NATURAL SCIENCES

GRADE 8 TERM 2 Tracker

	Week 1										
		Yea	ar:				Yea	ar:			
	CAPS			Class					Class	<u> </u>	
CAPS Concepts and Activities	Page			Cias	, 				Cias	, 	
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Week 1 Lesson A					picto	J				picto	u
Topic: Atoms	40										
Contents & Concepts: Atoms - building											
blocks of matter											
All matter is made up of tiny particles											
called atoms											
An element is made up of atoms of the											
same kind											
An element is a substance that cannot be broken down into two or more											
substances by chemical means											
Atoms of one element differ from the											
atoms of all other elements											
All known elements are listed on the											
periodic Table of the Elements											
Week 1 Lesson B	40										
Topic: Atoms	40										
Content & Concepts: Sub-atomic particles											
Atoms are made up of smaller sub-											
atomic particles (protons, neutrons and											
electrons)											
The central region of the atom is called											
the nucleus											
The nucleus is made up of positively charged particles called protons and											
neutral particles called neutrons											
Negatively charged particles called											
electrons move around the nucleus											
Atoms are neutral because the number											
of negatively charged particles (electrons) is equal to the number of											
positively charged particles (protons)											
Week 1 Lesson C											
Topic: Atoms	41										
Content & Concepts: Elements											
An element is a material that consists of											
atoms of only one kind such as hydrogen											
(H), Oxygen (O), carbon (C), sodium (Na),											
chlorine (CI) All known elements are listed on the											
Periodic Table of Elements. They are											
limited in number and are the building											
blocks of millions of compounds											
Some elements on the Periodic Table of Slaments form distance and acute for											
Elements form diatomic molecules for example hydrogen (H_2) , nitrogen (N_2) ,											
oxygen (O ₂), chlorine, (Cl ₂). These are											
called molecules of elements		L.									

Reflection		
Year:		
Think about and make a note of: What went well? What did not go well? What did the learners find difficult or easy to understand or do? What will you do to support or extend learners? Did you cover all the work set for the week? If not, how will you get back on track?	What will you change next time	? Why?
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	Week 2											
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Week 2 Lesson A												
Topic: Atoms	41											
 Content & Concepts: Compounds A compound is a material that consists of atoms of two or more different elements chemically bonded together such as water (H₂O), carbon dioxide (CO₂), salt (NaCl) The atoms in a given compound are always combined/bonded in a fixed ratio, such as, in water, where the ratio is always two hydrogen atoms (H) to one oxygen atom (O) A chemical bond is the force that holds atoms together Compounds [such as water (H₂O), carbon dioxide (CO₂), salt (NaCl)] are formed by chemical reactions Compounds can be broken down in a decomposition reaction into other compounds or their original elements by heating or electrolysis. For example, electrolysis decomposes water (H₂O) from hydrogen (H₂) and oxygen (O) 												
Week 2 Lesson B												
Topic: Atoms	41											
 Content & Concepts: Pure substances Elements and compounds are pure substances 												
Week 2 Lesson C												
Topic: Atoms Content & Concepts: Mixtures of elements & compounds • Elements and compounds are often found mixed together, such as in air, sea water, rocks, and in living things • Mixtures are separated by physical means	41											

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	Week 3														
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Week 3 Lesson A					oict	I	Date Com			JIELEU					
Topic: Particle model of matter	42														
Content & Concepts: The concept of the	,_														
particle model of matter															
Atoms and molecules are referred to as															
particles in the particle model of matter															
The particle model of matter (solids,															
liquids, and gases) is a scientific theory															
used to explain that all matter is made up of particles															
 These particles are too small to see 9 in a 															
drop of water there would be many															
billions of water particles)															
The spaces between the particles are															
empty [Note: these spaces do not contain															
air, they contain nothing]															
Week 3 Lesson B	42														
Topic: Particle model of matter	42														
Content & Concepts: The concept of the particle model of matter															
Scientists have evidence that suggests															
that the particles are arranged															
differently in a solid, liquid and a gas															
In a solid, the particles:															
o are closely packed in a regular															
arrangement o do not move around but vibrate															
against each other															
 have strong forces holding them 															
together															
 have small spaces between them 															
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Week 3 Lesson C	42														
Topic: Particle model of matter Content & Concepts: The concept of the	44														
particle model of matter															
Scientists have evidence that suggests															
that the particles are arranged															
differently in a solid, liquid and a gas															
In a liquid, the particles:															
are loosely arranged but still quite															
close together o can move quite fast and slide past															
each other															
have weaker forces between them															
 have small spaces between them 															

