

SENIOR PHASE

Natural Sciences

Survival Guide

Covid-19





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COVID-19 safety guidelines for teachers and learners

Gatherings at school

Where schools are open for learning, it is up to management to take decisive action to ensure sites are not simultaneously used for other functions such as shelters or treatment units in order to reduce the risk.

Implement social distancing practices that may include:

- A staggered timetable, where teachers and learners do not arrive/leave at the same time for the beginning and end of the school day.
- Cancelling any community meetings/events such as assemblies, cake sales, market day, tuckshop, after-care classes, matric dance, Eisteddfod and other events.
- Cancelling any extra-mural activities such as ballet classes, swimming lessons, sport games, music class and other events that create a crowd gathering.
- Teaching and modeling creating space and avoiding unnecessary touching.
- Limiting movement and interaction between classes.
- Schools with an established feeding scheme plan are to ensure that hygiene and social distancing is always implemented. Teachers and staff members assisting with food distribution are to wear masks, sanitise prior to issuing food items and learners are to stand 1,5m apart in the queue.

Wear a mask at all times.



1. Restrooms/ toilets

Hand washing

Washing hands with soap and water  or using alcohol-based hand sanitisers  is one of the most important ways to help everybody stay healthy at school. Critical to this is preparing and maintaining handwashing stations with soap and water at the toilet and in each classroom.



Teachers and learners should always wash their hands after:

- eating
- entering the classroom
- using the toilet
- blowing your nose or coughing
- touching tears, mucous, saliva, blood or sweat.

2. Premises and Classroom setting

When schools open, classroom settings should be altered in order to promote hygiene, safety and social distancing.

Changed classroom settings may include:

- Cleaning and disinfecting school buildings, classrooms and especially sanitation of facilities at least once a day, particularly surfaces that are touched by many people (railings, lunch tables, sports equipment, door and window handles, toys, teaching and learning tools etc.).
- Ensure the proper ventilation and fresh flow of air through classrooms.
- Providing learners with vital information about how to protect themselves by incorporating the importance of hygiene, handwashing and other measures of protecting themselves, into the lessons.
- Promoting best handwashing and hygiene practices and providing hygiene supplies.

- Prepare and maintain handwashing stations with soap and water, and if possible, place alcohol-based hand sanitisers in each classroom, at entrances and exits, and near lunchrooms and toilets.



- Ensure teachers and learners wear a mask at all times.



Social distancing

- Space the learners out in the classroom (or outdoors) – try to keep learners separated by a minimum of 1,5m.



- Create space for learner's desks to be at least 1,5m apart

- Learners are not to exceed 30 per class or 50% of original class size



- Learners should not share cups, eating utensils, or food

- Do not let learners eat items that fall on the floor or chew on pencils or other objects

- Avoid close contact, like shaking hands, hugging or kissing



3. Social behaviour

It is extremely vital during a pandemic that focus is not only directed towards optimal physical health and hygiene but finding ways to facilitate mental health support.

- Treat everybody with respect and empathy – no teasing about COVID-19.
 - Encourage kindness towards each other and avoid any stereotyping when talking about the virus.
 - Stay home if you have a temperature or are ill.
 - Do not touch people who are ill, but be empathetic.
- Wear a mask at all times.



Dear Teacher

The National State of Disaster due to the COVID-19 pandemic has resulted in the disruption of Education in South African and the loss of valuable teaching time and disruption of the school calendar.

As a result of this the DBE has created a Recovery Framework including revised ATPs to assist schools and teachers in ensuring the 2020 school year is completed.

This plan addresses curriculum trimming and reorganisation to ensure core skills and knowledge are taught so that learners may progress to the next grade.

The following DBE website <https://www.education.gov.za/Home/RecoveryPlan2020.aspx> has the following useful documents available for you to use:

- Circular S2 of 2020 Revised ATPs for Gr 12 and Gr 7
- ATP Mediation documents by grade and subject
- National Phase Content Plans by phase and subject
- National Revised ATPs by grade and subject

At Pearson South Africa, we believe that education is the key to every individuals' success.

To ensure that despite the shortened teaching year, teachers and learners can meet all the necessary learning outcomes for the year, we have created this resource to support teachers and learners during this difficult time.

This Survival Guide aims to identify areas where teacher-facing time is reduced and various strategies such as trimming the curriculum, grouping or reorganising content and creating opportunities for learner-centered work and blended learning can take place.

HOW TO USE THIS SURVIVAL GUIDE

CAPS curriculum:
comprehensive
summary of the
CAPS topics and
sub-topics and time
allocation

1. CAPS time allocation
2. Revised CAPS time allocation according to the Revised ATPs

Survival guide strategy: proposed strategies that can be used to save teaching time. Two approaches to reducing teaching time are suggested:

1. **trimming** the curriculum and therefore teaching time
2. Curriculum **reorganisation/ clustering/grouping** topics across the year where it makes sense and therefore reducing teaching time

CAPS CURRICULUM				SURVIVAL GUIDE STRATEGY	
SUB-TOPIC	UNITS	CAPS TIME ALLOCATION	RECOVERY TIME ALLOCATION	CURRICULUM TRIMMING	CURRICULUM REORGANISATION/ GROUPING
4. Floods	Unit 1 Causes of floods	4 hours	1.5 hours	Retain	Group with Unit 2 Effects of floods
	Unit 2 Effects of floods		1.5 hours	Retain	
	Unit 3 Why some communities are at higher risk than others			Retain but reduce	Flipped concept, learners prepare before lesson in preparation and then class discussion *4
Revision and assessment	Revision and assessment formal and informal including feedback should be done on an ongoing basis Revision and end-of-year examination: Formal assessment Task: Source - based & paragraph writing 50 Marks November examination: 50 marks	3 hours		Reduced	
TOTAL HOURS = 15					

ASSESSMENT						
	TERM 1	TERM 2	TERM 3	TERM 4	NOVEMBER EXAM	
POA	Project, assessed as part of formal assessment for Term 1	June exam cancelled	Test: 2nd week of September, based on content & concepts taught from reopening of schools 1 June – up to this point	Formal assessment based on concepts and content taught from September to November		
SBA	Map skills project	Test: Earthquakes and volcanoes and population growth and change		Test: Natural resources and conservation in South Africa TOTAL MARKS: 50	QUESTION 1: 25 marks TYPES OF QUESTIONS Source-based, data handling and definitions of concepts QUESTION 2: 25 marks TYPES OF QUESTIONS Case study, definitions of concepts, data handling and paragraph writing	CONTENT Natural resources and conservation in South Africa CONTENT Management of resources

- *1 Learners bring summaries to class for class discussions. Flipped concept, learners prepare before lesson and then class discussion around content. Teacher chooses 1 resource. Natural resources on Earth and use and abuse of them have been omitted according to the Recovery national teaching plans.
- *2 Learners prepare at home by reading content choose either community or eco tourism. Flipped concept, learners prepare before lesson and then class discussion around content.
- *3 Remove due to time constraints and addressed in Gr 10

Explain the rationale behind the trimming or grouping suggested

Assessment and revision for POA and SBA as per Revised ATPs.

Notes

- Grade 12 subjects' content will not be trimmed/cut, but time can be saved through grouping and reorganising content.
- Teachers should follow the amended guidelines for assessment as set out by the DBE. Revised ATPs per subject and grade.
- No curriculum condensing strategies have been suggested for Term 1, as it is assumed that Term 1 content was taught.

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Grade 7

Natural Sciences

GRADE	NO OF WEEKS	CONTENT, CONCEPTS & SKILLS (WEEKS)	FORMAL ASSESSMENT (WEEKS)
7	40	34	6
8	40	34	6
9	40	34	6

*3 hours teaching time per week, with 40 weeks per grade, means the total teaching time per year is 120 hours

THEME	GRADE 7	GRADE 8	GRADE 9
LIFE AND LIVING	The biosphere, Biodiversity, Sexual Reproduction, Variation [No amendment]	Photosynthesis and Respiration, Interactions and interdependence within the environment, Micro-organisms [No amendment]	Cells as the basic units of life, Systems in the human body, Human reproduction, Circulatory and respiratory systems, Digestive system [No amendment]
MATTER AND MATERIALS	Properties of materials, Separating mixtures, Acids, bases and neutrals, Introduction to Periodic Table of Elements [Reduced properties of materials.]	Atoms, Particle model of matter, Chemical reactions [Reduced content on Atoms. Removed chemical reactions.]	Compounds, Chemical reactions, Reactions of metals with oxygen, Reactions of non-metals with oxygen, Acids and bases and pH value [Reactions of metals and non-metals with oxygen reduced. Reaction of acids with metals removed.]
ENERGY AND CHANGE	Sources of energy, Potential and Kinetic Energy, Heat Transfer, Insulation and energy saving, Energy transfer to surroundings, The national electricity supply system [Insulation and energy saving reduced. Removed National electricity supply.]	Static electricity, Energy transfer in electrical systems, Series and parallel circuits, Visible light [Series and parallel circuits reduced.]	Forces, Electric cells as energy systems, Resistance, Series and parallel circuits, Safety with electricity, Energy and the national electricity grid, Cost of electrical power [No amendment]
PLANET EARTH AND BEYOND	Relationship of the Sun to the Earth, Relationship of the Moon to the Earth, Historical development of astronomy [Historical development of astronomy reduced.]	The Solar System, Beyond the Solar System, Looking into space [Removed Planet Earth and Beyond completely.]	The Earth as a system, Lithosphere, Mining of mineral resources, Atmosphere, Birth, life and death of stars [Removed Planet Earth and Beyond completely.]

CAPS CURRICULUM				SURVIVAL GUIDE STRATEGY *2		
TOPICS	UNITS	CONTENT SPECIFICATION/ CONCEPTS	TIME ALLOCATION *1	CURRICULUM TRIMMING	CURRICULUM REORGANISATION/ GROUPING	SUGGESTED TIME
The biosphere [1 week/ 3 hours]	Unit 1: The concept of the biosphere	Existence of life, including the lithosphere, hydrosphere and atmosphere. Living things (plants, animals, micro- organisms) and dead organic matter. Seven life processes.	1½ hours	Retain.	N/A	1 hours
	Unit 2: Requirements for sustaining life	Living things need energy, gases, water, soil and favourable temperatures. Living things are adapted/ suited to the environment in which they live.	1½ hours	Retain	N/A	1½ hours
Biodiversity [3½ weeks/ 10½ hours]	Unit 1: Classification of living things	Biodiversity of the Earth made up of plants, animals and microorganisms. Living organisms classified according to similar characteristics. Five main Kingdoms. Kingdoms further subdivided Phyla/ Divisions, then Classes, then Orders, then Genera, then Species.	4½ hours	Retain. Let learners identify one organism to classify into the kingdoms, phyla/divisions, classes, orders, genera and species. Use the learners organisms similar and different characteristics to show how they are classified.	N/A	3 hours
	Unit 2: Diversity of animals	Classify vertebrates or invertebrates. Five classes of vertebrates. Two classes of invertebrates.	3 hours	Retain	N/A	3 hours
	Unit 3: Diversity of plants	Plants classified as with seeds or without seeds. Seeds are classified as Angiosperms or Gymnosperms. Angiosperms are grouped into dicotyledons and monocotyledons.	3 hours	Retain. Let learners revise photo synthesis from Grade 6, as a way to save on teacher talking time.	N/A	2 hours

CAPS CURRICULUM				SURVIVAL GUIDE STRATEGY *2		
TOPICS	UNITS	CONTENT SPECIFICATION/ CONCEPTS	TIME ALLOCATION *1	CURRICULUM TRIMMING	CURRICULUM REORGANISATION/ GROUPING	SUGGESTED TIME
Sexual reproduction [3½ weeks/ 10½ hours]	Unit 1: Sexual reproduction in Angiosperms	The sexual organs of angiosperms. Pollination and fertilisation. The importance of pollinators in the production of food crops.	4½ hours	Retain	N/A	4½ hours
	Unit 2: Human reproduction	Puberty. Male and female production organs. Pregnancy and pregnancy preventative measure. Sexually transmitted diseases.	6 hours	Retain	N/A	6 hours
Variation [1 week/ 3 hours]	Unit 1: Variations exists within a species	Homo sapiens (humans) all belong to the same species but have variations in some characteristics.	3 hours	Retain	N/A	3 hours
ASSESSMENT	INFORMAL ASSESSMENT	Revision/homework questions				
	SBA (FORMAL)	Formal practical task				
		Test				
 TOTAL TIME = 9 WEEKS/27 HOURS				 TOTAL TIME SAVED = 1 WEEK/3 HOURS		

*1 The per unit time allocation listed, is an estimate of the time taken to teach that unit. This is not specified in CAPS but is an estimate from experienced teachers.

