

2021 Annual Teaching Plans

NATURAL SCIENCES & TECHNOLOGY

Intermediate Phase



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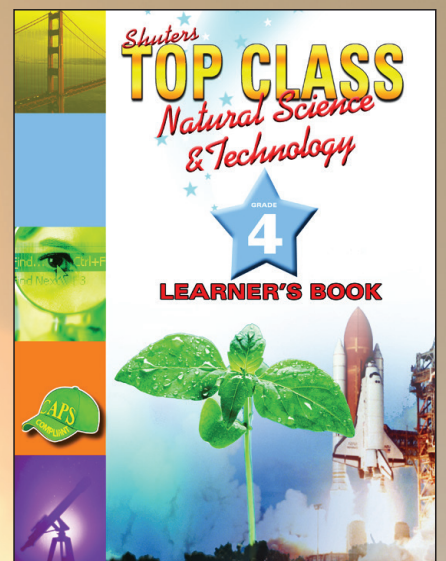
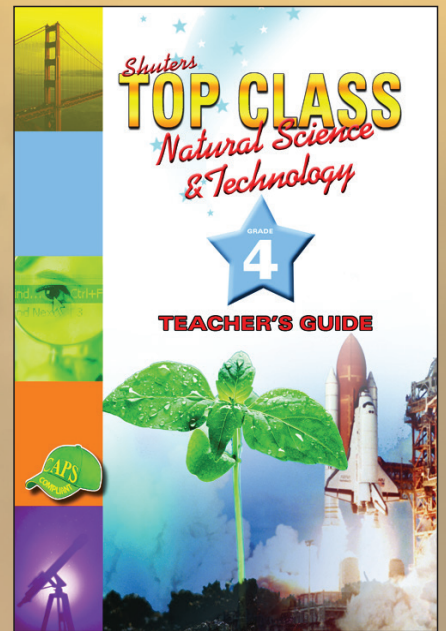
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- Reduce the administrative burden
- Helps save planning and preparation time
- Follows the CAPS precisely, making teaching easier
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NATURAL SCIENCES AND TECHNOLOGY Term 1

Topic	Content	Time allocation	Where to find it in Top Class Natural Sciences and Technology Grade 4		
			Unit	LB	TG
Life and Living					
Living and non-living things	- Living things - Non-living things Informal assessment: - Use pictures and read case studies to distinguishing between living and non-living things with reasons. - Use everyday life experiences and examples to describe the seven life processes. - Identifying the different parts of a flowering plant	2 weeks	Unit 1: Living and non-living things	1–10	1–6
Structure of plants and animals	- Structure of plants and animals - Structure of animals Informal assessment: - Compare the different parts of a plant (roots, stems and leaves) in terms of their size, colour and shape. - Use various drawings and or pictures to label basic structure flowering plants and animals. - Use pictures of various animals to compare their differences and similarities	2½ weeks	Unit 2: Structure of plants and animals	11–19	7–15
What plants need to grow	- Conditions for growth Informal assessment: - Do a scientific investigation to find out what seeds need to germinate and grow into new plants. Keep a diary during the investigation to record observations and the results. Make predictions of the result of your investigation.	1 week	Unit 3: What plants need to grow	20–23	16–18
Habitats of animals	- Different habitats - Need for a habitat Informal assessment: - Identify, draw and describe the habitat in your school. Your drawing should have ONLY the plants and little animals that you can see in your habitat. - Identify the habitats of indigenous South African plants and animals.	2 weeks	Unit 4: Habitats of animals	24–30	19–22

Structures for animal shelters	• Animal shelters Informal assessment: • Compare natural and man-made animal shelters. • Design and draw an animal shelter, taking into account its: purpose, shape, size and materials. Evaluate the suitability of the design.	2½ weeks	Unit 5: Structures for animal shelters	31–40	23–28
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Topic	Content	Time allocation	Where to find it in Top Class Natural Sciences and Technology Grade 4	LB	TG
			Unit		
	Matter and materials				
Materials around us	- Solids, liquids and gases - Change of state - The water cycle Informal assessment: - Investigate and write down the properties of solids, liquids and gases. - Compare the properties of solids, liquids and gases - Describe and draw the stages of the water cycle. - Make a model of a water cycle	3½ weeks	Unit 6: Materials around us	41–49	29–36
Solid materials	- Raw and manufactured materials - Properties of materials Informal assessment: - Explain the difference between raw and manufactured materials. - Investigating materials that objects are made from. - Describing the properties of raw and manufactured materials. - Classifying materials into raw or manufactured. - Investigate the properties of raw and manufactured materials such as; hard or soft; tough or fragile; stiff or flexible; strong in tension; etc. - Investigate how tough different materials are. - Investigate material that is the most flexible for a ruler - Investigating the flexibility of a ruler. Record the results in the table and use them to plot a graph on graph paper. - Identifying different materials that are strong in tension - Link different materials with the purpose of the object	2 weeks	Unit 7: Solid materials	50–59	37–43

