramp. Students should conclude that the material on which the car travelled the further had the least amount of friction. Note: This investigation can be done in different ways. Refer to teacher’s resource pack for further ideas.
Learning Outcome 9: What is there out in space?		
Page 99	The order of the planets	Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune.

Updated November 2024.

