NATURAL SCIENCES GRADE 7 TERM 3 Tracker

Week 1													
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CAPS Concepts and Activities	Page												
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Week 1 Lesson A				20111	Jie tt	.u			20111	o i c t c	.u		
Topic: Sources of energy	26												
Content & Concepts: Renewable and													
non-renewable sources of energy													
Energy is needed to make everything													
work, move or live													
 A source of energy has energy stored 													
waiting to be used, or energy that is													
needed to make something happen													
Week 1 Lesson B													
Topic: Sources of energy	26												
Content & Concepts: Renewable and													
non-renewable sources of energy													
Non-renewable sources of energy cannot													
be replenished once used, such as fossil fuels (coal, oil, natural gas) and nuclear													
fuels (such as uranium) [Links to Planet													
Earth and Beyond Grade 7 term 4]													
Renewable sources of energy are													
continually replenished, such as hydro													
power, wind, sunlight, biofuel (wood)													
Week 1 Lesson C													
Topic: Sources of energy	26												
Content & Concepts: Renewable and													
non-renewable sources of energy													
Non-renewable sources of energy cannot has replacified area yeard such as facility.													
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Earth and Beyond Grade 7 term 4]													
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	Week 2	-											
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CAPS Concepts and Activities	Page												
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Week 2 Lesson A													
Topic: Potential and kinetic energy	26												
Content & Concepts: Potential energy													
Potential energy is energy that is stored													
in a system, such as in a stretched rubber													
band, a weight balanced on the edge of a													
table, a cell (battery), fuelThere is also potential energy in food [all													
energy is measured in a unit called the													
joule (J)]. The energy content in foods is													
usually labelled on food packaging [Note:													
definition and calculation of joules is NOT													
required]													
Week 2 Lesson B Topic: Potential and kinetic energy	26												
Content & Concepts: Kinetic energy	20												
Kinetic energy is the energy that a body													
has when it is moving, such as when a													
rubber band snaps back, a weight falls off													
a table, wind blows, water falls, a vehicle													
moves, current flows through a circuit													
(electricity) Week 2 Lesson C													
Topic: Potential and kinetic energy	26												
Content & Concepts: Potential and													
kinetic energy in systems													
Potential and kinetic energy are involved													
in:													
mechanical systemsthermal (heating) systems													
	Reflection	n											
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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 yol	ı cnar	nge ne	xt tim	ie? W	ny ?			
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Week 3 Lesson A											
Topic: Potential and kinetic energy	26										
Content & Concepts: Potential and kinetic energy in systems											
Potential and kinetic energy are involved											
in:											
 electrical systems 											
 biological systems 											
Week 3 Lesson B											
Topic: Potential and kinetic energy	27										
Content & Concepts: Law of											
conservation of energy											
Energy can neither be created nor destroyed but can be converted from											
one form to another											
Energy can be transferred in a system											
when different parts of the system											
interact with one another and cause changes											
Changes											
Week 3 Lesson C	0-										
Topic: Potential and kinetic energy Content & Concepts: Law of	27										
conservation of energy											
Energy can also be transferred from one											
system to another such as from an											
electrical system to a mechanical system											
in a motor											
	Reflection	n									
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CAPS Concepts and Activities	Page												
	no.	Di	ate (Comp	olete	-d	D	ate (`omi	olete	h		
Week 4 Lesson A													
Topic: Heat transfer	27												
Content & Concepts: Heating as a													
transfer of energy													
 Heating is a process in which energy is 													
transferred from a hotter body to cooler													
body													
The energy transfer continues until both													
bodies are at the same temperature													
 Heat is transferred in three ways by: conduction 													
o convection													
o radiation													
Week 4 Lesson B													
Topic: Heat transfer	27												
Content & Concepts: Conduction													
 Conduction is the transfer of heat 													
between solid objects that are in direct													
physical contact with each other													
Heat "travels" from the source of heat through the chiest or from one chiest to													
through the object, or from one object to another by conduction													
Week 4 Lesson C													
Topic: Heat transfer	27												
Content & Concepts: Conduction													
Metals are conductors of heat. Some													
metals conduct heat better than others													
 Good conductors are used for making 													
things such as cooking pots													
Other materials prevent/slow down													
conduction of heat, and are called													
insulators of heat (such as plastics and wood). These are generally poor													
conductors of heat													
	Reflectio	n											
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	CAPS Concepts and Activities	Page												
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	Week 5 Lesson A													
To	pic: Heat transfer	28												
Co	ntent & Concepts: Convection													
•	Convention is the transfer of heat from													
	one place to another by the movement of liquid or gas particles:													
	 air and water expand when heated 													
	and the particles move upwards.													
	When cooled they move down													
	again. This is called a convection current													
	Carrent													
	Week 5 Lesson B													
Tol	oic: Heat transfer	28												
Co	ntent & Concepts: Radiation													
•	Radiation is the transfer of heat and does													
	not require physical contact or movement of particles													
•	The heat from the Sun travels mainly by													
	radiation across empty space to the Earth													
	Week 5 Lesson C													
_	pic: Heat transfer	28												
	ntent & Concepts: Radiation													
•	Shiny surfaces (such as silver) are good reflectors of radiant heat and dark													
	surfaces (such as black) absorb heat													
	energy (links to Light in Grade 8 and FET)													
•	Radiation heats up dark surfaces more													
	quickly (absorb heat) than it heats up													
	shiny surfaces (reflect heat)													
		Doff or:												
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	k about and make a note of: What went well? W			W	hat w	ill you	ı char	nge ne	xt tim	e? W	hy?			