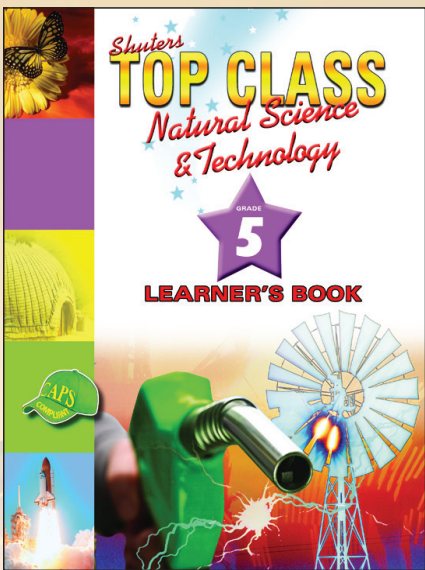
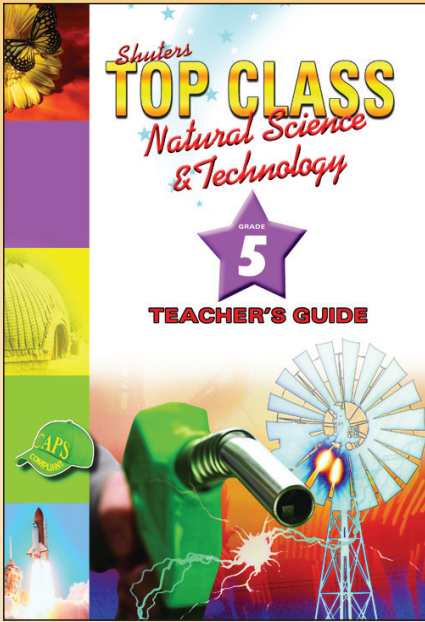
Strengthening materials	• Ways to strengthen materials Informal assessment: • Explore different ways to strengthen paper, e.g. tubing and folding. • Investigate the strongest pillar and draw a table and a bar graph of the results. Discuss the results and draw conclusions. • Exploring ways to make a strong structure • Design and make a bridge. It must span a minimum length of 1 m. It must be able to support a load (bags of coins and books) • Identify materials used in traditional homes, e.g.; Zulu hut, Xhosa rentable, etc. • Compare modern and traditional structures and materials	2 weeks	Unit 8: Strengthening materials	60–66	44–46
Strong frame structures	• Struts and frame structures • Indigenous structures Informal assessment: • Investigate & Exploring which type of struts form strong and stable structures. • (struts in triangular and square shapes) • Designing, making & Evaluating a strong structure using tabular struts e.g. models of a tower; bridge; pylon; chair.	2½ weeks	Unit 9: Strong frame structures	67–76	47–53

NATURAL SCIENCES AND TECHNOLOGY Term 3

Topic	Content	Time allocation	Where to find it in Top Class Natural Sciences and Technology Grade 4		
			Unit	LB	TG
Energy and change					
Energy and energy transfer	• Energy for life • Energy from the sun Informal assessment: • Describe the transfer of energy from the Sun. • Identify activities that people, and animals do that require energy. • Draw and explain how animals get energy for life processes from the Sun.	2½ weeks	Unit 10: Energy and energy transfer	77–83	54–60
Energy around us	• Energy • Input and output energy Informal assessment: • Investigate the input and output energy of appliances, e.g. a kettle, stove, torch, radio, iron, fan/hair dryer, car/bicycle, drum, etc.	2½ weeks	Unit 11: Energy around us	84–92	61–67
Movement and energy in a system	• Movement and musical instruments Informal assessment: • Research about the various indigenous musical instruments and how they work. • Investigate how musical instruments make music. • Design and make your own musical instrument.	2½ weeks	Unit 12: Movement and energy in a system	93–100	68–72
Energy and sound	• Vibrations and sound • Making sounds • Noise pollution Informal assessment: • Investigate how different types of movement causes vibration that cause different sound using elastic band. • Investigate how to make sounds louder and travel further. • Identify and describe sources of noise pollution. • Research about the health risk of exposure to loud music and explain to your peers how best to protect their hearing.	2½ weeks	Unit 13: Energy and sound	101–111	73–78

