NATURAL SCIENCES

GRADE 9 TERM 1
Tracker

	Week 1	L									
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CARS Concents and Activities	CAPS		(Class	5			(Class	5	
CAPS Concepts and Activities	Page										
	no.	D	ate (Com	plete	ed	Ď	ate (Com	plete	ed
Week 1 Lesson A											
Topic: Cells as the basic units of life	56										
Content & Concepts: Cell structure											
 The cell is the basic structural and functional unit of all living organisms. 											
Cells can be seen under a microscope											
(they are microscopic)											
Plant and animal cells have a cell											
membrane, cytoplasm, nucleus, and											
organelles such as mitochondria, vacuoles, and chloroplasts											
vacables, and emolopiases											
West 4 Lease D											
Week 1 Lesson B Topic: Cells as the basic units of life	56										
Content & Concepts: Cell structure	30										
The cell membrane encloses the contents											
of the cell. It allows specific substances to											
pass in and out of the cell											
The cytoplasm is the jelly-like medium in which many chemical reactions take											
place											
The nucleus contains the DNA											
 The nucleus in enclosed by a 											
nuclear membrane (in plants											
and animals) O DNA contains inherited											
characteristics, such as whether											
eyes are blue or brown											
DNA is unique to each person, this variation accounts for											
this variation accounts for differences within spaces											
Mitochondria are responsible for											
respiration to release energy from food											

Week Alexando												
Week 1 Lesson C												
Topic: Cells as the basic units of life	56											
Content and Concepts: 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 the 												
organelles such as large												
vacuoles and chloroplasts.												
Chloroplasts contain chlorophyll												
to absorb light energy for												
photosynthesis. Vacuoles in												
plant cells have several												
functions including support and												
storage (vacuoles in animal cells												
are small and temporary or												
• •												
absent)												
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? What will you change next time?												
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Week 2 Lesson A		D	ate		piet	u		ate	20111	piete	u	
Topic: Cells as the basic units of life	56											
Content and Concepts: Differences	30											
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Plant cells differ from animal cells												
Plant and animal cells are												
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and plant cells also have rigid												
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 Plant cells also contain organelles such as large 												
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Chloroplasts contain chlorophyll												
to absorb light energy for												
photosynthesis. Vacuoles in												
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functions including support and storage (vacuoles in animal cells												
are small and temporary or												
absent)												
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Week 2 Lesson B												
Topic: Cells as the basic units of life	57											
Content and Concepts: Cells in tissues,												
organs and systems												
Cells come in many different shapes and												
sizesCells are adapted to form specific												
functions, such as muscle cells which are												
specialised to contract and enable												
movement												
Week 2 Lesson C												
Topic: Cells as the basic units of life	57											
Content and Concepts: Cells in tissues,												
organs and systemsMicroscopic organisms such as bacteria,												
consist of a single cell. Macroscopic												
organisms such as humans, consist of												
large numbers of cells												
Stem cells are cells that have the ability												
to divide and develop into many different												
cell types												
A group of cells performing a specific function form a tissue, group of tissues												
make up an organ, and organs working												
together in groups form systems,												
systems make up an organism												

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Week 3 Lesson A			
Topic: Systems in the human body Content & Concepts: Body systems	57		
 The human body consist of several integrated systems working together including the following Digestive system: breaks down food into dissolved nutrients that can be absorbed into the blood stream and transported to cells throughout the body The main processes include ingestion, digestion, absorption and egestion The main components include mouth, oesophagus, stomach, intestines and liver Health issues include ulcers, anorexia nervosa, diarrhoea, liver cirrhosis 			
Week 3 Lesson B Topic: Systems in the human body	57		
Content & Concepts: Body systems	37		
Circulatory system: brings nutrients and oxygen to cells and removes waste products The main processes include circulating blood between the heart and lungs, and circulating blood between heart and rest of body The main components include the heart, blood vessels (arteries, veins, capillaries), blood Health issues include high blood pressure, heart attacks and strokes			

Week 3 Lesson C											
Topic: Systems in the human body	58										
Content & Concepts: Body systems											
Respiratory system: is responsible for											
supplying oxygen and removing carbon											
dioxide											
 The main processes include 											
breathing (inhalation and											
exhalation), gaseous exchange											
(diffusion) and respiration											
 The main components include 											
the nose and mouth, trachea,											
and other air passageways, lungs, blood											
Health issues include asthma,											
lung cancer, bronchitis,											
asbestosis											
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	Week 4												
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Week 4 Lesson A		De	ate (Com	piet	2 u	D.	ate (Jonn	plete	eu L		
Topic: Systems in the human body	58												
Content & Concepts: Body systems	36												
Musculoskeletal system: muscles													
produce body movement. The skeleton													
protects the body, provides support and													
enables movement													
 The main processes include 													
contraction and relaxation of													
muscles, locomotion and movement													
The main components include													
the muscles, bones, cartilage,													
tendons and ligaments													
 Health issues include rickets, 													
arthritis and osteoporosis													
Week 4 Lesson B													
Topic: Systems in the human body	58												
Content & Concepts: Body systems													
Excretory system: removes waste from													
the blood and regulates the body's fluid													
 The main processes include 													
filtration, absorption, diffusion													
and excretionThe main components include													
the kidneys, bladder and													
ureters													
 Health issues include kidney 													
failure, bladder infection,													
kidney stones													
Week 4 Lesson C													
Topic: Systems in the human body	58												
Content & Concepts: Body systems													
Nervous system: receives and helps the													
body respond to stimuli													
 The main processes include hearing, seeing, feeling, tasting, 													
smelling, seeding, receiving													
impulses, regulating													
temperature													
The main components include													
the brain, spinal cord, nerves,													
ears, nose, eyes, skin, tongue Health issues include deafness,													
blindness, short sightedness,													
effects of alcohol and drugs on													
the brain													

