

Year 8 Medium Term Plan Terms 5&6

Unit Title and Lesson Number	Lesson Intent	Knowledge Goal	Practical Work	Steps to Success & Vocabulary	Assessment Opportunities & Homework
Biology Term 6 lesson 1	<p>To describe biotic and abiotic factors.</p> <p><i>This follows on from work at key stage 2 where students learnt about the effect of factors on plant growth.</i></p> <p><i>This leads forward to Year 11 ecology unit where students learn about how to measure biotic and abiotic factors.</i></p>	To explain factors that affect an ecosystem.		<ul style="list-style-type: none"> I can recognise how organisms are affected by their environment. I can describe how organisms are affected by their environment. <p><u>Vocabulary:</u> Biotic, abiotic, ecosystem.</p>	Answers to retrieval questions.
Biology Term 6 lesson 2	<p>To describe the transfer of energy in an ecosystem.</p> <p><i>This follows on from key stage 2 where students learnt how to use food chains to show feeding relationships.</i></p> <p><i>This leads forward to year 11 ecology where students learn about trophic levels in terms of energy and number.</i></p>	To explain food chains.		<ul style="list-style-type: none"> I can make and interpret simple food chains. I can recognise that all organisms in an ecosystem can affect each other. <p><u>Vocabulary:</u> Producer, consumer, carnivore, herbivore, omnivore, primary, secondary, tertiary.</p>	Answers to retrieval questions.
Biology Term 6 lesson 3	<p>To know about interdependence in an ecosystem.</p> <p><i>This follows on from</i></p>	To describe food webs and pyramids.		<ul style="list-style-type: none"> I can describe how the number of one organism can affect another. 	<p>Answers to retrieval questions.</p> <p><u>Homework:</u></p>

	<p>key stage 2 where students learnt how to use food chains to show feeding relationships.</p> <p>This leads forward to year 11 ecology where students learn about trophic levels in terms of energy and number.</p>			<ul style="list-style-type: none"> I can construct and interpret food webs. <p><u>Vocabulary:</u> Population, ecosystem.</p>	Population problems reading and comprehension task.
Biology Term 6 lesson 4	<p>To describe factors affecting food security.</p> <p>This follows on from key stage 2 where students learnt about the importance of green plants.</p> <p>This leads forward to year 11 ecology where students learn about the importance of biodiversity and sustainability within food production.</p>	To know how bee populations affects food security.		<ul style="list-style-type: none"> I can discuss the importance of insect pollination to food security. <p><u>Vocabulary:</u> Population, sustainable, pollination.</p>	Answers to retrieval questions.
Biology Term 6 lesson 5	<p>To collect data to assess population sizes.</p> <p>This follows on from key stage 2 where students learnt about the variety of organisms.</p> <p>This leads forward to year 11 ecology where students employ mathematical modelling to estimate population sizes.</p>	To describe a random sampling technique.	Quadrats, trundle wheel, tape measures.	<ul style="list-style-type: none"> I can suggest suitable methods to estimate population size. I can calculate mean, median, mode and range. <p><u>Vocabulary:</u> Quadrat, sampling, estimate, pooter, area, transect.</p>	<p>Answers to retrieval questions.</p> <p>Answers to homework questions</p> <p>Exit Ticket 1</p>