Planet Earth	• Features of the Earth • Earth and space Informal assessment: • Describe and Identify the main features of the Earth • Draw or make models of the Earth	2 weeks	Unit 14: Planet Earth	112–118	79–83
The sun	• Our closest star • Input and output energy Informal assessment: • Identify and describe main features of the Sun • Draw or make models of the Sun	1 week	Unit 15: The sun	119–120	84–85
The Earth and sun	• Moving around the sun • The sun and life Informal assessment: • Explain how the Earth moves around the Sun • Interpreting models and pictures of Solar System	1 week		121–124	85–87
The moon	• Features of the moon • Phases of the moon • Moon stories Informal assessment: • Investigate how the changing shape of light on the moon gives different phases of the Moon • Identify the different phases of the Moon • Draw or make models of the Moon	2 weeks	Unit 16: The moon	125–131	88–92
Rocket systems	• Modelling of a rocket Informal assessment: • Making a model of a balloon rocket, test it • Investigating distances travelled by different balloon rockets • Evaluating balloon rockets	2 weeks	Unit 17: Rocket systems	132–140	93–97

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Topic	Content	Time allocation	Where to find it in Top Class Natural Sciences and Technology Grade 5	LB	TG
			Unit		
	Life and living				
Plants and animals on Earth	- Many different plants and animals - Inter-dependence - Animal types Informal assessment: - Identify different habitats in South Africa and some of the plants and animals that we find there. - Describe and compare animals without bones with animals with bones. - Describe interdependence between living and non-living things. - Identify the interdependence between the animals and/or plants and the non-living things in their environment. - Identifying common characteristics of invertebrates and vertebrates animals	2½ weeks	Unit 1: Plants and animals on Earth	1–12	1–9
Animal skeletons	- Skeletons of vertebrates - Movement Informal assessment: - Identify the different types of skeletons. - Use pictures of animals to identifying five groups of vertebrates and their common characteristics. - Identify and describe different bones in a vertebrate skeleton and state the functions of each bone.	1½ weeks	Unit 2: Animal skeletons	13–19	10–13

NATURAL SCIENCES AND TECHNOLOGY Term 1

Topic	Content	Time allocation	Where to find it in Top Class Natural Sciences and Technology Grade 5			
			Unit	LB	TG	
Life and living						
Skeletons as structures	• Frame and shell structures Informal assessment: • Label the diagram of the human skeleton. • Describe how different vertebrate animals move including humans. • Design, draw, make and evaluate a skeleton. Write a paragraph about the skeleton that you built to address what worked and what did not work. Your skeleton should have the following specifications: - It must be 3-dimensional; It must look realistic; It must have/show the basic parts, i.e. skull, backbone, ribs; It must be strong and rigid and so it can stand on its own.	2½ weeks	Unit 3: Skeletons as structures	20–26	14–16	
Food chains	• Food and feeding Informal assessment: • Describe how each living thing gets food and how energy is passed from one organism to the next. • Sequence plants and animals to make up a proper food chain in which the energy is transferred from one organism to the next with up to four organisms each, describing their relationships. • Classify the animals according to their feeding relationships (as herbivores, omnivores, carnivores, scavengers or decomposers)	1½ weeks	Unit 4: Food chains	27–33	17–20	
Life cycles	• Growth and development Informal assessment: • Explain the 4 stages in the life cycle of a flowering plant. • Describe the different stages in the life cycle of an animal.	2 weeks	Unit 5: Life cycles	34–42	21–28	