Reflection		
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	Week 4													
		Year:						Year:						
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CAPS Concepts and Activities	Page													
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Week 4 Lesson A														
Topic: Particle model of matter	42													
Content & Concepts: The concept of the														
particle model of matter														
Scientists have evidence that suggests														
that the particles are arranged differently in a solid, liquid and a gas														
 In a gas, the particles: 														
have no particular arrangement														
 move very fast 														
o have extremely weak forces														
between then o have very big spaces between														
o have very big spaces between them compared to solids and														
liquids														
·														
Week 4 Lesson B														
Topic: Particle model of matter	43													
Content & Concepts: The concept of the														
particle model of matter														
Diffusion is a process in which particles in liquids and gases move (separate and)														
spread) from a highly-concentrated area														
to an area with a lower concentration of														
those particles														
Diffusion is faster in gases compared to														
liquids														
Week 4 Lesson C														
Topic: Particle model of matter	43													
Content & Concepts: Change of state														
Heating and cooling can cause a material														
to change state														
The solid material first changes to a liquid														
(melting) when heated, and the it changes to a gas (evaporating or boiling)														
on further heating														
As a solid material is heated, the														
movement of the particles increases														
which enables them to move past each														
other and form a liquid														
The particles move much further apart from each other when the material														
changes from the liquid to the gas state														
a gas a sample and gas state														

Reflection		
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CAPS Concepts and Activities	Page										
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Week 5 Lesson A											
Topic: Particle model of matter	43										
Content & Concepts: Change of state											
Heating and cooling can cause a material											
to change state											
The gas first changes to a liquid when cooled and then it changes to a solid											
when cooled further											
When doored further											
Week 5 Lesson B											
Topic: Particle model of matter	43										
Content & Concepts: Density, mass and											
volume											
The density of a material describes the											
amount of mass in a given volume of that											
material											
Week 5 Lesson C											
Topic: Particle model of matter	43										
Content & Concepts: Density and states											
of matter											
In general, gases are less dense than											
liquids and liquids are less dense than											
solids [Water is an exception as ice is less dense than water and therefore it floats]											
dense than water and therefore it floatsf											
	Reflection	n									
Year:											
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Think about and make a note of: What went well? W well? What did the learners find difficult or easy to u			W	nat w	ılı you	ı cnar	ige ne	xt tim	e? W	ny ?	
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	Week 6										
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CAPS Concepts and Activities	Page										
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Week 6 Lesson A											
Topic: Particle of model matter	44										
Content & Concepts: Density of different											
materials											
 Some materials have low density and some have high density 											
The individual particles making up one											
material may have different masses											
compared to the individual particles											
making up another material. In addition, there are spaces between the particles											
The density of a material will depend on											
the kind of particles it is made up of and											
the size of the spaces between them											
A material which has lower density will float an a liquid which has higher density.											
float on a liquid which has higher density											
Week 6 Lesson B	4.4										
Topic: Particle of model matter	44										
Content & Concepts: Expansion and contraction of materials											
Solids, liquids and gases tend to expand											
when heated and contract when cooled											
Particles of liquids and gases are in a											
state of constant motion											
As a material is heated, the movement of the particles increases and they move											
further apart, therefore the material											
expands											
When a material expands or contracts,											
the size and number of particles does not change. Instead, it is only the spaces											
between the particles that get bigger or											
smaller											
During expansion the spaces between											
the particles get bigger											