*2 Assuming that Term 1 content was taught before school closure – therefore no proposal for survival strategy for Term 1

CAPS CURRICULUM					SURVIVAL GUIDE STRATEGY	
TOPICS	UNITS	CONTENT SPECIFICATION/ CONCEPTS	CAPS TIME ALLOCATION *1	RECOVERY TIME ALLOCATION	CURRICULUM TRIMMING	CURRICULUM REORGANISATION/ GROUPING
Properties of materials [2 weeks/ 6 hours to 1 weeks/ 3 hours]	Unit 1: Physical properties of materials	Relate materials properties to its use. Boiling point, strength, flexibility, conductivity, cost, colour, texture.	3 hours	2 hours	Retain. Learners should already be familiar with some properties. Use two materials, such as concrete and steel, as comparisons, and work through the properties.	Teach this section on properties with other units such as Separating mixtures, Unit 3. For example, consider the properties of the material you are recycling. *3
	Unit 2: Impact on the environment	Producing and using materials have an impact on the environment.	3 hours	1 hour	Retain, but give learners an activity to do in the class, where they investigate the impact different materials have on the environment. Have a class discussion on their findings.	
Separating mixtures [2 weeks/ 6 hours to 2 weeks/ 5 hours]	Unit 1: Mixtures	A mixture is made up of two or more substances and can be separated.	2 hours	2 hours	Let learners revise mixtures from Grade 6 as pre-reading to save time. *2	
	Unit 2: Methods of physical separation	Different methods of separation are used, depending on the physical properties of the materials in the mixture.	2 hours	2 hours	Let learners revise Grade 6 methods of separation, sieving, hand sorting and filtration. *2. Focus on new methods including separation using magnets, evaporation, distillation, chromatography.	
	Unit 3: Sorting and recycling materials	Every person's responsibility to recycle, and only some materials can be recycled. Non-recyclable materials must be dumped.	2 hours	1 hour	Learners can design posters to educate the school or encourage learners to set up a recycling station at home. In this way, this section can be ongoing throughout the whole year. This should reduce teacher talking time.	

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*2 Flipped concept, learners prepare before lesson and then class discussion around content

*3 Concepts to be taught holistically together to reduce time spent teacher talking time.

*4 Concepts taught again in different grades. Reduce content to basic introductory information.

CAPS CURRICULUM					SURVIVAL GUIDE STRATEGY	
TOPICS	UNITS	CONTENT SPECIFICATION/ CONCEPTS	CAPS TIME ALLOCATION *1	RECOVERY TIME ALLOCATION	CURRICULUM TRIMMING	CURRICULUM REORGANISATION/ GROUPING
Acids, bases and neutrals [2 weeks/ 6 hours to 2 weeks/ 6 hours (no change)]	Unit 1: Tastes of substances	The human tongue can sense four different tastes Not all substances are safe to taste.	2 hours	2 hours	The content of this unit can be reduced significantly, so more focus and attention can be given to Unit 3. Acids and bases, Unit 3 is important for Grade 9 work. *4	Some of the content from this unit can be taught holistically with Unit 3. *3
	Unit 2: Properties of acids, bases and neutrals	Acids tastes sour, feel rough on the skin, and are corrosive. Bases taste bitter, feel slippery, and are corrosive. Neutrals are neither acids nor bases.	2 hours	2 hours	The content of this unit can be reduced significantly, so more focus and attention can be given to Unit 3. Acids and bases, Unit 3 is important for Grade 9 work. *4	Some of the content from this unit can be taught holistically with Unit 3. *3
	Unit 3: Acid-base indicators	Red and blue litmus paper can be used to test whether a substance is an acid or base.	2 hours	2 hours	Retain. This is sometimes a difficult concept for learners to understand. Show a virtual experiment of litmus paper in acids, bases and neutral substances – ensure learners adhere to social distancing if experiment is demonstrated in class. Use the experiment as an opportunity for incidental learning.	Teach this section holistically with Unit 1, and Unit 2. For example, set up an experiment where you taste test lemon juice, and showcase to learners how the litmus test works, and then discuss the properties of lemon/acids. *3

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*4 Concepts taught again in different grades. Reduce content to basic introductory information.

CAPS CURRICULUM					SURVIVAL GUIDE STRATEGY	
TOPICS	UNITS	CONTENT SPECIFICATION/ CONCEPTS	CAPS TIME ALLOCATION *1	RECOVERY TIME ALLOCATION	CURRICULUM TRIMMING	CURRICULUM REORGANISATION/ GROUPING
Introduction to the Periodic Table of Elements [2 weeks/ 6 hours to 2 weeks/ 6 hours (no change)]	Unit 1: Arrangement of elements on the Periodic Table	Classification system for all the elements that make up matter. Elements are arranged into 3 categories: metals, non-metals and semi-metals.	3 hours	3 hours	Only spend an hour introducing learners to the basic concepts of the periodic table.	Periodic Table of elements discussed again in Grade 8. Basic concepts can be taught here but teaching time can be limited and refocused to Grade 8. Teach this unit 1 holistically with Unit 2. *4
	Unit 2: Some properties of metals, semi-metals and non-metals	Metals are shiny, ductile, malleable, solid, and have high melting and boiling points. Non-metals have many different properties. Semi-metals are solids and have some properties of metals and some properties of non-metals.	3 hours	3 hours	Properties and uses of metals and non-metals done in Grade 5. Try and link to Periodic Table.	Teach this unit 2 holistically with Unit 1. *3
ASSESSMENT	INFORMAL ASSESSMENT	Revision/homework questions				
	SBA (FORMAL)	Test (counts 100% towards term mark)				
TOTAL TIME = 8 WEEKS/24 HOURS			TOTAL REVISED TIME = 7 WEEKS/21 HOURS			

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*3 Concepts to be taught holistically together to reduce time spent teacher talking time.

*4 Concepts taught again in different grades. Reduce content to basic introductory information.

CAPS CURRICULUM					SURVIVAL GUIDE STRATEGY	
TOPICS	UNITS	CONTENT SPECIFICATION/ CONCEPTS	CAPS TIME ALLOCATION *1	RECOVERY TIME ALLOCATION	CURRICULUM TRIMMING	CURRICULUM REORGANISATION/ GROUPING
Sources of energy [1 week/ 3 hours to 1 week/ 3 hours (no change)]	Unit 1: Non-renewable sources of energy	Energy is needed to make everything work, move or live. Non-renewable sources of energy cannot be replaced once used.	1½ hours	1½ hours	Retain.	Teach with Planet Earth fossil fuels, from Term 4. *3
	Unit 2: Renewable sources of energy	Renewable sources of energy are continually replaced such as hydropower, wind, sunlight and biofuel.	1½ hours	1½ hours	Let learners lead the class discussion by saying what they know about renewable energy sources. *2. Correct any misconceptions.	
Potential and Kinetic Energy [2 weeks/ 6 hours to 2 weeks/ 6 hours (no change)]	Unit 1: Potential energy	Define potential energy as stored energy. Examples of potential energy is rubber band, cell, fuel, and food. Energy measured in Joules.	1½ hours	1½ hours	Retain. Important concepts for sciences in higher grades.	Teach these four units together *3. Energy is an abstract concept that will be developed in higher grades. *4
	Unit 2: Kinetic energy	Define kinetic energy as moving energy. Examples include wind blowing, water falling, current flowing through a circuit.	1½ hours	1½ hours	Retain. Important concepts for sciences in higher grades.	Teach these four units together *3. Energy is an abstract concept that will be developed in higher grades. *4
	Unit 3: Potential and kinetic energy in systems	System are parts working together. Potential and kinetic energy are involved in mechanical, thermal, electrical and biological systems.	1½ hours	1½ hours	Retain. Important concepts for sciences in higher grades.	Teach these four units together *3. Energy is an abstract concept that will be developed in higher grades. *4
	Unit 4: Law of conservation of energy	Energy can be converted, but not created or destroyed.	1½ hours	1½ hours	Spend some time explaining the concept of this unit, and them give learners an activity.	Teach these four units together *3. Energy is an abstract concept that will be developed in higher grades. *4

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*2 Flipped concept, learners prepare before lesson and then class discussion around content

*3 Concepts to be taught holistically together to reduce time spent teacher talking time.

*4 Concepts taught again in different grades. Reduce content to basic introductory information.

CAPS CURRICULUM					SURVIVAL GUIDE STRATEGY	
TOPICS	UNITS	CONTENT SPECIFICATION/ CONCEPTS	CAPS TIME ALLOCATION *1	RECOVERY TIME ALLOCATION	CURRICULUM TRIMMING	CURRICULUM REORGANISATION/ GROUPING
Heat transfer [2 weeks/ 6 hours to 2 weeks/ 6 hours (no change)]	Unit 1: Heating as a transfer of energy	Heating is when energy moves from hotter body to cooler body. Three methods of heat transfer. Introduction the terms conduction, convection and radiation.	1½ hours	1½ hours	Retain	
	Unit 2: Conduction	Transfer of heat between solid objects in direct physical contact with each other.	1½ hours	1½ hours	Reduce teacher talking time, by explaining the different heat transfer concepts to learners through experiments.	Use one example of a pot over a fire to explain Conduction, Convection and Radiation (Unit 2, 3 and 4). Conduction is the transfer of the heat from the hot pot to the hot pot handle, Convection is the transfer of heat from the fire to the soup, Radiation is the transfer of heat from the fire through the air to a person sitting near the fire. *3
	Unit 3: Convection	Transfer of heat by the movement of liquid or gas particles.	1½ hours	1½ hours	Reduce teacher talking time, by explaining the different heat transfer concepts to learners through experiments.	Another example that shows all three heat transfer methods is a thermos flask. The integration of these methods of heat transfer can also be used to introduce the next topic, insulation *3
	Unit 4: Radiation	Transfer of heat and does not require physical contact or movement of particles.	1½ hours	1½ hours	Reduce teacher talking time, by explaining the different heat transfer concepts to learners through experiments.	Use the examples given in Unit 2 and Unit 3 to explain the concept of radiation. *3
Insulation and energy saving [2 weeks/ 6 hours to 1 week/ 3 hours]	Unit 1: Using insulating materials	Insulating materials slow down heat from being lost through conduction, convection or radiation.	6 hours	3 hours	Pose the question to learners, 'What is insulating materials. If available, a short video can be shown on topic, while learners take notes. Teacher supply them with short summary afterwards	Use the concepts taught in the topic above to introduce insulation. *3

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- *2 Flipped concept, learners prepare before lesson and then class discussion around content
- *3 Concepts to be taught holistically together to reduce time spent teacher talking time.
- *4 Concepts taught again in different grades. Reduce content to basic introductory information.