Materials around us	- Solids, liquids and gases - Change of state - Water cycle Informal assessment: - Investigate and write down the properties of solids, liquids and gases. - Compare the properties of solids, liquids and gases - Describe and draw the stages of the water cycle. - Make a model of a water cycle	3 weeks	Unit 6: Solids, liquids and gases from: <i>Top Class Natural Sciences and Technology Grade 6 LB</i> Unit 6: Materials around us from: <i>Top Class Natural Sciences and Technology Grade 4 LB</i>	51–53 46–49	See <i>Top Class Natural Sciences and Technology Grades 4 and 6</i>
Metals and non-metals	- Properties of metals - Properties of non-metals Informal assessment: - Investigate, compare and record the properties of some metal objects (such as copper wire, coins, nails, cooking pots, knives and forks) and some non-metal objects (such as a piece of chalk, a stone, a pile of sand, a piece of coal). - Investigate ways to make old and dull metal objects shiny again. - Investigate how rust occurs	2 weeks	Unit 6: Metals and non-metals	43–50	29–32
Uses of metals	- Other properties of metals - Uses of metals Informal assessment: - Research and writing about the property and uses of metals from home environment.	2½ weeks	Unit 7: Uses of metals	51–56	33–36
Processing materials	- Combining materials Informal assessment: - Investigate reasons why we process materials - Describe with examples the properties of processed materials - Explain with examples the purpose processing materials	2½ weeks	Unit 8: Processing materials	57–63	37–40

Topic	Content	Time allocation	Where to find it in Top Class Natural Sciences and Technology Grade 5		
			Unit	LB	TG
	Matter and materials				
Processed materials	- Properties and uses Informal assessment: - Explain the difference between raw materials, natural materials and processed materials. - Research the traditional processing methods that humans have been using to give materials more desirable properties.	1 week	Unit 9: Processed materials	64–74	41–46

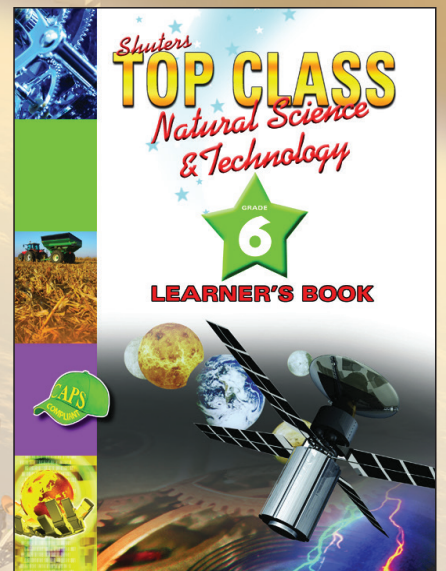
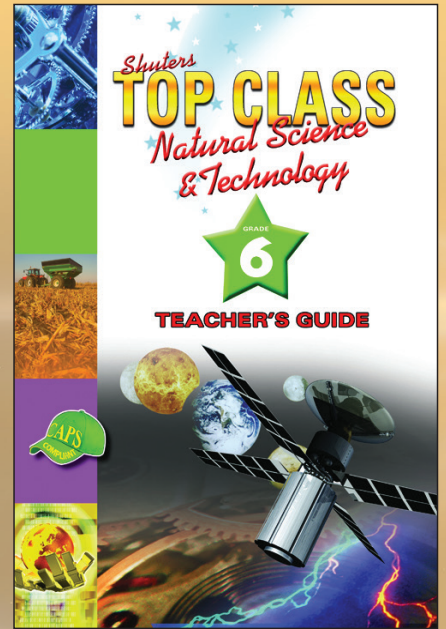
Energy and energy transfer	• Energy for life • Energy from the sun Informal assessment: • Describe the transfer of energy from the Sun. • Identify activities that people and animals do that require energy. • Draw and explain how animals get energy for life processes from the Sun	2 weeks	Unit 10: Energy and energy transfer from: <i>Top Class Natural Sciences and Technology Grade 4</i>	77–83	See <i>Top Class Natural Sciences and Technology Grade 4</i>
Energy around us	• Energy • Input and output energy Informal assessment: • Investigate the input and output energy of appliances, e.g. a kettle, stove, torch, radio, iron, fan/hair dryer, car/bicycle, drum, etc.	1 week	Unit 11: Energy around us from: <i>Top Class Natural Sciences and Technology Grade 4</i>	84–92	See <i>Top Class Natural Sciences and Technology Grade 4</i>
Stored energy in fuels	• Fuels • Burning fuels • Safety with fire Informal assessment: • Compare energy from various packaging for foods collected from home. • Investigate fuels that can be used to give forms of useful energy. • Investigate how much energy can we get from different fuels such as a peanut, piece of wood, candle wax or piece of biscuit? • Investigate how long a candle will burn for when given different amounts of oxygen. • Research and present the dangers of fires within our communities with focus on causes and prevention.	3 weeks	Unit 10: Stored energy in fuels	75–86	47–54