<p>Biology Term 6 lesson 6</p>	<p>To estimate population sizes. This follows on from key stage 2 where students learnt about the variety of organisms. This leads forward to year 11 ecology where students employ mathematical modelling to estimate population sizes.</p>	<p>To interpret sampling data to estimate populations.</p>		<ul style="list-style-type: none"> I can estimate population size. I can suggest reasons why my estimate maybe inaccurate. I can compare methods of estimating in producing a reliable estimate. <p><u>Vocabulary:</u> Estimate, reliable, accurate, inaccurate.</p>	<p>Answers to retrieval questions.</p> <p><u>Homework:</u> Transect 6 mark question.</p>
<p>Biology Term 6 lesson 7</p>	<p>To know how humans impact on the environment. This follows on from key stage 2 where students learnt about the need to protect the environment and living things. This leads forward to year 11 ecology where students learn about the impact of population on the survival of the planet and biodiversity.</p>	<p>To describe population impact on the environment.</p>		<ul style="list-style-type: none"> I can evaluate the impact of humans on organisms. <p><u>Vocabulary:</u> Pollution, impact, manageable, population, sustainable.</p>	<p>Answers to retrieval questions.</p>
<p>Biology Term 6 lesson 8</p>	<p>To explain the effect of chemicals in ecosystems. This follows on from key stage 2 where students learnt about the need to protect the environment and</p>	<p>To describe bio-magnification.</p>		<ul style="list-style-type: none"> I can explain the impact of humans on other organisms with reference to the accumulation of toxic materials. <p><u>Vocabulary:</u></p>	<p>Answers to retrieval questions.</p>

	<p>living things.</p> <p>This leads forward to year 11 ecology where students learn about the impact of population on the survival of the planet and biodiversity.</p>			Toxic, accumulation, bio-magnification	
Biology Term 6 lesson 9	<p>To know the impact of air pollution on ecosystems.</p> <p>This follows on from key stage 2 where students learnt about the need to protect the environment and living things.</p> <p>This leads forward to year 11 ecology where students learn about the impact of population on the survival of the planet and biodiversity.</p>	To describe how air pollution affects the environment.		<ul style="list-style-type: none"> I can state methods of air pollution. I can explain the impact of global dimming and acid rain. <p><u>Vocabulary:</u> Smog, particulates, photosynthesis, quality.</p>	<p>Answers to retrieval questions.</p> <p>Feedback on 6 mark question</p> <p><u>Homework:</u> KS3 Science workbook pages 55-58</p>
Biology Term 6 lesson 10	<p>To describe factors and solutions to climate change.</p> <p>This follows on from key stage 2 where students learnt about the need to protect the environment and living things.</p> <p>This leads forward to year 11 ecology where students learn about the impact of population on the</p>	To know the impact of climate change.		<ul style="list-style-type: none"> I can state the main greenhouse gases. I can explain how these gases cause the greenhouse effect. I can explain how the greenhouse effect cause changes to the climate. <p><u>Vocabulary:</u> Greenhouse, climate, sea level, drought, jet stream,</p>	<p>Answers to retrieval questions.</p>

	survival of the planet and biodiversity.			glacier.	
Biology Term 6 lesson 11	To consolidate all of our learning in the unit.	To prepare for assessment		<ul style="list-style-type: none"> I can identify my areas to develop. I can use a variety of resources to support my revision. 	<p>Answers to retrieval questions.</p> <p>Exit Ticket 2</p> <p>Answers to homework questions</p> <p>Homework: Revision (Seneca, mats, bitesize)</p>
Biology Term 6 lesson 12	To check what we know.	To undertake assessment	Low stakes assessment and go through identifying misconceptions.		Low stakes end of topic assessment.
Chemistry Term 6 lesson 1	<p>To know the structure of the Earth.</p> <p>This follows on from key stage 2 where students learnt about describing and classifying rocks.</p> <p>This leads forward to year 11 resources where students learn about the cycling of materials and the finite lifetime of resources.</p>	To produce a scale diagram.		<ul style="list-style-type: none"> I can list parts that make up the structure of the Earth. I can identify the parts that make up the structure of the Earth. I can use a scale to produce a diagram. <p>Vocabulary: Core, mantle, crust, magma.</p>	<p>Answers to retrieval questions.</p> <p>Homework: Size of the earth reading and comprehension task.</p>
Chemistry Term 6 lesson 2	<p>To know the properties of sedimentary rocks.</p> <p>This follows on from key stage 2 where</p>	To explain how sedimentary rocks form.	Sedimentary rock samples, balances, hammers, hand lens.	<ul style="list-style-type: none"> I can name examples of sedimentary rocks. I can describe how sedimentary rocks 	Answers to retrieval questions.