CAPS CURRICULUM					SURVIVAL GUIDE STRATEGY	
TOPICS	UNITS	CONTENT SPECIFICATION/ CONCEPTS	CAPS TIME ALLOCATION *1	RECOVERY TIME ALLOCATION	CURRICULUM TRIMMING	CURRICULUM REORGANISATION/ GROUPING
Energy transfer to surroundings [1 week/ 3 hours to 1 week/ 3 hours (no change)]	Unit 1: Useful and 'wasted' energy	Energy escapes into the environment in the form of sound and heat. This is called wasted energy.	3 hours	3 hours	Retain. Give learners brief introduction to concept, and then ask learners to think of examples of wasted energy. *2. Discuss this in class and clear up any misconceptions.	
The national electricity supply system [1 week/ 3 hours to 0 weeks/ 0 hours]	Unit 1: Energy transfers in the national grid	Sequence of energy transfer in national grid is 1) from coal, oil, gas, wind, water, nuclear 2) to the turbines that move the energy to a generator. 3) generator converts mechanical energy into electrical energy, and 4) electricity is transfers along wires to appliances.	1½ hours	0 hours	Omit	The national electricity supply system is removed in the revised ATP.
	Unit 2: Conserving electricity in the home	South Africa has a limited supply of electricity, and we need to not waste electricity by using energy saving lightbulbs, wearing warm clothes, matching pot size to the stove plate, etc.	1½ hours	0 hours	Omit	The national electricity supply system is removed in the revised ATP.

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TOPICS	UNITS	CONTENT SPECIFICATION/ CONCEPTS	CAPS TIME ALLOCATION *1	RECOVERY TIME ALLOCATION	CURRICULUM TRIMMING	CURRICULUM REORGANISATION/ GROUPING
ASSESSMENT	INFORMAL ASSESSMENT	Revision/homework questions.				
	SBA (FORMAL)	Practical Task/ Investigation (counts 40% towards term mark)				
		Test (counts 60% towards term mark)				
 TOTAL TIME = 9 WEEKS/27 HOURS				 TOTAL REVISED TIME = 7 WEEKS/21 HOURS		

*1 The per unit time allocation listed, is an estimate of the time taken to teach that unit. This is not specified in CAPS but is an estimate from experienced teachers.

*2 Flipped concept, learners prepare before lesson and then class discussion around content

*3 Concepts to be taught holistically together to reduce time spent teacher talking time.

*4 Concepts taught again in different grades. Reduce content to basic introductory information.

CAPS CURRICULUM					SURVIVAL GUIDE STRATEGY	
TOPICS	UNITS	CONTENT SPECIFICATION/ CONCEPTS	CAPS TIME ALLOCATION *1	RECOVERY TIME ALLOCATION	CURRICULUM TRIMMING	CURRICULUM REORGANISATION/ GROUPING
Relationship of the Sun to the Earth [4 weeks/ 12 hours to 4 weeks/ 12 hours (no change)]	Unit 1: Solar energy and the Earth's seasons	Sun radiates heat to the Earth. Earth spins on its tilted axis once a day. Earth orbits around the Earth. Creation of the four seasons. Length of the day impacted by tilt of Earth's axis.	4 hours	4 hours	Learners to revise <i>Solar System and movement of plants and Moon</i> from Grade 6. *2	Incorporate early indigenous knowledge from the topic: Historical development of astronomy, into this unit. *3
	Unit 2: Solar energy and life on Earth	Plants and animals need energy for life to be sustained on Earth.	4 hours	4 hours	Learners to revise Grade 5 and 6 work on solar energy for life on Earth. *2 Retain and teach the remainder of the content as per curriculum.	
	Unit 3: Stored solar energy	Dead plants and animals form coal, oil, and gas, as a form of stored energy. This forms from pressure and layers of mud and soil over time.	4 hours	4 hours	This is done again in Grade 8, so just introduce basic concepts. *4	Teach fossils within Unit 3 with the section on non-renewable energy from Term 3. Sources of energy, Unit 1. *3
Relationship of the Moon to the Earth [2 weeks/ 6 hours to 2 weeks/ 6 hours (no change)]	Unit 1: Relative positions	The Moon revolves around the Earth in its orbit.	2 hours	2 hours	Learners to revise the Moon and its orbit.	Explain tides while discussing the Moon.
	Unit 3: Tides	Define tides. Tides are caused mostly by the gravity of the Moon. Create unique shoreline ecosystems.	2 hours	2 hours		Teach Unit 3 before Unit 2. This should reduce the revision time required on Moons before explaining tides.
	Unit 2: Gravity	Define gravity. Bigger objects exert a stronger pull. Objects that are closer together also have a stronger pull than the same objects that are further apart.	2 hours	2 hours	Retain. Important concept for later grades.	

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*3 Concepts to be taught holistically together to reduce time spent teacher talking time.

*4 Concepts taught again in different grades. Reduce content to basic introductory information.

CAPS CURRICULUM					SURVIVAL GUIDE STRATEGY	
TOPICS	UNITS	CONTENT SPECIFICATION/ CONCEPTS	CAPS TIME ALLOCATION *1	RECOVERY TIME ALLOCATION	CURRICULUM TRIMMING	CURRICULUM REORGANISATION/ GROUPING
Historical development of astronomy [2 weeks/ 6 hours to 1 week/ 3 hours]	Unit 1: Early indigenous knowledge	People used the movement of planets and the moon to help measure time. This also helped people with planting, finding direction and celebrate special holy days.	3 hours	0 hours	Omit	This Unit has been excluded in the revised ATP.
	Unit 2: Modern developments	Discuss important modern astronomy discoveries from Copernicus, Galilei, Kepler, and Newton.	3 hours	3 hours	Retain. Reduce teacher talking time by letting learners do research on the astronomers' discoveries. *2 Spend some time discussing learners' findings.	
ASSESSMENT	INFORMAL ASSESSMENT	Revision/homework questions.				
	SBA (FORMAL)	Test/Exam (Dates TBC by DBE)				
 TOTAL TIME = 8 WEEKS/24 HOURS				 TOTAL REVISED TIME = 7 WEEKS/21 HOURS		

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*3 Concepts to be taught holistically together to reduce time spent teacher talking time.

*4 Concepts taught again in different grades. Reduce content to basic introductory information.

Grade 8

Natural Sciences

GRADE	NO OF WEEKS	CONTENT, CONCEPTS & SKILLS (WEEKS)	FORMAL ASSESSMENT (WEEKS)
7	40 weeks	34 weeks	6 weeks
8	40 weeks	34 weeks	6 weeks
9	40 weeks	34 weeks	6 weeks

*3 hours teaching time per week, with 40 weeks per grade, means the total teaching time per year is 120 hours

THEME	GRADE 7	GRADE 8	GRADE 9
LIFE AND LIVING	The biosphere, Biodiversity, Sexual Reproduction, Variation [No amendment]	Photosynthesis and Respiration, Interactions and interdependence within the environment, Micro-organisms [No amendment]	Cells as the basic units of life, Systems in the human body, Human reproduction, Circulatory and respiratory systems, Digestive system [No amendment]
MATTER AND MATERIALS	Properties of materials, Separating mixtures, Acids, bases and neutrals, Introduction to Periodic Table of Elements [Reduced properties of materials.]	Atoms, Particle model of matter, Chemical reactions [Reduced content on Atoms. Removed chemical reactions.]	Compounds, Chemical reactions, Reactions of metals with oxygen, Reactions of non-metals with oxygen, Acids and bases and pH value [Reactions of metals and non-metals with oxygen reduced. Reaction of acids with metals removed.]
ENERGY AND CHANGE	Sources of energy, Potential and Kinetic Energy, Heat Transfer, Insulation and energy saving, Energy transfer to surroundings, The national electricity supply system [Insulation and energy saving reduced. Removed National electricity supply.]	Static electricity, Energy transfer in electrical systems, Series and parallel circuits, Visible light [Series and parallel circuits reduced.]	Forces, Electric cells as energy systems, Resistance, Series and parallel circuits, Safety with electricity, Energy and the national electricity grid, Cost of electrical power [No amendment]
PLANET EARTH AND BEYOND	Relationship of the Sun to the Earth, Relationship of the Moon to the Earth, Historical development of astronomy [Historical development of astronomy reduced.]	The Solar System, Beyond the Solar System, Looking into space [Removed Planet Earth and Beyond completely.]	The Earth as a system, Lithosphere, Mining of mineral resources, Atmosphere, Birth, life and death of stars [Removed Planet Earth and Beyond completely.]

CAPS CURRICULUM				SURVIVAL GUIDE STRATEGY *2		
TOPICS	UNITS	CONTENT SPECIFICATION/ CONCEPTS	TIME ALLOCATION *1	CURRICULUM TRIMMING	CURRICULUM REORGANISATION/ GROUPING	SUGGESTED TIME
Photosynthesis and respiration [2 weeks/ 6 hours]	Unit 1: Photosynthesis	Energy required to sustain life. The Sun is the most important source in providing this energy. Chemical reaction of carbon dioxide, water and energy from the sun, converts to glucose and oxygen. Plants use glucose to grow and reproduce.	4 hours	Retain	N/A	4 hours
	Unit 2: Respiration	Food contains potential energy, that is used up by a chemical reaction called respiration. Glucose and oxygen are turned into energy, carbon dioxide and water.	2 hours	Retain	N/A	2 hours
Interactions and interdependence within the environment [5 weeks/ 15 hours]	Unit 1: Introduction to ecology	Ecology is the study of interactions of organisms with each other and with the physical and chemical environment. Classify ecological interactions into four levels: populations, communities, ecosystem and the biosphere.	2 hours	Retain	N/A	2 hours
	Unit 2: Ecosystems	Ecosystems make up the biosphere and consists of the biotic and abiotic environment. Size in an ecosystem is not limited and are defined by interactions between organisms and their environment. Survival of ecosystems/organisms relies on its ability to adapt.	3 hours	Retain	N/A	3 hours

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*2 Assuming that Term 1 content was taught before school closure – Therefore no proposal for survival strategy for Term 1. Some suggestions have been made to shorten teaching time if not yet covered.