Topic	Content	Time allocation	Where to find it in Top Class Natural Sciences and Technology Grade 5	LB	TG
			Unit		
	Energy and change				
Energy and electricity	- Cells and batteries - Mains electricity - Safety with electricity Informal assessment: - Investigate the source of electricity in a torch. - Compare the differences between batteries and cells. - Explore and explain various ways of making a complete simple circuit. - Draw simple circuit diagrams with correct symbols and labels. - Use diagrams to trace and explain how the electricity comes from the power station to our homes/schools, including power station, pylons, substation, electricity boxes, wall sockets, plugs and appliances such as the TV, a kettle, stove, torch, radio, iron, fan/hair dryer and computer, etc. - Use pictures and illustrations to explain the safety tips for using electricity.	3 weeks	Unit 11: Energy and electricity	87–98	55–61
Energy and movement	- Elastic and springs Informal assessment: - Explain how stored energy can be changed into movement energy using elastic bands, compressed metal spring, etc. - Investigate various ways how stored energy can be changed into movement energy using elastic bands, compressed metal spring, etc.	1 week	Unit 12: Energy and movement	99–102	62–65

The sun	• Our closest star Informal assessment: • describe the main features of the Sun and the Moon • explain how Earth moves around the Sun	1 week	Unit 15: The sun from: <i>Top Class Natural Sciences and Technology Grade 4</i>	119–124	See <i>Top Class Natural Sciences and Technology Grade 4</i>
The moon	• Features of the moon • Phases of the moon • Moon stories Informal assessment: • recognise that the phases of the Moon are a result of the changing pattern of sunlight that we can see on the Moon	1 week	Unit 16: The moon from: <i>Top Class Natural Sciences and Technology Grade 4</i>	125–131	See <i>Top Class Natural Sciences and Technology Grade 4</i>
Planet Earth	• Features of the Earth (Grade 4) • Earth and space (Grade 4) • The Earth moves Informal assessment: • identify and describe the main features of the Earth • explain how Earth moves around the Sun	2 weeks	Unit 14: Planet Earth	111–114	70–71
Surface of the Earth	• Rocks • Soil comes from rocks • Soil types Informal assessment: • identify and describe different soil types correctly	2 weeks	Unit 15: Surface of the Earth	115–125	72–78
Sedimentary rocks	• Formation of sedimentary rock • Uses of sedimentary rock Informal assessment: • explain the formation of sedimentary rock	1 week	Unit 16: Sedimentary rocks	126–132	79–82

Topic	Content	Time allocation	Where to find it in Top Class Natural Sciences and Technology Grade 5		
			Unit	LB	TG
Planet Earth and beyond					
Fossils	- Fossils in rock - Body and trace fossils - Importance of South African fossils Informal assessment: - distinguish between body and trace fossils - explain aspects of South Africa's fossil record	1 week	Unit 17: Fossils	133–141	83–87

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NATURAL SCIENCES AND TECHNOLOGY Term 1

Topic	Content	Time allocation	Where to find it in Top Class Natural Sciences and Technology Grade 6		
			Unit	LB	TG
Life and living					
Life cycles	- Growth and development Informal assessment: - Explain the 4 stages in the life cycle of a flowering plant. - Describe the different stages in the life cycle of an animal	1 week	Unit 5: Life cycle from: <i>Top Class Natural Sciences and Technology Grade 5</i>	34–42	See <i>Top Class Natural Sciences and Technology Grade 5</i>
Photosynthesis	- Plants and food - Plants and air Informal assessment: - Explain and illustrate how plants make food. - Compare glucose sugar (such as glucose sweets) and starch (such as maize flour) according to their taste and colour. - Test various foods for the presence of starch with iodine solution (e.g. cooked rice, flour, potato, bread, oil, boiled egg, cheese, etc.)	2½ weeks	Unit 1: Photosynthesis	1–10	1–7
Nutrients in food	- Food groups Informal assessment: - Classifying food into the different food groups, namely, Carbohydrates, Proteins and Fats and oils, vitamins, and minerals. - State reasons why each food group is important in our diet. - Read labels on food packaging to look for the nutrients and/or the additives in the food. Explain if each of the additives make these products healthier or less healthy to eat?	1½ weeks	Unit 2: Nutrients in food	11–18	8–14