	<p>students learnt about describing and classifying rocks.</p> <p>This leads forward to year 11 resources where students learn about the cycling of materials and the finite lifetime of resources.</p>			<p>are formed.</p> <ul style="list-style-type: none"> I can explain the factors that affect the properties and appearance of sedimentary rocks. <p><u>Vocabulary:</u> Sediment, porous, grains, sandstone, chalk.</p>	
Chemistry Term 6 lesson 3	<p>To know the properties of metamorphic rocks.</p> <p>This follows on from key stage 2 where students learnt about describing and classifying rocks.</p> <p>This leads forward to year 11 resources where students learn about the cycling of materials and the finite lifetime of resources.</p>	To know how metamorphic rocks form.	2 colours of platercine.	<ul style="list-style-type: none"> I can name examples of metamorphic rocks. I can describe how metamorphic rocks are formed. I can explain the factors that affect the properties and appearance of metamorphic rocks. <p><u>Vocabulary:</u> Layers, metamorphosis, pressure.</p>	<p>Answers to retrieval questions.</p> <p>Answers to homework questions.</p>
Chemistry Term 6 lesson 4	<p>To know the properties of igneous rocks.</p> <p>This follows on from key stage 2 where students learnt about describing and classifying rocks.</p> <p>This leads forward to year 11 resources where students learn about the cycling of</p>	To know how igneous rocks form.	Hot slides, iced slides, salol, glass rods.	<ul style="list-style-type: none"> I can name examples of igneous rocks. I can describe how igneous rocks are formed. I can explain the factors that affect the properties and appearance of igneous rocks. <p><u>Vocabulary:</u></p>	<p>Answers to retrieval questions.</p> <p><u>Homework:</u> KS3 Science Workbook pages 132-135</p>

	materials and the finite lifetime of resources.			Igneous, crystal, magma, lava.	
Chemistry Term 6 lesson 5	To know how rocks change from one type into another. This follows on from key stage 2 where students learnt about describing and classifying rocks. This leads forward to year 11 resources where students learn about the cycling of materials and the finite lifetime of resources.	To describe the rock cycle.	CLEAPPS volcano demo Hard rock, soft rock inv.	<ul style="list-style-type: none"> I can describe the rock cycle and how the different types of rocks are formed. I can link the formation of rocks together to describe and explain the rock cycle in detail. <p><u>Vocabulary:</u> Erosion, weathering, transportation, sedimentation.</p>	Answers to retrieval questions. Exit Ticket 1
Chemistry Term 6 lesson 6	To know about resources that come from the earth. This follows on from key stage 2 where students learnt about describing and classifying rocks. This leads forward to year 11 resources where students learn about the cycling of materials and the finite lifetime of resources.	To describe the importance of finite materials.		<ul style="list-style-type: none"> I can name some resources that humans use from the Earth. I can describe that the Earth's resources are limited. I can suggest methods to conserve resources. <p><u>Vocabulary:</u> Finite, infinite, mining, sustainable, preserve.</p>	Answers to retrieval questions. Answers to homework questions.
Chemistry Term 6 lesson 7	To collect, present and interpret data. This follows on from key stage 2 where students learnt about	To know the importance of recycling.		<ul style="list-style-type: none"> I can list human activities that impact on the climate. I can suggest methods of 	Answers to retrieval questions.