CAPS CURRICULUM				SURVIVAL GUIDE STRATEGY *2		
TOPICS	UNITS	CONTENT SPECIFICATION/ CONCEPTS	TIME ALLOCATION *1	CURRICULUM TRIMMING	CURRICULUM REORGANISATION/ GROUPING	SUGGESTED TIME
Micro-organisms [2 weeks/ 6 hours]	Unit 3: Feeding relationships	Producers, consumers, herbivores, carnivores, omnivores are different feeding groups.	3 hours	Learners will have learnt some of these terms in earlier grade. Let learners define the terms as pre-homework, and then have a class discussion.	Teach this unit together with Unit 4	1 hour
	Unit 4: Food chains and food webs	Energy moves along a food chain. Each stage of a food chain is called a trophic level. Some energy is lost at each trophic level. Interlinked food chains are called food webs.	3 hours	Let learners try and identify food webs (interlinked food chains) as a project, or homework. Have a class discussion using the food chains learners came up with. Clear up any misconceptions.	Teach this unit together with Unit 3	2 hours
	Unit 5: Balance in an ecosystem	Natural and human factors disrupt the balance of ecosystems.	2 hours	Retain	N/A	2 hours
	Unit 6: Adaptations		1 hour	Retain	N/A	1 hour
	Unit 7: Conservation of the ecosystem		1 hour	Retain	N/A	1 hour
	Unit 1: Types of micro-organisms		3 hours	Retain	N/A	3 hours
	Unit 2: Harmful micro-organisms		1½ hours	Retain	N/A	1½ hours
ASSESSMENT	Unit 3: Useful micro-organisms		1½ hours	Retain	N/A	1½ hours
	INFORMAL ASSESSMENT	Homework				
		Research				
		Prepare slides				
		Conduct experiments				
	SBA (FORMAL)	Assessment tasks administered and reported on.				
TOTAL TIME = 9 WEEKS/27 HOURS				TOTAL TIME SAVED = 1 WEEK/3 HOURS		

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*2 Assuming that Term 1 content was taught before school closure – Therefore no proposal for survival strategy for Term 1.

CAPS CURRICULUM					SURVIVAL GUIDE STRATEGY	
TOPICS	UNITS	CONTENT SPECIFICATION/ CONCEPTS	TIME ALLOCATION *1	RECOVERY TIME	CURRICULUM TRIMMING	CURRICULUM REORGANISATION/ GROUPING
Atoms [2 weeks/ 6 hours to 2 weeks/ 6 hours]	Unit 1: Atoms – the building blocks of Matter	Building blocks of matter are called atoms. Elements are made up of the same kind of atom. Periodic table of elements lists all the known elements.	1 hour	1,5 hours	Retain	Topic atoms split across Term 2 and Term 3 according to the revised ATP.
	Unit 2: Subatomic particles	Protons, neutrons and electrons make up atoms. The nucleus is made up of protons and neutrons.	1 hour	1,5 hours	Retain	Topic atoms split across Term 2 and Term 3 according to the revised ATP.
ASSESSMENT	INFORMAL ASSESSMENT	Homework				
		Research				
		Prepare slides				
	SBA (FORMAL)	Conduct experiments				
 TOTAL HOURS = 8 WEEKS/24 HOURS					 TOTAL REVISED HOURS = 1 WEEK/3 HOURS	

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Term 3 Strand: Matter and materials/ Energy and Change

CAPS Suggested Time
9 week/27 hours

CAPS CURRICULUM					SURVIVAL GUIDE STRATEGY	
TOPICS	UNITS	CONTENT SPECIFICATION/ CONCEPTS	TIME ALLOCATION *1	RECOVERY TIME	CURRICULUM TRIMMING	CURRICULUM REORGANISATION/ GROUPING
Atoms [2 weeks/ 6 hours] (continued)	Unit 3: Pure substances	Elements and compounds are pure substances.	1 hour	30 min		Elements and compounds can be explained holistically in Unit 3 and 5. *3 Topic atoms split across Term 2 and Term 3 according to the revised ATP.
	Unit 4: Elements	Elements consist of only 1 kind of atom. Molecules of elements form when there are 2 of the same atoms together.	1 hour	1 hour	Retain. Important concept for learners to grasp. Although this content is presented again in Grade 9, so do not spend more than the allocated time. *4	Topic atoms split across Term 2 and Term 3 according to the revised ATP.
	Unit 5: Compounds	Compounds consist of 2 or more different kinds of atoms. Chemical bonds hold atoms together. Compounds can be broken down in a decomposition reaction.	1 hour	1 hour	Retain. Important concept for learners to grasp. Although this content is presented again in Grade 9, so do not spend more than the allocated time. *4	Topic atoms split across Term 2 and Term 3 according to the revised ATP.
	Unit 6: Mixtures of elements and compounds	Compounds and elements mix together to form mixtures. Mixtures can be separated by physical means, whereas compounds can only be separated by chemical means.	1 hour	30 min	Retain. Important concept for learners to grasp. Although this content is presented again in Grade 9, so do not spend more than the allocated time. *4	Topic atoms split across Term 2 and Term 3 according to the revised ATP.

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*2 Flipped concept, learners prepare before lesson and then class discussion around content.

*3 Concepts to be taught holistically together to reduce time spent teacher talking time.

*4 Concepts taught again in different grades. Reduce content to basic introductory information.

Term 3 Strand: Matter and materials/ Energy and Change

CAPS Suggested Time
9 week/27 hours

CAPS CURRICULUM					SURVIVAL GUIDE STRATEGY	
TOPICS	UNITS	CONTENT SPECIFICATION/ CONCEPTS	TIME ALLOCATION *1	RECOVERY TIME	CURRICULUM TRIMMING	CURRICULUM REORGANISATION/ GROUPING
Particle model of matter [5 weeks/ 15 hours to 5 weeks/ 15 hours (no change)]	Unit 1: The concept of the particle model of matter	This theory is used to explain that all matter (solids, liquids and gases) are made up of particles. Particles are arranged differently in solids, liquids and gases.	3 hours	3 hours	Let learners revise that they have learnt about particle arrangements in solids, liquids and gases. *4 Then have a class discussion where the teacher clears up any misconceptions and expands on the content. *2	Teach Unit 1 together with Unit 2. Introduce concept from Unit 5 by explaining to learners that particles are spread out further apart in gases than in liquids, and liquids than in solids. *3 This topic has been moved from Term 2 to Term 3 according to the revised ATP.
	Unit 2: Change of state	Heating or cooling causes the state of a material to change. Melting, evaporating, condensing and freezing all describe these terms.	3 hours	3 hours	This concept has been covered many times before in IP. *4 Let learners revise concepts for homework, and then discuss the change of state in terms of the particle model.	Teach Unit 2 together with Unit 1. *3 This topic has been moved from Term 2 to Term 3 according to the revised ATP.
	Unit 3: Density, mass and volume	Density is the amount of mass in a given volume. Mass is how heavy matter is. Volume is the space the matter takes up.	2 hours	2 hours	Learners should already be familiar with the concepts of mass, volume and density. *4 Teach this concept by giving learners 3 objects with the same volume but different mass. Ask them to compare the density, mass and volume.	Teach concepts in Unit 5 with Unit 3. *3 This topic has been moved from Term 2 to Term 3 according to the revised ATP.

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*3 Concepts to be taught holistically together to reduce time spent teacher talking time.

*4 Concepts taught again in different grades. Reduce content to basic introductory information.

Term 3 Strand: Matter and materials/ Energy and Change

CAPS Suggested Time
9 week/27 hours

CAPS CURRICULUM					SURVIVAL GUIDE STRATEGY	
TOPICS	UNITS	CONTENT SPECIFICATION/ CONCEPTS	TIME ALLOCATION *1	RECOVERY TIME	CURRICULUM TRIMMING	CURRICULUM REORGANISATION/ GROUPING
	Unit 5: The density of different materials	Some materials have different densities to others.	1 hour	1 hour		Teach Unit 5 with Unit 3 to save on teaching time. Explain that the kind of particles that make up the material influence the density. Oil and water can be used as an example. Oil floats on water because the particles in oil are spread out more, and therefore has a lower density than water. *3 This topic has been moved from Term 2 to Term 3 according to the revised ATP.
	Unit 4: Density and states of matter	The state of matter of the material affects its density. This is related to how far apart or close together the particles are from each other.	2 hours	2 hours	Retain only necessary information. Simply state that the density of particles in a solid is greater than a liquid, and density of a liquid is greater than a gas. Make sure to point out that water is the exception.	The concept in the previous column can also be introduced in Unit 1, when explaining the particle model. *3 This topic has been moved from Term 2 to Term 3 according to the revised ATP.

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*4 Concepts taught again in different grades. Reduce content to basic introductory information.

Term 3 Strand: Matter and materials/ Energy and Change

CAPS Suggested Time
9 week/27 hours

CAPS CURRICULUM					SURVIVAL GUIDE STRATEGY	
TOPICS	UNITS	CONTENT SPECIFICATION/ CONCEPTS	TIME ALLOCATION *1	RECOVERY TIME	CURRICULUM TRIMMING	CURRICULUM REORGANISATION/ GROUPING
Static electricity [1 week/ 3 hours]	Unit 6: Expansion and contraction of materials	Materials expand when heated and contract when cooled.	2 hours	2 hours	Show a video to demonstrate that materials expand when heated and contract when cooled. Try to use examples learners are already familiar with (for example a thermometer that has liquid that expands when heated). Give learners a test or activity for homework to test their understanding. *2	This topic has been moved from Term 2 to Term 3 according to the revised ATP.
	Unit 7: Pressure	A gas exerts a pressure because of collisions of the particles with each other and against the container wall. Putting more gas into a container will increase the pressure, because more particles will be colliding.	2 hours	2 hours	Retain, but limit the content to the following: a gas exerts a pressure because of gas particles that are colliding. Adding more gas increases the number of particles, and therefore the pressure. Do not discuss the effect of temperature on pressure.	This topic has been moved from Term 2 to Term 3 according to the revised ATP.
	Unit 1: Friction and static electricity	Friction transfers electrons between atoms. Electrons are transferred (not protons and neutrons). Like charges repel and unlike charges attract.	3 hours	3 hours	Play videos for learners from the internet. Let learners revise the concept of atoms, and subatomic particles from Term 2 as pre-homework. *2 Concepts of static electricity discharging has been discussed in previous grade (lightning).	This topic has been moved from Term 2 to Term 3 according to the revised ATP.

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*4 Concepts taught again in different grades. Reduce content to basic introductory information.

Term 3 Strand: Matter and materials/ Energy and Change

CAPS Suggested Time
9 week/27 hours

CAPS CURRICULUM					SURVIVAL GUIDE STRATEGY	
TOPICS	UNITS	CONTENT SPECIFICATION/ CONCEPTS	TIME ALLOCATION *1	RECOVERY TIME	CURRICULUM TRIMMING	CURRICULUM REORGANISATION/ GROUPING
Chemical reactions [1 week/ 3 hours to 0 week/ 0 hours]	Unit 1: Reactants and products	Chemical reactions and chemical equations	3 hours	0 hours	Chemical reactions are taught again in Grade 9. *4 Only introduce learners to concept of chemical reactions and equations.	This topic has been removed from the 2020 curriculum according to the revised ATP.
ASSESSMENT	INFORMAL ASSESSMENT	Homework				
		Research				
		Prepare slides				
		Conduct experiments				
	SBA (FORMAL)	Test on: • Matter and Materials, and • Energy and Change				
TOTAL HOURS = 9 WEEKS/27 HOURS					TOTAL REVISED HOURS = 7 WEEKS/21 HOURS	

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*3 Concepts to be taught holistically together to reduce time spent teacher talking time.

*4 Concepts taught again in different grades. Reduce content to basic introductory information.