Week 6 Lesson C											
Topic: Particle of model matter	44										
Content & Concepts: Expansion and											
contraction of materials											
Solids, liquids and gases tend to expand											
when heated and contract when cooled											
Particles of liquids and gases are in a											
state of constant motion											
As a material is cooled, the movement of											
the particles decreases and they move closer together, therefore the material											
contracts											
When a material expands or contracts,											
the size and number of particles does not											
change. Instead, it is only the spaces											
between the particles that get bigger or											
smaller											
during contraction the spaces between											
the particles get smaller	Deflection										
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Think about and make a note of: What went well? W	hat did not	go	W	/hat w	/ill yoι	ı char	ige ne	xt tim	ne? W	hy?	
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What will you do to support or extend learners? Did work set for the week? If not, how will you get back		ll the									
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well? What did the learners find difficult or easy to u		_	"	nat vi	, iii yo	a criai	180 110	.xc tiii	ic. ••	y.	
What will you do to support or extend learners? Did		ll the									
work set for the week? If not, how will you get back	on track?										
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Week 7													
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CARC Composite and Activities	CAPS		Class				(Class	5				
CAPS Concepts and Activities	_	Page											
	no.	Da	ate (Com	plete	ed	D	ate (Com	plete	ed		
Week 7 Lesson A													
Topic: Particle of model matter	45												
Content & Concepts: Pressure													
A gas exerts a pressure because of the													
collisions of the particles with each other													
and against the sides of the container													
Week 7 Lesson B													
Topic: Particle of model matter	45												
Content & Concepts: Pressure													
Pumping more gas into a container													
increases the number of gas particles in													
the container. This increases the number of collisions and therefore increases the													
pressure													
[Note: heating also increases the													
pressure by giving the particles more													
energy, making them move faster, and													
collide with greater force. We do not													
have to deal with this aspect of pressure in this grade]													
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Week 7 Lesson C	45												
Topic: Particle of model matter Content & Concepts: Pressure	43												
pumping more gas into a container													
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the container. This increases the number													
of collisions and therefore increases the													
pressure													
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Think about and make a note of: What went well? W well? What did the learners find difficult or easy to u			l W	What will you change next time? Why?									
What will you do to support or extend learners? Did													
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Week 8													
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Week 8 Lesson A													
Topic: Chemical reactions	45												
Content & Concepts: Reactants and													
products													
 Substances can react with each other to form products with different chemical properties In a chemical reaction the substances 													
that react with one another are called reactants													
In a chemical reaction the substances that are produced are called the products of the reaction													
Week 8 Lesson B													
Topic: Chemical reactions	45												
Content & Concepts: Reactants and													
products													
In reactions, re-arrangement of the atoms takes place, to form different products													
During a chemical reaction chemical bonds of the reactants break and new													
bonds form to produce the products													
Week 8 Lesson C													
Topic: Chemical reactions Content & Concepts: Reactants and	45												
products													
 Indigenous knowledge includes some examples of useful chemical reactions, such as fermentation in brewing 													
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Think about and make a note of: What went well? W well? What did the learners find difficult or easy to u What will you do to support or extend learners? Did work set for the week? If not, how will you get back of	nderstand o	or do?	W	'hat w	ill you	ı chan	nge ne	ext tim	e? W	hy?			
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Week 9												
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Week 9 Lesson A												
Topic: Revision	40-45											
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Week 9 Lesson B Topic: Revision	40-45											
Topic. Revision	40-43											
Week 9 Lesson C												
Topic: Revision	40-45											
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Week 10											
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CAPS Concepts and Activities	Page										
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Examination											
	Reflection	n									
Year:											
Think about and make a note of: What went well? well? What did the learners find difficult or easy to What will you do to support or extend learners? Di work set for the week? If not, how will you get bac	ficult or easy to understand or do? end learners? Did you cover all the				What will you change next time?						
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