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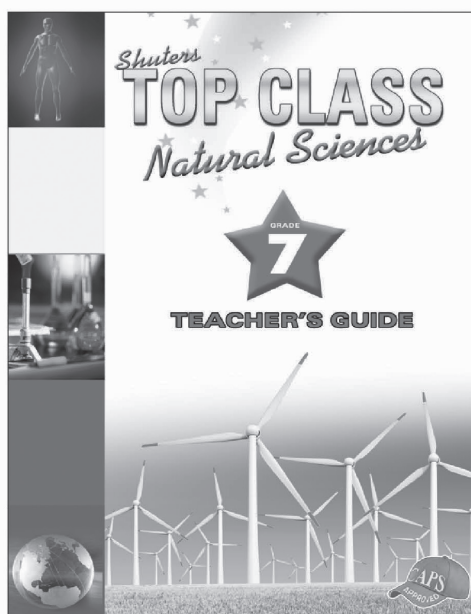
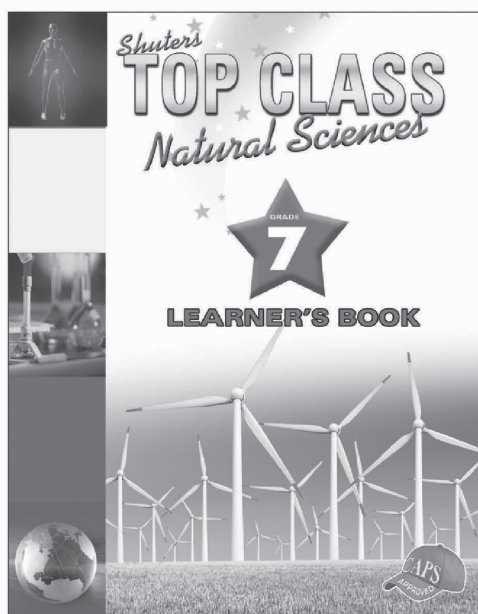
TOP CLASS

Natural Sciences



Grade

7



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TERM 1				
TIME	UNIT	PAGE	RECORDING	REFLECTION
1 week 3 hrs	Unit 1: The biosphere	TG p1-9 LB p2-11		
	• The concept of the biosphere	TG p2 LB p2		
	• Activity 1.1 Describe the components of the Earth's biosphere	TG p2 LB p3		
	• Activity 1.2 Identify living organisms found in each sphere	TG p3 LB p5		
	• Requirements for sustaining life	TG p3 LB p5		
	• Activity 1.3 Describe conditions that sustain life	TG p3 LB p9		
	• Activity 1.4 Investigate the factors that are needed for seeds to germinate and grow	TG p4 LB p9		
3½ weeks 10½ hrs	Unit 2: Biodiversity	TG p9-24 LB p12-32		
	• Classification of living things	TG p10 LB p12		
	• Activity 2.1 Group a selection of everyday objects	TG p11 LB p14		
	• Activity 2.2 Draw up a table of differences	TG p12 LB p17		
	• Diversity of animals	TG p13 LB p19		
	• Activity 2.3 List the characteristics of vertebrate classes	TG p13 LB p22		
	• Activity 2.4 List the characteristics of invertebrates	TG p15 LB p25		
	• Activity 2.5 Sort vertebrates using observable characteristics.	TG p16 LB p25		
	• Diversity of plants	TG p17 LB p28		
	• Activity 2.6 Identify and describe the observable difference between angiosperms and gymnosperms	TG p18 LB p29		
	• Activity 2.7 Identify and describe the differences between a monocotyledon and a dicotyledon	TG p19 LB p31		
	• Activity 2.8 Observe and describe a land snail	TG p19 LB p31		