	<p>describing and classifying rocks.</p> <p>This leads forward to year 11 resources where students learn about the cycling of materials and the finite lifetime of resources.</p>			<p>conserving resources.</p> <p><u>Vocabulary:</u> Recycle, preserve, sustainable, finite.</p>	
<p>Chemistry Term 6 lesson 8</p>	<p>To know the importance of biofuels.</p> <p>This follows on from key stage 2 where students learnt about describing and classifying rocks.</p> <p>This leads forward to year 11 resources where students learn about the cycling of materials and the finite lifetime of resources.</p>	<p>To describe the carbon cycle.</p>	<p>Carbon cycle model.</p>	<ul style="list-style-type: none"> I can name the main elements in the earth and atmosphere. I can describe the carbon cycle and the impact of human activities on it. <p><u>Vocabulary:</u> Photosynthesis, respiration, decomposers, precipitation.</p>	<p>Answers to retrieval questions.</p> <p><u>Homework:</u> 6 mark question on the carbon cycle.</p>
<p>Chemistry Term 6 lesson 9</p>	<p>To interpret data and suggest reasons.</p> <p>This follows on from key stage 2 where students learnt about describing and classifying rocks.</p> <p>This leads forward to year 11 resources where students learn about the cycling of materials and the finite lifetime of resources.</p>	<p>To describe trends in carbon dioxide levels.</p>		<ul style="list-style-type: none"> I can describe the composition and structure of the atmosphere. I can describe the differences between the early and modern day atmospheres. <p><u>Vocabulary:</u> Lithosphere, troposphere, acidic, volcanic.</p>	<p>Answers to retrieval questions.</p>

Chemistry Term 6 lesson 10	To evaluate the link between human activity and global warming. This follows on from key stage 2 where students learnt about describing and classifying rocks. This leads forward to year 11 resources where students learn about the cycling of materials and the finite lifetime of resources.	To evaluate scientific theories.		<ul style="list-style-type: none"> I can describe ways that human activities impact on the climate. I can suggest methods to reduce the level of carbon dioxide in the atmosphere. <p><u>Vocabulary:</u> Capture, storage, neutral.</p>	Answers to retrieval questions.
Chemistry Term 6 lesson 11	To consolidate all of our learning in the unit.	To prepare for assessment		<ul style="list-style-type: none"> I can identify my areas to develop. I can use a variety of resources to support my revision. 	Feedback on 6 mark question. Answers to retrieval questions. Exit Ticket 2 <u>Homework:</u> Revision (Seneca, mats, bitesize)
Chemistry Term 6 lesson 12	To check what we know.	To undertake assessment	Low stakes assessment and go through identifying misconceptions.		Low stakes end of topic assessment.
Physics Term 6 lesson 1	To know how the sun produces energy. This follows on from key stage 2 where students learnt about	To describe the process of nuclear fusion.		<ul style="list-style-type: none"> I can name the process by which the sun makes energy. I can describe simply how the sun makes 	Answers to retrieval questions.

	<p>the shape of stellar objects and day, night and years.</p> <p>This leads forward to year 11 space where students link electromagnetic waves to the life cycle of stars.</p>			<p>its energy and why this process won't last forever.</p> <p><u>Vocabulary:</u> Fusion, elements, electromagnetic.</p>	
Physics Term 6 lesson 2	<p>To know the heliocentric model of the solar system.</p> <p>This follows on from key stage 2 where students learnt about the shape of stellar objects and day, night and years.</p> <p>This leads forward to year 11 space where students link electromagnetic waves to the life cycle of stars.</p>	To describe the structure of the solar system.		<ul style="list-style-type: none"> I can describe the solar system as planets, asteroids and comets orbiting the sun. I can explain that our sun is a star and there are other stars and solar systems in our galaxy and other galaxies in the universe. <p><u>Vocabulary:</u> Heliocentric, geocentric, satellite, gravity, telescope.</p>	<p>Answers to retrieval questions.</p> <p><u>Homework:</u> 6 mark question on solar system.</p>
Physics Term 6 lesson 3	<p>To explain motion in terms of centripetal forces.</p> <p>This follows on from key stage 2 where students learnt about the shape of stellar objects and day, night and years.</p> <p>This leads forward to year 11 space where students link electromagnetic waves</p>	To describe the motion of planets.	Cork on a string.	<ul style="list-style-type: none"> I can identify what gravity does. I can state that gravity always pulls towards the centre of an object. I can describe factors affecting the size of gravity. I can describe and calculate weight. <p><u>Vocabulary:</u></p>	Answers to retrieval questions.