CAPS CURRICULUM					SURVIVAL GUIDE STRATEGY	
TOPICS	UNITS	CONTENT SPECIFICATION/ CONCEPTS	TIME ALLOCATION *1	RECOVERY TIME	CURRICULUM TRIMMING	CURRICULUM REORGANISATION/ GROUPING
Energy transfer in electrical systems [3 weeks/ 9 hours to 3 weeks/ 9 hours (no change)]	Unit 1: Circuits and current electricity	A circuit is a transfer of electrical energy. A closed circuit is needed to make devices work. A circuit has a number of components linked together and provides a conducting pathway for electricity from the battery/cell to flow.	3 hours	3 hours	Learners have already learnt that a closed circuit is required for electricity to move through a circuit. *4	Teach Unit 2 with Unit 1. *3 Give learners a table showing different components of an electric circuit; and the symbols that represent those components. Explain briefly what each component is (some components are prior knowledge). *2 This topic has been moved from Term 3 to Term 4 according to the revised ATP.
	Unit 2: Components of an electrical circuit	Conducting wires, switches, cells/batteries, and resistors.	3 hours	3 hours	Some of these components have been discussed in previous grades. *4	The components should be explained in Unit 1. Teach Unit 3 output devices from series and parallel circuits here instead. *3 This topic has been moved from Term 3 to Term 4 according to the revised ATP.
	Unit 3: Effects of an electric current	A current can heat a wire. A current can cause a magnetic field. A current can cause a chemical reaction to take place called electrolysis.	3 hours	3 hours	Retain, but split learners into groups, and give them one of the 3 effects to investigate. Let learners prepare a project and the information with each other. *2	This topic has been moved from Term 3 to Term 4 according to the revised ATP.

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*4 Concepts taught again in different grades. Reduce content to basic introductory information.

CAPS CURRICULUM					SURVIVAL GUIDE STRATEGY	
TOPICS	UNITS	CONTENT SPECIFICATION/ CONCEPTS	TIME ALLOCATION *1	RECOVERY TIME	CURRICULUM TRIMMING	CURRICULUM REORGANISATION/ GROUPING
Series and parallel circuits [2 weeks/ 6 hours to 1 week/ 3 hours]	Unit 1: Series circuits	A series circuit provides one pathway for the current to pass through.	3 hours	1,5 hours	Retain, but reduce teacher talking time by explaining the content using a real circuit (virtually if possible, to avoid large crowding of learners around demonstrations).	This topic has moved from Term 3 to Term 4 according to revised ATP.
	Unit 2: Parallel circuits	A parallel circuit provides two or more pathways for the current to pass through.	2 hours	1 hour	Retain, but reduce teacher talking time by explaining the content using a real circuit (virtually if possible, to avoid large crowding of learners around demonstrations).	This topic has moved from Term 3 to Term 4 according to revised ATP.
	Unit 3: Output devices	Beepers, buzzers, LED's or motors.	1 hour	30 min		Teach this Unit 1 and Unit 2 where you discuss the components of a circuit. Mention that resistors come in many forms such the following output devices: beepers, buzzers, LEDs or motors. *3 This topic has moved from Term 3 to Term 4 according to revised ATP.
Visible light [3 weeks/ 9 hours to 3 weeks/ 9 hours (no change)]	Unit 1: Radiation of light	Light is emitted from luminous objects such as the Sun and light bulbs. Light is transferred by radiation and travels in straight lines. Light travels quickly in empty space.	1½ hours	1,5 hours	Radiation is covered in Grade 7, and again at FET level. *4 Only cover the minimum content required to teach the remaining units in this topic.	This topic has moved from Term 3 to Term 4 according to revised ATP.
	Unit 2: The spectrum of visible light	White light consists of a spectrum of different frequencies and wavelengths violet, indigo, blue, green, orange, red make up visible light.	1½ hours	1,5 hours	Retain. Do not explain wavelengths and frequencies in detail at this level. *4	This topic has moved from Term 3 to Term 4 according to revised ATP.

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- *2 Flipped concept, learners prepare before lesson and then class discussion around content.
- *3 Concepts to be taught holistically together to reduce time spent teacher talking time.
- *4 Concepts taught again in different grades. Reduce content to basic introductory information.

CAPS CURRICULUM					SURVIVAL GUIDE STRATEGY	
TOPICS	UNITS	CONTENT SPECIFICATION/ CONCEPTS	TIME ALLOCATION *1	RECOVERY TIME	CURRICULUM TRIMMING	CURRICULUM REORGANISATION/ GROUPING
	Unit 3: Opaque and transparent substances	Light cannot pass through opaque surfaces. Light can pass through transparent substances.	1½ hours	1,5 hours	Ask learners what the difference is between Opaque and transparent substances. Have a class discussion on the outcome of their investigation. *2	
	Unit 4: Absorption of light	Some materials absorb light.	1½ hours	1,5 hours	Retain. The concept of black and white absorbing and reflecting heat can be linked here. *3	Teach Unit 4 and 5 together by making comparisons. Explain that a blue car looks blue because it reflects blue light and absorbs the remaining colours on the spectrum. *3
	Unit 5: Reflection of light	Some materials reflect light. Mirrors reflect light.	1 hour	1 hour	Retain	Teach Unit 4 and 5 together by making comparisons. Explain that a blue car looks blue because it reflects blue light and absorbs the remaining colours on the spectrum. *3
	Unit 6: Seeing light	Light enters the eye and stimulates receptor cells. The receptor cells convert light energy to electrical nerve impulses, which travel to the brain.	1 hour	1 hour	Retain	
	Unit 7: Refraction of light	Light can be refracted by transparent substances and changes directions. Use a triangular prism as an example.	1 hour	1 hour	Retain. Use images and examples to help learners grasp the concept of refraction. Do not discuss careers in optics as this is not for assessment purposes.	

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*3 Concepts to be taught holistically together to reduce time spent teacher talking time.

*4 Concepts taught again in different grades. Reduce content to basic introductory information.

CAPS CURRICULUM					SURVIVAL GUIDE STRATEGY	
TOPICS	UNITS	CONTENT SPECIFICATION/ CONCEPTS	TIME ALLOCATION *1	RECOVERY TIME	CURRICULUM TRIMMING	CURRICULUM REORGANISATION/ GROUPING
The solar system [3 weeks/ 9 hours to 0 weeks/ 0 hours]	Unit 1: The Sun	The Sun is a star and produces heat and light. The energy is created when hydrogen gas is converted to helium gas.	3 hours	0 hours	Retain but reduce significantly. The life and death of a star is taught again in Grade 9 *4 – so only teach the minimum content required to proceed.	This topic has been removed from 2020 teaching year according to the revised ATP.
	Unit 2: Objects around the Sun	Eight planets, their moons, asteroids and dwarf planets all orbit the Sun.	3 hours	0 hours	Retain, but let learners revise the basics from previous grades. *4 Spend some time in class clearing up any misconceptions. *2	
	Unit 3: Earth's position in the solar system	Earth is the third planet from the Sun and supports life by ensuring it has the correct conditions.	3 hours	0 hours		
Beyond the solar system [3 weeks/ 9 hours to 0 weeks/ 0 hours]	Unit 1: The Milky Way galaxy	Our solar system is one of many in the Milky Way galaxy. Our Sun is located towards the outer edge of the Milky Way.	3 hours	0 hours	Retain. Use video clips from the internet.	This topic has been removed from 2020 teaching year according to the revised ATP.

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*2 Flipped concept, learners prepare before lesson and then class discussion around content.

*3 Concepts to be taught holistically together to reduce time spent teacher talking time.

*4 Concepts taught again in different grades. Reduce content to basic introductory information.

CAPS CURRICULUM					SURVIVAL GUIDE STRATEGY	
TOPICS	UNITS	CONTENT SPECIFICATION/ CONCEPTS	TIME ALLOCATION *1	RECOVERY TIME	CURRICULUM TRIMMING	CURRICULUM REORGANISATION/ GROUPING
Looking into space [2 weeks/ 6 hours to 0 weeks/ 0 hours]	Unit 2: Our nearest star	The Sun is our nearest star.	2 hours	0 hours	Retain but reduce significantly. The life and death of a star (and the Sun) is taught again in Grade 9 *4 – so only teach the minimum content required to proceed. *2	This topic has been removed from 2020 teaching year according to the revised ATP.
	Unit 3: Light years, light hours and light minutes	Light years is a type of measurement that we use for long distances.	2 hours	0 hours	Retain. This can be a confusing concept, as light as we know it on earth appears instant.	
	Unit 4: Beyond the Milky Way galaxy	Our galaxy is one of billions of galaxies.	2 hours	0 hours	Retain but only briefly explain that there are many galaxies in the universe.	
	Unit 1: Early viewing of space	People can see planets and stars in the sky. Stars are arranged into constellations that have stories linked to them.	3 hours	0 hours	Constellations and their stories have been taught before. *4 Only teach new content.	
	Unit 2: Telescopes	Telescopes help see more detail of the sky. Optical and radio telescopes can be used to magnify objects in the sky.	3 hours	0 hours	Let learners do a project or case study on telescopes in South Africa. Learners can share what they have learnt with the class. *2	
ASSESSMENT	INFORMAL ASSESSMENT	Homework				
		Research				
		Prepare slides				
		Conduct experiments				
	SBA (FORMAL)	Test on Matter and Materials (40%)				
		Test on Energy and Change (60%)				
TOTAL HOURS = 8 WEEKS/24 HOURS					TOTAL REVISED HOURS = 7 WEEKS/21 HOURS	

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- *2 Flipped concept, learners prepare before lesson and then class discussion around content.
- *3 Concepts to be taught holistically together to reduce time spent teacher talking time.
- *4 Concepts taught again in different grades. Reduce content to basic introductory information.

Grade 9

Natural Sciences

GRADE	NO OF WEEKS	CONTENT, CONCEPTS & SKILLS (WEEKS)	FORMAL ASSESSMENT (WEEKS)
7	40 weeks	34 weeks	6 weeks
8	40 weeks	34 weeks	6 weeks
9	40 weeks	34 weeks	6 weeks

*3 hours teaching time per week, with 40 weeks per grade, means the total teaching time per year is 120 hours

THEME	GRADE 7	GRADE 8	GRADE 9
LIFE AND LIVING	The biosphere, Biodiversity, Sexual Reproduction, Variation [No amendment]	Photosynthesis and Respiration, Interactions and interdependence within the environment, Micro-organisms [No amendment]	Cells as the basic units of life, Systems in the human body, Human reproduction, Circulatory and respiratory systems, Digestive system [No amendment]
MATTER AND MATERIALS	Properties of materials, Separating mixtures, Acids, bases and neutrals, Introduction to Periodic Table of Elements [Reduced properties of materials.]	Atoms, Particle model of matter, Chemical reactions [Reduced content on Atoms. Removed chemical reactions.]	Compounds, Chemical reactions, Reactions of metals with oxygen, Reactions of non-metals with oxygen, Acids and bases and pH value [Reactions of metals and non-metals with oxygen reduced. Reaction of acids with metals removed.]
ENERGY AND CHANGE	Sources of energy, Potential and Kinetic Energy, Heat Transfer, Insulation and energy saving, Energy transfer to surroundings, The national electricity supply system [Insulation and energy saving reduced. Removed National electricity supply.]	Static electricity, Energy transfer in electrical systems, Series and parallel circuits, Visible light [Series and parallel circuits reduced.]	Forces, Electric cells as energy systems, Resistance, Series and parallel circuits, Safety with electricity, Energy and the national electricity grid, Cost of electrical power [No amendment]
PLANET EARTH AND BEYOND	Relationship of the Sun to the Earth, Relationship of the Moon to the Earth, Historical development of astronomy [Historical development of astronomy reduced.]	The Solar System, Beyond the Solar System, Looking into space [Removed Planet Earth and Beyond completely.]	The Earth as a system, Lithosphere, Mining of mineral resources, Atmosphere, Birth, life and death of stars [Removed Planet Earth and Beyond completely.]