Nutrition	- Balanced diets Informal assessment: - Carefully study various diets to evaluate if they contain all the food groups / balanced diet? - Explain why different portions of the different food groups are necessary for a balanced diet Discuss various diseases caused by an unhealthy diet such as tooth decay, obesity, diabetes or deficiency diseases	1½ weeks	Unit 3: Nutrition	19–27	15–20
Food chains	- Food and feeding Informal assessment: - Describe how each living thing gets food and how energy is passed from one organism to the next. - Sequence plants and animals to make up a proper food chain in which the energy is transferred from one organism to the next with up to four organisms each, describing their relationships. - Classify the animals according to their feeding relationships (as herbivores, omnivores, carnivores, scavengers or decomposers)	1½ weeks	Unit 4: Food chains from: <i>Top Class Natural Sciences and Technology Grade 5</i>	27–33	See <i>Top Class Natural Sciences and Technology Grade 5</i>
Ecosystems and food webs	- Different ecosystems - Living and non-living things in ecosystems - Food webs Informal assessment: - Describe different types of ecosystems on our planet. - Identify an ecosystem, describe, and draw the feeding relationships (food webs) within it. - Investigate an ecosystem in or near the school grounds. Mark out the area with the sticks and string using the quadrant method, ensuring that you do not damage any of the plants and animals. Study both the living and non-living thing within the ecosystem. Identify the possible threats to this ecosystem and possible ways to overcome them	2 weeks	Unit 5: Ecosystems and food webs	40–50	27–35

NATURAL SCIENCES AND TECHNOLOGY Term 2

Topic	Content	Time allocation	Where to find it in Top Class Natural Sciences and Technology Grade 6		
			Unit	LB	TG
Matter and materials					
Solids, liquids and gases	- Arrangement of particles Informal assessment: - Draw and explain how particles are arranged in a solid, liquid and gas - Identify the three (3) states of matter in everyday life. - Describe solids, liquids and gases in terms of the arrangement of their particles	1 week	Unit 6: Solids, liquids and gases	51–53	36–39
Mixtures	- Mixtures of materials Informal assessment: - Explain and demonstrate the different ways in which solids, liquids and gases can be combined to form mixtures. - Explain and demonstrate the different ways in which mixtures can be separated such as: sieving and hand sorting. - Investigating different solids to see if they dissolve in water including: salt, sugar (soluble substances); sand, mealie meal, flour, maize flour, samp, curry powder, custard powder (insoluble substances) - Investigating solutions to see if we can recover the solute by: filtering, settling followed by decanting and evaporating the water (crystallisation) - Investigate and make sugar crystals - Explain different kinds of mixtures (including solutions) - Distinguish between soluble and insoluble substances - Recover the solute from the solvent and draw and write about the process	1 week	Unit 7: Mixtures	54–57	40–43
Solutions as special mixtures	- Solutions - Soluble substances - Saturated solutions - Insoluble substances Informal assessment: - Investigate the difference between melting and dissolving.	2½ weeks	Unit 8: Solutions as special mixtures	58–65	44–52

Dissolving	- Rates of dissolving Informal assessment: - Investigate, measure and draw graphs of the time taken to dissolve a solute: in hot or cold water when stirring/shaking or not stirring/shaking using coarse or fine salt - Tell what factors affect the rate of dissolving	1 week	Unit 9: Dissolving	66–73	53–59
Mixtures and water resources	- Water pollution - Importance of wetlands Informal assessment: - Discuss pollution and where it comes from. - Identify three main categories of pollutants found in water and explain how you think they entered / end up in water. - Explain why are wetlands so important - Research the different wetlands in South Africa.	2½ weeks	Unit 10: Mixtures and water resources	74–85	60–65
Processes to purify water	- Clean water Informal assessment: - Design, make and evaluate a system to process and purify dirty water - Investigating how to best purify dirty water in class or/and at home.	2 weeks	Unit 11: Processes to purify water	86–91	66–68