TERM 1				
TIME	UNIT	PAGE	RECORDING	REFLECTION
1½ weeks 4½ hours	Unit 3: Sexual Reproduction in Angiosperms	TG p25-31 LB p33-47		
	• Activity 3.1 Identify, draw and describe the components of a flower	TG p26 LB p34		
	• Activity 3.2 Compare the structure of flowers and different methods of pollination	TG p27 LB p37		
	• Activity 3.3 Describe how flowers are adapted to promote pollination	TG p29 LB p38		
	• Activity 3.4 Describe different fruits and seeds and the methods of seed dispersal	TG p30 LB p45		
	• Activity 3.5 Investigate the growth of plants	TG p31 LB p45		
2 weeks 6 hours	Unit 4: Sexual Reproduction in Humans	TG p33-40 LB p33-47		
	• Human Reproduction	TG p34 LB p48		
	• Activity 4.1 Draw a personal timeline	TG p34 LB p51		
	• Activity 4.2 Discuss and write about the changes at puberty	TG p35 LB p52		
	• Activity 4.3 Discuss and write about responsible sexual behaviour	TG p37 LB p56		
	• Activity 4.4 Discuss myths about menstruation and sex	TG p38 LB p58		
1 week 3 hours	Unit 5: Variation	TG p41-48 LB p60-68		
	• Variations exist within a species	TG p42 LB p60		
	• Activity 5.1 Measure and collect information about the height of the learners in your class and analyse the data	TG p42 LB p65		
	• Activity 5.2 Collect information about the height of adults in your immediate family	TG p44 LB p66		
	• Activity 5.3 Record information about tongue rollers in the class	TG p44 LB p66		
	• Activity 5.4 Investigate the inheritance of tongue rolling	TG p45 LB p67		
	• Activity 5.5 Discuss careers	TG p46 LB p67		

TERM 2				
TIME	UNIT	PAGE	RECORDING	REFLECTION
2 weeks 6 hours	Unit 6: Properties of materials	TG p49-54 LB p70-83		
	• Physical properties of materials	TG p50 LB p70		
	• Activity 6.1 Investigate and compare the strength of selected materials	TG p50 LB p74		
	• Activity 6.2 Read about the boiling and melting points of different materials	TG p50 LB p75		
	• Activity 6.3 Investigate what happens when water heats up and boils	TG p51 LB p77		
	• Impact on the environment	TG p52 LB p80		
	• Activity 6.4 Read and write about how a material is produced and its impact on the environment	TG p52 LB p82		
2 weeks 6 hours	Unit 7: Separating mixtures	TG p55-63 LB p84-95		
	• Mixtures	TG p56 LB p84		
	• Methods of physical separation	TG p56 LB p85		
	• Activity 7.1 Design and explain the best ways to separate and collect all the materials in a mixture	TG p56 LB p89		
	• Activity 7.2 Demonstrate distillation	TG p58 LB p89		
	• Activity 7.3 Separate ink by chromatography	TG p59 LB p90		
	• Sorting and recycling materials	TG p60 LB p91		
2 weeks 6 hours	• Activity 7.4 Discuss the many careers in chemistry, mining and waste management	TG p60 LB p93		
	Unit 8: Acids, bases and neutrals	TG p64-69 LB p96-102		
	• Activity 8.1 Investigate common beverages to find out whether they are acids, bases or neutrals	TG p65 LB p99		
2 weeks 6 hours	• Activity 8.2 Investigate a range of household substances to test whether they are acids, bases or neutrals	TG p67 LB p101		
	Unit 9: Introduction to the Periodic Table of Elements	TG p70-74 LB p103-109		
	• Arrangement of elements on the Periodic Table	TG p71 LB p103		
	• Activity 9.1 Read about and learn the names and symbols of the first 20 elements of the Periodic Table	TG p72 LB p105		
	• Activity 9.2 Categorise the elements in a copy of the Periodic Table	TG p72 LB p106		
	• Activity 9.3 Identify a number of elements from the Periodic Table that you use in everyday life or in your household	TG p73 LB p106		