CAPS CURRICULUM				SURVIVAL GUIDE STRATEGY *2		
TOPICS	UNITS	CONTENT SPECIFICATION/ CONCEPTS	TIME ALLOCATION *1	CURRICULUM TRIMMING	CURRICULUM REORGANISATION/ GROUPING	SUGGESTED TIME
Cells as the basic units of life [2 weeks/ 6 hours]	Unit 1: Cell structure	The cell is the basic structural and functional unit of all living organisms. Cells can be seen under a microscope. Plant and animal cells have a cell membrane, cytoplasm, nucleus, and organelles such as mitochondria, vacuoles and chloroplasts	2 hours	Retain	N/A	2 hours
	Unit 2: Differences between plant and animal cells	plant cells differ from animal cells. Plant and animal cells are enclosed by a cell membrane, and plant cells also have rigid cellulose cell walls to provide support for the plant. Plant cells also contain organelles such as large vacuoles and chloroplasts.	2 hours	Retain. This has been taught briefly in Grade 8, so let learners revise by themselves to save time.	N/A	2 hours
	Unit 3: Cells in tissues, organs and systems	Cells are adapted to perform specific functions. Microscopic organisms such as bacteria, consist of a single cell. Macroscopic organisms such as humans, consist large numbers of cells. A group of cells performing a specific function form a tissue. a group of tissues make up an organ, and organs working together in groups form systems, systems make up an organism.	2 hours	Retain	N/A	2 hours

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*2 Assuming that Term 1 content was taught before school closure – Therefore no proposal for survival strategy for Term 1. Some suggestions have been made to shorten teaching time if not yet covered.

CAPS CURRICULUM				SURVIVAL GUIDE STRATEGY *2		
TOPICS	UNITS	CONTENT SPECIFICATION/ CONCEPTS	TIME ALLOCATION *1	CURRICULUM TRIMMING	CURRICULUM REORGANISATION/ GROUPING	SUGGESTED TIME
Systems in the human body [2 weeks/ 6 hours]	Unit 1: Body systems		45 minutes	Retain	N/A	45 minutes
	Unit 2: The digestive system		45 minutes	Retain	N/A	45 minutes
	Unit 3: The circulatory system		45 minutes	Retain	N/A	45 minutes
	Unit 4: The respiratory system		45 minutes	Retain	N/A	45 minutes
	Unit 5: The musculoskeletal system		45 minutes	Retain	N/A	45 minutes
	Unit 6: The excretory system		45 minutes	Retain	N/A	45 minutes
	Unit 7: The nervous system		45 minutes	Retain	N/A	45 minutes
	Unit 8: The reproductive system		45 minutes	Retain	N/A	45 minutes

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*2 Assuming that Term 1 content was taught before school closure – Therefore no proposal for survival strategy for Term 1

CAPS CURRICULUM				SURVIVAL GUIDE STRATEGY *2		
TOPICS	UNITS	CONTENT SPECIFICATION/ CONCEPTS	TIME ALLOCATION *1	CURRICULUM TRIMMING	CURRICULUM REORGANISATION/ GROUPING	SUGGESTED TIME
Human Reproduction [2 weeks/ 6 hours]	Unit 1: Purpose and puberty	The main purpose of reproduction is for the gametes (male and female sex cells) to combine for the continuation of the species. Puberty is the stage in the human life cycle when sexual organs mature for reproduction.	2 hours	Retain	N/A	2 hours
	Unit 2: Reproductive organs	The male reproductive organs include the penis, sperm duct (vas deferens), testes (produces sperm cells), scrotum, and urethra. The female reproductive organs include the vagina, uterus, ovaries (contain egg cells/ ova), and oviducts (Fallopian tubes).	2 hours	Retain	Introduce the reproductive organs in Unit 3 as you go through the stages of reproduction.	0 hours
	Unit 3: Stages of reproduction	Once a month, one of the ovaries releases a ripe egg in a process called ovulation. In preparation for a fertilised egg, the uterus develops a thick layer of blood. If fertilisation does not take place, menstruation occurs. During copulation, the erect penis is inserted into the vagina and semen is released (ejaculation). Fertilisation is the fusion of the sperm and egg. The stage of pregnancy in humans (gestation) is about 40 weeks. Pregnancy can be prevented by using contraceptives such as condoms to prevent the sperm reaching the egg. Condoms also prevent the transmission of HIV/AIDS and other STDs (sexually transmitted diseases).	2 hours	Retain	Teach Unit 2 holistically with Unit 3.	2 hours

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*2 Assuming that Term 1 content was taught before school closure – Therefore no proposal for survival strategy for Term 1

CAPS CURRICULUM				SURVIVAL GUIDE STRATEGY *2			
TOPICS	UNITS	CONTENT SPECIFICATION/ CONCEPTS	TIME ALLOCATION *1	CURRICULUM TRIMMING	CURRICULUM REORGANISATION/ GROUPING	SUGGESTED TIME	
Circulatory and respiratory systems [1½ weeks/ 4½ hours]	Unit 1: Breathing, gaseous exchange, circulation and respiration	The lungs, heart, veins and arteries all work together to provide cells in our body with energy to perform bodily functions.	4½ hours	Retain. But let learners revise respiration taught in Grade 7 at home.	N/A	4 hours	
	Digestive System [1½ weeks/ 4½ hours]	A healthy diet (eating plan) requires different components including proteins, carbohydrates, fats and oils, vitamins and minerals, fibre and water.	2½ hours	Give learners a project on healthy diet to eliminate teacher talking time.	N/A	30 minutes	
ASSESSMENT	Unit 2: The alimentary canal and digestion	The alimentary canal is composed of the mouth, oesophagus, stomach, small intestine, large intestine, rectum and anus. Digestion is the breakdown of food into a usable dissolved form.	2 hours	Retain	N/A	2 hours	
	INFORMAL ASSESSMENT	Homework					
		Research					
		Prepare slides					
		Conduct experiments					
	SBA (FORMAL)	Practical task/Investigation					
		Test					
 TOTAL TIME = 9 WEEKS/27 HOURS				 TOTAL TIME SAVED = 1½ WEEKS/4½ HOURS			

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*2 Assuming that Term 1 content was taught before school closure – Therefore no proposal for survival strategy for Term 1

CAPS CURRICULUM					SURVIVAL GUIDE STRATEGY	
TOPICS	UNITS	CONTENT SPECIFICATION/ CONCEPTS	TIME ALLOCATION *1	RECOVERY TIME	CURRICULUM TRIMMING	CURRICULUM REORGANISATION/ GROUPING
Compounds [1 week/ 3 hours to 1 week/ 3 hours (no change)]	Unit 1: The Periodic Table	Elements can be classified into metals, non-metals and semi metals. Elements found in groups (vertical columns) have similar chemical properties. Each element on the Periodic Table has an atomic number (smaller number), mass number (larger number), name and symbol.	1½ hours	1,5 hours	Retain, but let learners revise the concept of elements and atoms from Grade 8. *4 Give learners a brief explanation of how to read a periodic table, and then test learners understanding with a quiz.	
	Unit 2: Names of compounds	Compounds are usually named according to the elements that make them up. Some compounds have common names (such as water). The prefix mono- tells us that there is 1 of that atom, while the prefix di- tells us that there is 2. The prefix -tri means three atoms have combined.	1½ hours	1,5 hours	Give learners a list of common compound names in a table and ask them to learn it. Have a spot quiz in class to test if learners studied. This is mostly memorization work. *2	
Chemical Reactions [1 week/ 3 hours to 1 week/ 3 hours]	Unit 1: Chemical equations to represent reactions	Chemical reactions can be represented with models and symbols. No atoms are lost or gained in the reaction, they are simply rearranged.	1½ hours	1,5 hours	Retain.	Teach Unit 2 and Unit 1 together. *3
	Unit 2: Balanced equations	Chemical equations must be written as balanced chemical equations. The total number and type of atoms of the reactants is the same as in the products.	1½ hours	1,5 hours	Retain.	Teach Unit 2 and Unit 1 together. *3

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- *2 Flipped concept, learners prepare before lesson and then class discussion around content.
- *3 Concepts to be taught holistically together to reduce time spent teacher talking time.
- *4 Concepts taught again in different grades. Reduce content to basic introductory information.

CAPS CURRICULUM				SURVIVAL GUIDE STRATEGY	
TOPICS	UNITS	CONTENT SPECIFICATION/ CONCEPTS	TIME ALLOCATION *1	RECOVERY TIME	CURRICULUM TRIMMING CURRICULUM REORGANISATION/ GROUPING
ASSESSMENT	INFORMAL ASSESSMENT	Homework			
		Research			
		Prepare slides			
		Conduct experiments			
	SBA (FORMAL)	None suggested			
 TOTAL TIME = 8 WEEKS/24 HOURS				 TOTAL REVISED HOURS = 2 WEEKS/6 HOURS	

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CAPS CURRICULUM						
TOPICS	UNITS	CONTENT SPECIFICATION/ CONCEPTS	TIME ALLOCATION *1	RECOVERY TIME	CURRICULUM TRIMMING	CURRICULUM REORGANISATION/ GROUPING
Reactions of metals with oxygen [1 ½ weeks/ 4½ hours to 1,5 weeks/ 4,5 hours (no change)]	Unit 1: The general reaction of metals with oxygen	Some metals react with oxygen during burning (combustion). When a metal reacts with oxygen, a metal oxide is formed as a product.	1 hour	1 hour	Retain.	Show the 3 general equations from Unit 1 – 3 side by side (in a table) and explain the differences and similarities in the types of reactions. *3 This topic has been moved from Term 2 to Term 3 according to the revised ATPs.
	Unit 2: Reaction of iron with oxygen	When the metal iron is burnt in air (which contains oxygen), the reaction forms iron oxide as a product.	1 hour	1 hour	Retain	Show the 3 general equations from Unit 1 – 3 side by side (in a table) and explain the differences and similarities in the types of reactions. *3 This topic has been moved from Term 2 to Term 3 according to the revised ATPs.
	Unit 3: Reaction of magnesium with oxygen	When the metal magnesium is burnt in air (which contains oxygen), the reaction forms magnesium oxide as a product.	1 hour	1 hour	Retain	Show the 3 general equations from Unit 1 – 3 side by side (in a table) and explain the differences and similarities in the types of reactions. *3 This topic has been moved from Term 2 to Term 3 according to the revised ATPs.

*1 The per unit time allocation listed, is an estimate of the time taken to teach that unit. This is not specified in CAPS but is an estimate from experienced teachers.

*2 Flipped concept, learners prepare before lesson and then class discussion around content.

*3 Concepts to be taught holistically together to reduce time spent teacher talking time.