Topic	Content	Time allocation	Where to find it in Top Class Natural Sciences and Technology Grade 6	LB	TG
Energy and change					
Electric circuits	- A simple circuit - Circuit diagrams Informal assessment: - Investigate different ways of making a simple circuit - Investigate how a switch works - Design and make a switch to control the circuit. - Investigate bulbs by comparing torch light bulbs with a light bulb that are used in a light fitting in a house or in your classroom - Identify the six parts of a light bulb - Draw a circuit diagrams using various components (e.g.; 1 cell and 2 bulbs; 2 cells and 2 bulbs; 3 cells and 3 bulbs; 3 cells, a bulb and an open switch; 1 cell, 2 bulbs and a closed switch (the switch must be in between the bulbs); etc.	2½ weeks	Unit 12: Electric circuits	92–100	69–74
Electrical conductors and insulators	- Conductors - Insulators Informal assessment: - Investigate what conductors and insulators are. - Test different materials (such as metal paper clips, nails, wire, steel-wool, coins, plastic, glass, ceramic, cardboard, paper, wood, rubber, chalk) in an electric circuit to see if they are conductors or insulators, and recording the results in a table. - glass and ceramic insulators on power lines - Design systems that use circuits to solve problems for people, whether it is the wiring in a house, an alarm bell, a lighthouse on the coast, or constructing toys, which use electrical energy to work.	2 weeks	Unit 13: Electrical conductors and insulators	101–105	75–77

Systems to solve problems	- Using electric circuits Informal assessment: - Designing, making, evaluating and presenting a system that uses a circuit to produce movement, light, sound or heat* in a structure such as a steady hand game, house, light house or a toy. The circuit should include components such as cell/s, light bulb/s, buzzer/s, and switch/es	2½ weeks	Unit 14: Systems to solve problems	106–111	78–81
Mains electricity	- Fossil fuels and electricity - Cost of electricity - Renewable ways to generate electricity Informal assessment: - Explain steps which outline the process to make electricity from coal: - Use diagrams to trace and explain the electrical energy in a sequence from an appliance, such as from your TV set, to the coal-fired power station and back to the original source, the Sun - Examine labels (in adverts, or real electrical appliances) to find out how much power they require in a certain time (e.g.; kettles, a radio, a TV, an iron, a hot plate, charging a cell phone, etc.) and make comparisons. - Explain different ways to save electricity, from small actions, to larger actions - Describe and illustrate using diagrams safety rules when working with electricity - Researching and writing about renewable ways to generate electricity including in wind power generators, solar panels (photovoltaics), hydro- electric power generators, biomass, and geothermal	3 weeks	Unit 15: Mains electricity	112–121	82–87

NATURAL SCIENCES AND TECHNOLOGY Term 4

Topic	Content	Time allocation	Where to find it in Top Class Natural Sciences and Technology Grade 6	LB	TG
Planet Earth and beyond					
The solar system	- The sun, planets and asteroids - Moons Informal assessment: - Researching/reading information about the planets - Making models of the solar systems - Describe and draw objects in the solar system	2½ weeks	Unit 16: The solar system	122–128	88–91
Movements of the Earth and planets	- Rotation (Earth) - Revolution (Earth) Informal assessment: - Draw and write about the rotation of the Earth - Compare the revolution and rotation times of the planets	1 week	Unit 17: Movements of the Earth and planets	129–132	92–95
The movement of the moon	- Rotation (moon) - Revolution (moon) Informal assessment: - Demonstrate rotation and revolution of the moon around the Earth, using models and body movements - Draw and write about movements of the moon in relation to the Earth and the solar system - Compare the sun, Earth and the moon	1 week	Unit 18: The movement of the moon	133–135	96–98
Systems for looking into space	- Telescopes Informal assessment: - Read a case study about telescopes such as simple telescopes, SALT and SKA	1 week	Unit 19: Systems for looking into space	136–139	99–101
Systems to explore the moon and Mars	- Vehicles used on the moon - Vehicles used on Mars Informal assessment: - Research the key features and purposes of the Mars or moon rovers - Design, make and evaluate a model of one of these vehicles, which can move by means of wheels and axles - Measure how far the different vehicles can run down a ramp	2½ weeks	Unit 20: Systems to explore the moon and Mars	140–147	102–105