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CAPS Concepts and Activities	Page		(Class			Class					
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Week 6 Lesson A												
Topic: Insulation and energy saving Content & Concepts: Using insulating materials • Heat can be 'lost' through conduction, convection and radiation from our bodies and objects such as electric geysers	28											
Week 6 Lesson B												
Topic: Insulation and energy saving Content & Concepts: Using insulating materials • Heat can also be gained through radiation, conduction and convection, for example in solar water heaters	28											
Week 6 Lesson C												
Topic: Insulation and energy saving Content & Concepts: Using insulating materials People use insulating materials to help minimise heat loss in winter or heat gain in summer	28											
	Reflection	n										
Year:												
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 the week? If not, and well you get back of the week?	nderstand o you cover a	or do?	W	'hat w	ill you	ı char	nge ne	ext tim	e? W	hy?		
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	Week 7												
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CARC Concents and Astinities	CAPS		(Class	5		Class						
CAPS Concepts and Activities	Page												
	no.	Da	ite (olete	ed						
Week 7 Lesson A													
Topic: Insulation and energy saving	28												
Content & Concepts: Using insulating													
materials													
Insulating materials slow down heat													
transfer (heat loss or gain) through													
conduction, convection and radiation. Insulators are used:													
o for making things such as "cool													
boxes"													
 in the ceilings of buildings, 													
o for clothing (such as coats,													
jerseys, woolly hats) and blankets													
Sidifices													
Week 7 Lesson B													
Topic: Insulation and energy saving	28												
Content & Concepts: Using insulating													
materials													
Conservation of heat energy in homes and buildings can be improved by													
minimising heat loss in winter and heat													
gain in summer													
									_				
Week 7 Lesson C	20												
Topic: Insulation and energy saving Content & Concepts: Using insulating	28												
materials													
Many indigenous, traditional homes and													
technologies in South Africa are designed													
for our climate and to be energy efficient													
	Reflection												
Year:	Kenecuc	M											
Think about and make a note of: What went well? W well? What did the learners find difficult or easy to u			W	hat w	ill you	ı char	nge ne	xt tim	e? W	hy?			
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work set for the week? If not, how will you get back													
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What will you change next time	2 M/hy2
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Week 8											
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Week 8 Lesson A	20										
Topic: Energy transfer to surroundings Content & Concepts: Useful and 'wasted' energy • Systems such as appliances, tools, vehicles, machines provide useful energy outputs	29										
Week 8 Lesson B											
Topic: Energy transfer to surroundings Content & Concepts: Useful and 'wasted' energy • Some energy that is transferred in a system can escape to the surrounding environment as 'wasted energy' • The output energy in a system is always less than the input energy, because some of the energy escapes to the surroundings	29										
Week 8 Lesson C											
Topic: Energy transfer to surroundings Content & Concepts: Useful and 'wasted' energy 'Wasted' energy can escape in the form of heat and/or sound sound is an example of 'wasted' energy in an electric drill, food processor, hair dryer heat is an example of 'wasted' energy in a candle, lamp, engine	29										
	Reflection	on									
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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 the week?	inderstand o you cover a	or do?		hat w	ill you	ı char	ige ne	ext tim		hy?	
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	Week 9											
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CAPS Concepts and Activities	Page											
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Week 9 Lesson A												
Topic: The national electricity supply	29											
system												
Content & Concepts: Energy transfers in												
the national grid												
The national electricity grid is a system												
(circuit)												
The electricity is supplied in the following sequence												
 energy from sources such as coal, 												
oil, gas, nuclear fuels, falling water												
and wind, is transferred to turbines												
o turbines transfer energy to a												
generator o a generator changes energy from												
 a generator changes energy from mechanical movement into 												
electricity and transfers the												
electricity into the wires of the												
national electricity supply grid												
o the wires transfer energy to the												
electrical appliances and lights												
Week 9 Lesson B												
Topic: The national electricity supply	29											
system												
Content & Concepts: Energy transfers in												
the national grid												
Dynamos are small generators, which												
also change energy from mechanical movement to electricity												
 Dynamos are used in some bicycle lights 												
and mine helmets and in wind-up torches												
and radios												

Week 9 Lesson C											
Topic: The national electricity supply	30										
system											
Content & Concepts: Energy transfers in											
the national grid											
South Africa has a limited supply of											
electrical energy											
 There are many different ways to use 											
energy wisely and to save energy at											
home: by turning off lights and											
appliances, using energy saving light											
bulbs, wearing warm clothing, stopping											
cold draughts, using energy efficient appliances, matching pot size to stove											
plate and using a "hotbox" for cooking											
place and asing a measure for escaling											
	Reflectio	n									
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Think about and make a note of: What went well? W		_	W	hat w	ill you	ı chan	ige ne	xt tim	ie? Wl	ny?	
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v.	Reflection	n												
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Think about and make a note of: What went well? well? What did the learners find difficult or easy to	What did not	go or do?	W	What will you change next time? Why?										
What will you do to support or extend learners? Di	id you cover a													
work set for the week? If not, how will you get bac	k on track?													
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Think about and make a note of: What went well? well? What did the learners find difficult or easy to			VV	nat w	ılı yol	ı cnar	ige ne	xt tim	e? W	ny?				
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