*4 Concepts taught again in different grades. Reduce content to basic introductory information.

CAPS CURRICULUM						
TOPICS	UNITS	CONTENT SPECIFICATION/ CONCEPTS	TIME ALLOCATION *1	RECOVERY TIME	CURRICULUM TRIMMING	CURRICULUM REORGANISATION/ GROUPING
	Unit 4: Formation of rust	Rusting is a slow chemical reaction of iron metal, with oxygen and moisture (water) to form a complex compound part of which is iron oxide. Rust (a form of corrosion) only occurs at the surface of the iron exposed to the air. Steel (which consists mostly of iron) is an essential material in modern construction. Equipment and structures can rust, and weaken	1 hour	1 hour	Retain	Incorporate some Unit 5 concepts in this unit. *3 This topic has been moved from Term 2 to Term 3 according to the revised ATPs.
	Unit 5: Ways to prevent rusting	Iron and steel can be painted to keep away moisture and oxygen. Iron and steel can be coated with a thin layer of chromium or zinc (metals which do not rust) This is done by an electroplating technique which is a form of electrolysis	30 minutes	30 min	Let learners think of techniques for how to prevent rust formation, either as a project or for homework. *2	Teach learners some ways to prevent rust by teaching it holistically with Unit 4. For example, when explaining that oxygen is required for iron to rust, explain to learners that we can paint iron to stop the oxygen from being able to react. *3 This topic has been moved from Term 2 to Term 3 according to the revised ATPs.

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*2 Flipped concept, learners prepare before lesson and then class discussion around content

*3 Concepts to be taught holistically together to reduce time spent teacher talking time.

*4 Concepts taught again in different grades. Reduce content to basic introductory information.

CAPS CURRICULUM					SURVIVAL GUIDE STRATEGY	
TOPICS	UNITS	CONTENT SPECIFICATION/ CONCEPTS	TIME ALLOCATION *1	RECOVERY TIME	CURRICULUM TRIMMING	CURRICULUM REORGANISATION/ GROUPING
Reactions of non-metals with oxygen [1 week/ 3 hours to 1 week/ 3 hours (no change)]	Unit 1: The general reaction of non-metals with oxygen	Non-metals react with oxygen to form non-metal oxides. When any non-metal is burnt in excess oxygen, the general equation is always: non-metal + oxygen non-metal oxide.	1 hour	1 hour	Retain	Teach these general concepts while explaining Unit 2 and 3. *3 This topic has been moved from Term 2 to Term 3 according to the revised ATPs.
	Unit 2: Reaction of carbon with oxygen	When the non-metal carbon is burnt in oxygen, carbon dioxide is produced.	1 hour	1 hour	Retain	Teach the general concepts of non-metal reactions with oxygen while teaching Unit 2. *3 This topic has been moved from Term 2 to Term 3 according to the revised ATPs.
	Unit 3: Reaction of sulfur with oxygen	When the non-metal sulfur is burnt in oxygen, sulfur dioxide is produced.	1 hour	1 hour	Retain	Teach the general concepts of non-metal reactions with oxygen while teaching Unit 3. *3 This topic has been moved from Term 2 to Term 3 according to the revised ATPs.
Acids & bases, and pH value [1 week/ 3 hours to 1 week/ 3 hours (no change)]	Unit 1: The concept of pH value	pH is a measure of how acidic or basic a substance is. The pH scale ranges from 1 to 14. Acids have a pH in the range of 1 to 7. Bases have a pH in the range of 7 to 14. A neutral substance has a pH of 7	3 hours	3 hours	Let learners revise pH from earlier grades. *4	Teach this during the investigation given in the next unit. *3 This topic has been moved from Term 2 to Term 3 according to the revised ATPs.

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*2 Flipped concept, learners prepare before lesson and then class discussion around content.

*3 Concepts to be taught holistically together to reduce time spent teacher talking time.

*4 Concepts taught again in different grades. Reduce content to basic introductory information.

CAPS CURRICULUM				SURVIVAL GUIDE STRATEGY	
TOPICS	UNITS	CONTENT SPECIFICATION/ CONCEPTS	TIME ALLOCATION *1	RECOVERY TIME	CURRICULUM TRIMMING
Reactions of acids with bases: Part I [½ week/ 1½ hours to ½ week/ 1,5 hours]	Unit 1: Neutralisation and pH	Acids and bases react together, we call this a neutralisation reaction. After reacting an acid and a base together, the resultant pH will vary based on the strength of the acid and base reactants.	1½ hours	1,5 hours	Teach this concept using an investigation by neutralising vinegar with bicarbonate of soda. Use an indicator to find the neutral point. *2
					Teach the concepts in the previous unit holistically with this unit. Explain that the vinegar (acid) has a pH in the range 1 – 7, and the bicarbonate of soda (base) has a pH in the range 7 – 14. Once the indicator shows that the acid has completely neutralised the base, explain to learners that the pH is 7. *3 This topic has been moved from Term 2 to Term 3 according to the revised ATPs.

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*2 Flipped concept, learners prepare before lesson and then class discussion around content.

*3 Concepts to be taught holistically together to reduce time spent teacher talking time.

*4 Concepts taught again in different grades. Reduce content to basic introductory information.

CAPS CURRICULUM					SURVIVAL GUIDE STRATEGY	
TOPICS	UNITS	CONTENT SPECIFICATION/ CONCEPTS	TIME ALLOCATION *1	RECOVERY TIME	CURRICULUM TRIMMING	CURRICULUM REORGANISATION/ GROUPING
Reactions of acids with bases: Part II [1 week/ 3 hours to 1 week/ 3 hours (no change)]	Unit 1: The general reaction of an acid with a metal oxide (base)	When metals react with oxygen, they tend to form oxides which are bases (see reactions of metals with oxygen). When any acid reacts with a metal oxide, the products formed are a salt and water. The type of salt formed will depend on the specific acid and metal oxide used in that reaction.	1½ hours	1,5 hours	Retain	This topic has been moved from Term 2 to Term 3 according to the revised ATPs.
	Unit 2: Applications	Burning wood and fossil fuels releases carbon dioxide and sulfur dioxide into the atmosphere. These combine with water in the atmosphere to produce acid rain. Limestone (CaCO ₃) is used in agriculture to make soil less acidic.	30 minutes	30 min	Retain.	This topic has been moved from Term 2 to Term 3 according to the revised ATPs.
	Unit 3: The general reaction of an acid with a metal hydroxide (base)	When metals react with water, they tend to form hydroxides which are bases. When any acid reacts with a metal hydroxide, the products formed are a salt and water. The type of salt formed will depend on the specific acid and metal oxide used in that reaction.	1 hour	1 hour	Retain.	Use one table with all the general reactions. *3 This topic has been moved from Term 2 to Term 3 according to the revised ATPs.

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*2 Flipped concept, learners prepare before lesson and then class discussion around content.

*3 Concepts to be taught holistically together to reduce time spent teacher talking time.

*4 Concepts taught again in different grades. Reduce content to basic introductory information.

CAPS CURRICULUM					SURVIVAL GUIDE STRATEGY	
TOPICS	UNITS	CONTENT SPECIFICATION/ CONCEPTS	TIME ALLOCATION *1	RECOVERY TIME	CURRICULUM TRIMMING	CURRICULUM REORGANISATION/ GROUPING
Reactions of acids with bases: Part III [½ week/ 1½ hours to ½ week/ 1½ hours (no change)]	Unit 1: The general reaction of an acid with a metal carbonate (base)	Metal carbonates are bases. When any acid reacts with a metal carbonate, the products formed are a salt, carbon dioxide and water. The type of salt formed will depend on the specific acid and metal carbonate used in that reaction.	1½ hours	1,5 hours	Retain.	
Reactions of acids with metals [½ week/ 1½ hours to ½ week/ 1½ hours (no change)]	Unit 1: The general reaction of an acid with a metal	When any acid reacts with a metal, the products formed are a salt and hydrogen gas. The type of salt formed will depend on the specific acid and metal used in that reaction.	1½ hours	1,5 hours	Retain.	
ASSESSMENT	INFORMAL ASSESSMENT	Homework				
		Research				
		Prepare slides				
		Conduct experiments				
	SBA (FORMAL)	Test on Matter and Materials				
			Test on Energy and Change			
			 TOTAL TIME = 8 WEEKS/24 HOURS		 TOTAL REVISED HOURS = 6 WEEKS/18 HOURS	

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*2 Flipped concept, learners prepare before lesson and then class discussion around content.

*3 Concepts to be taught holistically together to reduce time spent teacher talking time.

*4 Concepts taught again in different grades. Reduce content to basic introductory information.

CAPS CURRICULUM					SURVIVAL GUIDE STRATEGY	
TOPICS	UNITS	CONTENT SPECIFICATION/ CONCEPTS	TIME ALLOCATION *1	RECOVERY TIME	CURRICULUM TRIMMING	CURRICULUM REORGANISATION/ GROUPING
Forces [2 weeks/ 6 hours to 2 weeks/6 hours (no change)]	Unit 1: Types of forces	A force is a push or pull (or twist) exerted upon an object and is measured in newtons (N). Forces act in pairs and can change the shape, direction and speed of an object. Forces can either be contact or field forces.	2 hours	2 hours	Retain.	Teach Unit 2 and 3 holistically with this unit. *3 This topic has been moved from Term 3 to Term 4 according to the revised ATPs.
	Unit 2: Contact forces	A contact force (including friction, tension, compression) results when two bodies are in contact (touch) with each other.	2 hours	2 hours	Retain but only teach the basic concepts of a contact force.	Teach Unit 2 with Unit 1. *3 This topic has been moved from Term 3 to Term 4 according to the revised ATPs.
	Unit 3: Field forces (non-contact forces)	Field forces result from action-at-a-distance between two bodies. Common examples of field forces include gravitational, magnetic and electrostatic forces	2 hours	2 hours	Retain. Learners have already done a significant amount of work on Planet Earth and Beyond and have been introduced to the concept of gravity (a field force) in Grade 7. *4 Let learners revise this as homework. Learners have also already been introduced to charges attracting and repelling in Grade 8. Let learners revise this concept. Have a class discussion around these field forces, and clarify any misconceptions. *2	Teach with Unit 1. *3 This topic has been moved from Term 3 to Term 4 according to the revised ATPs.

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*2 Flipped concept, learners prepare before lesson and then class discussion around content.

*3 Concepts to be taught holistically together to reduce time spent teacher talking time.

*4 Concepts taught again in different grades. Reduce content to basic introductory information.

CAPS CURRICULUM					SURVIVAL GUIDE STRATEGY	
TOPICS	UNITS	CONTENT SPECIFICATION/ CONCEPTS	TIME ALLOCATION *1	RECOVERY TIME	CURRICULUM TRIMMING	CURRICULUM REORGANISATION/ GROUPING
Electric cells as energy systems [½ week/ 1½ hours to [1/2] week/1[1/2] hours (no change)]	Unit 1: Electric cells	Cells are a source of electricity that contain chemical reactions. A battery is a group of cells that are connected	1½ hours	1,5 hours	Retain	This topic has been moved from Term 3 to Term 4 according to the revised ATPs.
Resistance [1 week/ 3 hours to 1 week/ 3 hours (no change)]	Unit 1: Uses of resistors	A resistor is a conducting material selected to control the current or to provide useful energy transfer (bulbs, rheostats, etc).	1½ hours	1,5 hours	Let learners revise the concept of electrical conduction/resistance from Grade 7 and IP. *2	Teach Unit 2 with Unit 1, by incorporating the factors that affect the resistance with the uses of resistors. *3 This topic has been moved from Term 3 to Term 4 according to the revised ATPs.
	Unit 2: Factors that affect resistance in a circuit	Type of material, thickness of the conductor, length of the conductor, temperature of the conductor.	1½ hours	1,5 hours	Retain	Teach this Unit with Unit 1, by incorporating the type of material into the use of the resistor. For example, tungsten is used in lightbulbs because it is more resistant than copper, and hence emits more light. Link the factors to safety with electricity, Unit 1. Explain that the earth wire in a plug, has low resistance (and thin wire of low resistance material) so that it can prevent shocks. *3 This topic has been moved from Term 3 to Term 4 according to the revised ATPs.