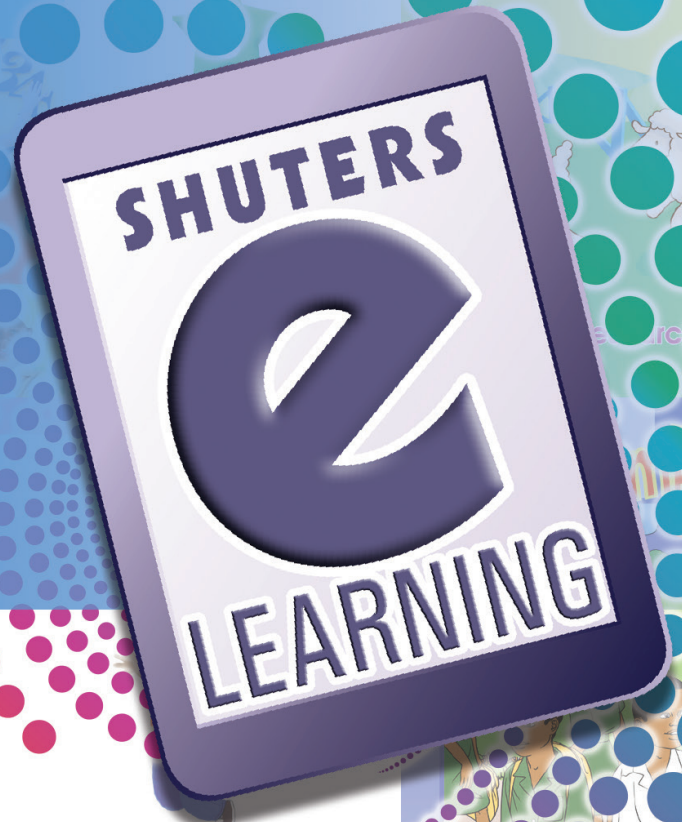
PROGRAMME OF ASSESSMENT

Grade 4		
Term	Assessment task	Page references
1	Practical/Investigation	LB page 15 TG page 128
	Test	TG page 130
2	Test	TG page 135
3	Test	TG page 141
4	Practical/Investigation	LB page 138 TG page 144
	Test	TG page 145

Grade 5		
Term	Assessment task	Page references
1	Practical/Investigation	LB page 37 TG page 123
	Test	TG page 125
2	Practical task/Investigation	LB page 67 TG page 127
	Test	TG page 129
3	Practical task/Investigation	TG page 133
	Test	TG page 134
4	Test	TG page 138

Grade 6		
Term	Assessment task	Page references
1	Practical/Investigation	LB page 6 TG page 138
	Test	TG page 140
2	Practical task/Investigation	LB page 71 TG page 142
	Test	TG page 144
3	Practical task/Investigation	LB page 106 TG page 148
	Test	TG page 150
4	Test	TG page 153

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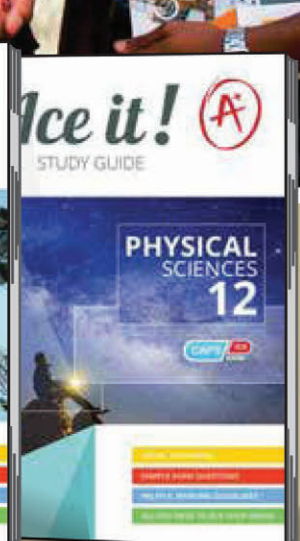
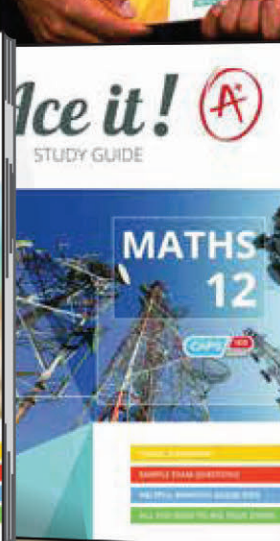
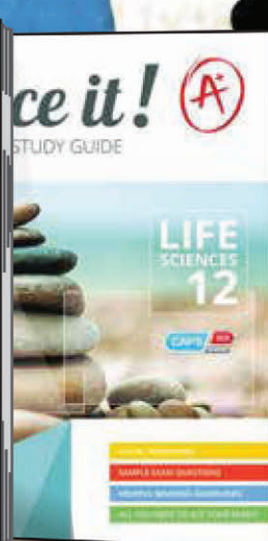
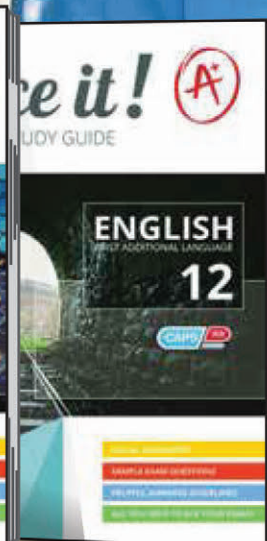
8-12

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