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Week 5 Lesson A											
Topic: Systems in the human body	59										
Content & Concepts: Body systems Reproductive system: produces sex cells for the purpose of continuation of the species The main processes include growth, cell division, maturation, copulation, ejaculation, ovulation, menstruation, fertilisation, implantation The main components include testes, ovaries, uterus Health issues include infertility, foetal alcohol syndrome, STDs											
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Week 5 Lesson B											
 Topic: Human reproduction Content & Concepts: 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. This process is initiated when the pituitary gland releases hormones into the blood stream, triggering the testes and ovaries to release sex hormones (testosterone and oestrogen). 	59										
Week 5 Lesson C	50										
Topic: Human reproduction Content & Concepts: Purpose and puberty • Testosterone (from the testes) and oestrogen (from the ovaries) causes secondary sexual characteristics such as menstruation, breast development, pubic hair, facial hair, deepening of the male voice	59										

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	no.	Da	ate (Com	plete	ed	Di	ate (Com	plete	ed
Week 6 Lesson A											
Topic: Human reproduction Content & Concepts: Reproductive organs Male reproductive organs include penis, sperm duct (vas deferens), testes (produces sperm cells), scrotum and urethra Female reproductive organs include vagina, uterus, ovaries (contain egg cells/ova) and oviducts (Fallopian tubes)	59										
Week 6 Lesson B	60										
Topic: Human reproduction	60										
Content & Concepts: 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 Menstruation is the breakdown of the thick layer of blood in the uterus, which is released through the vagina The menstrual cycle is usually a 28-day cycle During copulation, the erect penis is inserted into the vagina and semen is released (ejaculation) Fertilisation is the fusion of the sperm and egg, producing a zygote 											

Week 6 Lesson C												
Topic: Human reproduction	60											
Content & Concepts: Stages of												
reproduction												
 If fertilisation takes place, the fertilised egg is implanted in the blood layer in the uterus and pregnancy results The developing embryo/foetus is attached to the uterus wall by the 												
placenta which plays a vital role in feeding and removing waste from the foetus												
 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), if used effectively. 												
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What will you do to support or extend learners? Did	what will you change next well? What did not go ell? What did the learners find difficult or easy to understand or do? That will you do to support or extend learners? Did you cover all the ork set for the week? If not, how will you get back on track?								Da	te:		
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Week 7 Lesson A					Dict					Diete		
Topic: Circulatory and respiratory	61											
systems												
Content & Concepts: Breathing, gaseous												
exchange, circulation and respiration												
Oxygen is inhaled in a process called												
breathing												
In the lungs gases are exchanged												
(gaseous exchange) between the alveoli												
and the surrounding capillaries by the												
process of diffusion Week 7 Lesson B												
Topic: Circulatory and respiratory	61											
systems	01											
Content & Concepts: Breathing, gaseous												
exchange, circulation and respiration												
Oxygenated blood is transported												
(circulation) from the lungs to the left												
side of the heart where it is pumped												
under high pressure to the body through												
the arteries [arteries transport												
oxygenated blood, except for pulmonary arteries]												
Week 7 Lesson C												
Topic: Circulatory and respiratory	61											
systems	01											
Content & Concepts: Breathing, gaseous												
exchange, circulation and respiration												
Arteries subdivide to form capillaries												
which are in close contact with the body												
cells. Here, gaseous exchange occurs and												
oxygen moves into the cells by the												
process of diffusion	Dofloatia											
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Week 8 Lesson A												
Topic: Circulatory and respiratory systems Content & Concepts: Breathing, gaseous exchange, circulation and respiration In the mitochondria of the cells, oxygen is combined with food in the process of respiration and energy is released for other body processes	61											
Week 8 Lesson B												
Topic: Circulatory and respiratory	61											
 systems Content & Concepts: Breathing, gaseous exchange, circulation and respiration Carbon dioxide (by-product of respiration), diffuses from the cells into the capillaries for excretion, and is transported (circulation) in the blood to the right side of the heart by veins (veins transport deoxygenated blood, except for the pulmonary veins) The heart pumps deoxygenated blood (contains carbon dioxide), to the lungs where it is, where it diffuses into the air that is exhaled out of the body 												
Week 8 Lesson C												
 Topic: Digestive System Content & Concepts: Healthy diet A healthy diet (eating plan) requires different components including proteins, carbohydrates, fats and oils, vitamins and minerals, fibre and water Disorders of the digestive system can be related to inappropriate eating plans 	61											

Reflection		
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CAPS Concepts and Activities	Page											
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Week 9 Lesson A												
Topic: Digestive System	62											
Content & Concepts: Healthy diet												
A healthy diet (eating plan) requires												
different components including proteins,												
carbohydrates, fats and oils, vitamins and												
minerals, fibre and water												
Disorders of the digestive system can be related to inappropriate eating plans												
Week 9 Lesson B												
Topic: Digestive System	62											
Content & Concepts: The alimentary	"-											
canal												
The alimentary canal is composed of the												
mouth, oesophagus, stomach, small												
intestine, large intestine, rectum and												
anus The structure of each part of the												
The structure of each part of the alimentary canal is adapted to its												
function												
Week 9 Lesson C												
Topic: Digestive System	62											
Content & Concepts: The alimentary												
canal												
Digestion is the breakdown of food into a												
usable dissolved form.												
 There are two types of digestion: Mechanical digestion involves 												
the physical breaking, crushing												
and mashing of food												
 Chemical digestion involves the 												
mixing food with digestive												
enzymes and hydrochloric acid	Deflection											
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Week 10														
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Week 10 Lesson A														
Topic: Revision	56-62													
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