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*2 Flipped concept, learners prepare before lesson and then class discussion around content.

*3 Concepts to be taught holistically together to reduce time spent teacher talking time.

*4 Concepts taught again in different grades. Reduce content to basic introductory information.

CAPS CURRICULUM				SURVIVAL GUIDE STRATEGY	
TOPICS	UNITS	CONTENT SPECIFICATION/ CONCEPTS	TIME ALLOCATION *1	RECOVERY TIME	CURRICULUM TRIMMING CURRICULUM REORGANISATION/ GROUPING
Series and parallel circuits [2 weeks/ 6 hours to 2 weeks/ 6 hours (no change)]	Unit 1: Series circuits	When cells are connected in series, the total voltage is the sum of the voltages of individual cells. The total voltage across the battery is the same as the sum of the voltages across each of the resistors. The current is the same when measured at any point in a given series circuit. The total current decreases with each resistor added in series to the circuit	3 hours	3 hours	Retain Teach with Unit 2 by comparing parallel circuits to series circuits. *3 This topic has been moved from Term 3 to Term 4 according to the revised ATPs.

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- *2 Flipped concept, learners prepare before lesson and then class discussion around content.
- *3 Concepts to be taught holistically together to reduce time spent teacher talking time.
- *4 Concepts taught again in different grades. Reduce content to basic introductory information.

CAPS CURRICULUM					SURVIVAL GUIDE STRATEGY	
TOPICS	UNITS	CONTENT SPECIFICATION/CONCEPTS	TIME ALLOCATION *1	RECOVERY TIME	CURRICULUM TRIMMING	CURRICULUM REORGANISATION/ GROUPING
Safety with Electricity [½ week/ 1½ hours to ½ week/ 1,5 hours (no change)]	Unit 2: Parallel circuits	When cells (of same voltage) are connected in parallel, the voltage across them is the same as for one cell. The voltage is the same across each resistor connected in parallel. The total current through the battery is the same as the sum of the currents through the resistors. The total current in the circuit increases with each resistor added in parallel. The lighting system in our houses are designed this way.	3 hours	3 hours	Retain	Teach with Unit 1 by comparing parallel circuits to series circuits. *3 This topic has been moved from Term 3 to Term 4 according to the revised ATPs.
	Unit 1: Safety practices	Circuit breakers, fuses and earth leakage systems can be used for safety. Appliances often have 3 pin plugs, with an earth wire to discharge stray current. Illegal connections to the ESKOM mains supply can be dangerous and are regarded as energy theft.	1½ hours	1,5 hours	Retain, but give learners a project where they identify ways to be safe with electricity. Have a class discussion on learners' findings. *2	Some concepts here can be explained in resistance Unit 2. *3 This topic has been moved from Term 3 to Term 4 according to the revised ATPs.
Energy and the national electricity grid [1 week/ 3 hours to 1 week/ 3 hours (no change)]	Unit 1: Electricity generation	Power stations and alternative forms of energy.	1 hour	1 hour	Omit. Learners have learnt the content here many times in previous grades (Grade 7 and 6). *4	Give a brief revision on this content when explaining Unit 2. *3 This topic has been moved from Term 3 to Term 4 according to the revised ATPs.
	Unit 2: Nuclear power in South Africa	A nuclear power station such as Koeberg in the Cape, uses radioactive fuel, nuclear fission, steam, turbines and generators to produce electricity. Spent nuclear fuel (nuclear waste) is still radioactive and remains so for many hundreds of years, therefore it needs to be properly disposed of.	1 hour	1 hour	Retain but let learners guide the lesson by asking what they know or remember about nuclear power from previous grades? *2 Show a video as a summary.	This topic has been moved from Term 3 to Term 4 according to the revised ATPs.

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*3 Concepts to be taught holistically together to reduce time spent teacher talking time.

*4 Concepts taught again in different grades. Reduce content to basic introductory information.

CAPS CURRICULUM				SURVIVAL GUIDE STRATEGY	
TOPICS	UNITS	CONTENT SPECIFICATION/ CONCEPTS	TIME ALLOCATION *1	RECOVERY TIME	CURRICULUM TRIMMING CURRICULUM REORGANISATION/ GROUPING
	Unit 3: National electricity grid	The national grid is a network of interacting parts (a system) and include power stations, power lines, and transformers. Energy is wasted at the transformers. Power surges and grid overload can disrupt the power supply	1 hour	1 hour	Retain. Although learners have done this before in Grade 6 and 7. *4
Cost of electrical power [2 weeks/ 6 hours to 0 weeks/ 0 hours]	Unit 1: The cost of power consumption	Electrical power is the rate of electrical energy supply and is measured in watts (W) or kilowatts (kW). Consumers pay for the quantity of power they use. Quantity of electrical power used is measured in kWh. The cost to the consumer is calculated in the following way: cost = power rating of the appliance × the number of hours it was used × the unit price of electricity	6 hours	0 hours	Omit. But if additional time, can give learners a project. Provide learners with the cost of electricity, and the power rating of different appliances. Give learners a fixed amount of money for the day to spend on electricity. Ask them what activities they would do and for how long they could afford to do it. This is a good way to get learners to see the practical applications of science, and also for learners to consider ways to lower their electricity demand. *2

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The Earth as a system [1 week/ 3 hours to 0 week/ 0 hours]	Unit 1: Spheres of the Earth	Four spheres interact on or near the surface of the Earth: the lithosphere, hydrosphere, atmosphere, and biosphere.	3 hours	0 hours	Retain. Show learners a video to give an overview.	This topic has been removed from the 2020 curriculum according to the revised ATPs.
Lithosphere [2 weeks/ 6 hours to 0 week/ 0 hours]	Unit 1: Lithosphere	Earth consists of four concentric layers. The lithosphere ('lith' means 'rocks') has three layers: the solid outermost part of the mantle, the crust and the soil. The crust is made up of different elements and compounds.	3 hours	0 hours	Retain. Let learners revise the four layers of the earth from Grade 7 (inner core, outer core, mantle, crust). *4	This topic has been removed from the 2020 curriculum according to the revised ATPs.
	Unit 2: The rock cycle	The rock cycle is the natural continuous process in which rocks form, are broken down and re-form over long periods of time. The process is a complex one with many steps.	2 hours	0 hours	Retain, but give learners a step by step diagram of the rock cycle to learn. The diagram will reduce teacher talking time. *2	
	Unit 3: The rock cycle – explained in steps	The pressure of many layers turns the lower layers into sedimentary rock like sandstone. Hot magma heats the surrounding rock and changes its chemical structure to form metamorphic rock like slate from shale or marble from limestone.	1 hour	0 hours	Retain, but use diagram to explain steps.	

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Mining of mineral resources [2 weeks/ 6 hours to 0 week/ 0 hours]	Unit 1: Extracting ores	People extract valuable minerals from the lithosphere in a process called mining.	2 hours	0 hours	Retain.	This topic has been removed from the 2020 curriculum according to the revised ATPs.
	Unit 2: Refining minerals	Some other minerals require a chemical or physical process to extract the required material from the ore.	2 hours	0 hours	Retain. Give learners a project on refining minerals to save on teacher talking time. Each learner or group can report back to the class on their findings. *2	
	Unit 3: Mining in South Africa	Positive and negative impact of mining in South Africa.	2 hours	0 hours		
Atmosphere [2 weeks/ 6 hours to 0 week/ 0 hours]	Unit 1: Atmosphere	The atmosphere is the mixture of gases held around the Earth by gravity. This mixture is known as air and consists of nitrogen (78%), oxygen (21%), carbon dioxide (less than 1%), and other gases, including water vapour (1%). The atmosphere has four layers: troposphere, stratosphere, mesosphere, thermosphere.	1 hour	0 hours	Retain. Use a diagram to shorten the teacher talking time.	This topic has been removed from the 2020 curriculum according to the revised ATPs.
	Unit 2: Troposphere	This layer extends from sea level to about 10 km above the surface of the Earth	1 hour	0 hours	Retain. Use a diagram to shorten the teacher talking time. *2	
	Unit 3: Stratosphere	This layer extends from about 10 km to about 50 km above the Earth's surface.	1 hour	0 hours	Retain. Use a diagram to shorten the teacher talking time. *2	

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	Unit 4: Mesosphere	This layer extends from about 50 – 80 km above the Earth's surface.	1 hour	0 hours	Retain. Use a diagram to shorten the teacher talking time.
	Unit 5: Thermosphere	This layer starts above 80 km from the Earth.	1 hour	0 hours	Retain. Use a diagram to shorten the teacher talking time.
	Unit 6: The greenhouse effect	The greenhouse effect is when greenhouse gases trap the ultraviolet radiation which then warms the air closest to the surface of the Earth. This leads to global warming, an increase in the average temperature of the atmosphere. Global warming is a potentially life threatening problem on Earth.	1 hour	0 hours	Retain
Birth, life and death of stars [1 week/ 3 hours to 0 week/ 0 hours]	Unit 1: The birth of a star	Stars exist for a finite period of time and form inside clouds of gas and dust called nebulae. These nebulae are pulled together by gravity and slowly collapse and heat up. Once the temperature is high enough a nuclear fusion reaction begins, that changes hydrogen to helium.	1 hour	0 hours	Retain, but use lots of images to simplify the concepts. This topic has been removed from the 2020 curriculum according to the revised ATPs.

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	Unit 2: Life of a star	Stars change in their appearance over billions of years. Blue stars are hotter and younger, while red stars are older. Our Sun is about half way through its life cycle – it is a medium-sized yellow star with a lifespan of about 9 billion years. For most of their life, stars change hydrogen to helium. Towards the end of their life, stars like the Sun will swell up to form a 'red giant'	1 hour	0 hours	Omit
	Unit 3: Death of a star	At some point the nuclear reaction runs out of fuel. For stars like the Sun, the core of the star contracts to become a 'white dwarf'. For stars like the Sun, the outer gases of the star are ejected into space, where they form an expanding cloud around the white dwarf called a planetary nebula. Planetary nebulae are lit up by their central white dwarf star and are beautiful to look at.	1 hour	0 hours	Omit

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ASSESSMENT	INFORMAL ASSESSMENT	Homework				
		Research				
		Prepare slides				
		Conduct experiments				
	SBA (FORMAL)	Test on Matter and Materials (40% weight distribution).				
		Test on Energy and Change (60% weight distribution).				
 TOTAL TIME = 8 WEEKS/24 HOURS					 TOTAL REVISED HOURS = 7 WEEKS/21 HOURS	

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