TERM 3				
TIME	UNIT	PAGE	RECORDING	REFLECTION
1 week 3 hours	Unit 10: Sources of energy	TG p75-76 LB p111-115		
	• Renewable and non-renewable sources of energy	TG p75 LB p111		
	• Activity 10.1 List non-renewable and renewable sources of energy	TG p76 LB p115		
2 weeks 6 hours	Unit 11: Potential and Kinetic Energy	TG p77-81 LB p116-129		
	• Potential energy	TG p78 LB p116		
	• Activity 11.1 Find energy content in different foods	TG p78 LB p117		
	• Kinetic energy	TG p78 LB p118		
	• Potential and kinetic energy in systems	TG p78 LB p119		
	• Activity 11.2 Investigate energy transfers in mechanical systems	TG p79 LB p120		
	• Activity 11.3 Investigate energy transfers in thermal systems	TG p79 LB p122		
	• Activity 11.4 Investigate energy transfers in electrical systems	TG p80 LB p124		
	• Activity 11.5 Investigate energy transfers in a biological system	TG p80 LB p124		
	• Activity 11.6 Compare the features of energy systems	TG p81 LB p125		
2 weeks 6 hours	Unit 12: Heat transfer	TG p82-85 LB p130-138		
	• Heating as a transfer of energy	TG p82 LB p130		
	• Activity 12.1 Investigate heat conduction using various metals	TG p82 LB p132		
	• Convection	TG p83 LB p132		
	• Activity 12.2 Demonstrate convection currents in water	TG p83 LB p134		
	• Activity 12.3 Draw and label to explain the best positions for a heater and an air conditioner in a room	TG p84 LB p134		
	• Radiation	TG p84 LB p135		
	• Activity 12.4 Demonstrate heat energy transfer through radiation using a candle	TG p84 LB p136		
	• Activity 12.5 Investigate and measure the differences in absorption of heat and radiation of heat through matt black, white/yellow and shiny silver surfaces	TG p85 LB p136		

TERM 3				
TIME	UNIT	PAGE	RECORDING	REFLECTION
2 weeks 6 hours	Unit 13: Insulation and energy saving	TG p86-90 LB p139-146		
	• Using insulating materials	TG p87 LB p139		
	• Activity 13.1 Explain how a solar water heating system works	TG p87 LB p142		
	• Activity 13.2 Investigate different insulating materials	TG p89 LB p144		
	• Activity 13.3 Design, make and test a model of a well-insulated house to minimise heat loss	TG p89 LB p145		
1 week 3 hours	Unit 14: Energy transfer to surroundings	TG 91-93 LB p147-150		
	• Useful and 'wasted' energy	TG p91 LB p147		
	• Activity 14.1 Research the waste of energy from different machines and appliances	TG p91 LB p149		
	• Activity 14.2 Identify the input energy, useful output energy and 'wasted' energy from a number of systems	TG p92 LB p149		
1 week 3 hours	Unit 15: The national electricity supply system	TG 94-96 LB p151-157		
	• Energy transfers in the national grid	TG p94 LB p151		
	• Activity 15.1 Interpret diagrams and explain energy transfers in the national grid	TG p95 LB p154		
	• Conserving electricity in the home	TG p95 LB p154		
	• Activity 15.2 Suggest and write about ways to conserve energy in the home/school/community	TG p95 LB p156		
	• Activity 15.3 Discuss careers in the field of electricity	TG p96 LB p157		

TERM 4				
TIME	UNIT	PAGE	RECORDING	REFLECTION
4 weeks 12 hours	Unit 16: Relationship of the Sun to the Earth	TG 97-105 LB 159-170		
	• Activity 16.1 Make a model of the globe	TG p99 LB p163		
	• Activity 16.2 Demonstrate the passage of the Earth around the Sun	TG p99 LB p164		
	• Activity 16.3 Draw and label diagrams to show the origin of the four seasons	TG p100 LB p164		
	• Solar energy and life on Earth	TG p101 LB p165		
	• Activity 16.4 Design a flow diagram	TG p101 LB p169		
	• Activity 16.5 Explain the sequence of processes that lead to the storage of energy in fossil fuels	TG p102 LB p169		
2 weeks 6 hours	Unit 17: Relationship of the Moon to the Earth	TG p106-111 LB p 171-181		
	• Gravity	TG p106 LB p172		
	• Activity 17.1 Demonstrate the pull of gravity by swinging a ball on a rope	TG p106 LB p175		
	• Tides	TG p107 LB p176		
	• Activity 17.2 Use diagrams to write about and explain the tides	TG p107 LB p179		
	• Activity 17.3 Write a paragraph to explain the effect of the Moon on ecosystems on Earth	TG p108 LB p180		
2 weeks 6 hours	Unit 17: Historical development of astronomy	LB page 182-189		
	• Early indigenous knowledge	TG p112 LB p182		
	• Activity 18.1 Write about traditional cultural interpretations and stories about the heavens	TG p113 LB p185		
	• Modern developments	TG p114 LB p186		
	• Activity 18.2 Research and write about a discovery in astronomy	TG p114 LB p188		



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