	to the life cycle of stars.			Weight, gravity, centripetal.	
Physics Term 6 lesson 4	To explain why daylight hours alter. This follows on from key stage 2 where students learnt about the shape of stellar objects and day, night and years. This leads forward to year 11 space where students link electromagnetic waves to the life cycle of stars.	To describe day, night and seasons.	Tennis ball model.	<ul style="list-style-type: none"> I can state what days, months and years are caused by. I can describe how seasons are caused. I can explain how the different seasons occur with reference to the tilt of the earth and proximity to the sun. I can apply my knowledge of seasons in the northern hemisphere to explain why the southern hemisphere experiences seasons differently. I can explain the existence of a leap year. <p><u>Vocabulary:</u> Hemisphere, axis, tilt, proximity.</p>	Answers to retrieval questions.
Physics Term 6 lesson 5	To plan and carry out an investigation. This follows on from key stage 2 where students learnt about the shape of stellar objects and day, night and years.	To describe factors affecting crater size.		<ul style="list-style-type: none"> I can suggest factors that will affect the size of a crater. I can link these factors to energy stores. I can collect data to 	Answers to retrieval questions. Exit Ticket 1 Feedback on 6 mark question

	This leads forward to year 11 space where students link electromagnetic waves to the life cycle of stars.			support my thinking. <u>Vocabulary:</u> Store, crater, transfer.	<u>Homework:</u> KS3 science Workbook pages 219/220
Physics Term 6 lesson 6	To explain why the moon appears to change shape. This follows on from key stage 2 where students learnt about the shape of stellar objects and day, night and years. This leads forward to year 11 space where students link electromagnetic waves to the life cycle of stars.	To describe the phases of the moon.		<ul style="list-style-type: none"> I can explain the difference between lunar and calendar months. I can use the idea of reflection to explain why the moon appears to change shape. <u>Vocabulary:</u> Waxing, waning, crescent, lunar.	Answers to retrieval questions.
Physics Term 6 lesson 7	To explain lunar and solar eclipses. This follows on from key stage 2 where students learnt about the shape of stellar objects and day, night and years. This leads forward to year 11 space where students link electromagnetic waves to the life cycle of stars.	To describe eclipses.		<ul style="list-style-type: none"> I can describe how lunar and solar eclipses occur. <u>Vocabulary:</u> Lunar, solar, eclipse, elliptical.	Answers to retrieval questions. Answers to homework questions.
Physics Term 6 lesson 8	To use the term light year. This follows on from	To describe the structure of the universe.		<ul style="list-style-type: none"> I can list the planets and seasons in order. 	Answers to retrieval questions.

	<p>key stage 2 where students learnt about the shape of stellar objects and day, night and years.</p> <p>This leads forward to year 11 space where students link electromagnetic waves to the life cycle of stars.</p>			<ul style="list-style-type: none"> I can describe celestial objects in order of size. I can describe the solar system as planets, asteroids and comets orbiting the sun. I can explain that our sun is a star and there are other stars and solar systems in our galaxy and other galaxies in the universe. <p><u>Vocabulary:</u> Universe, galaxy, celestial.</p>	<p><u>Homework:</u> Edwin Hubble reading and comprehension task.</p>
Physics Term 6 lesson 9	<p>To explain how telescopes provide evidence for the origin of the universe.</p> <p>This follows on from key stage 2 where students learnt about the shape of stellar objects and day, night and years.</p> <p>This leads forward to year 11 space where students link electromagnetic waves to the life cycle of stars.</p>	To describe the origins of the universe.		<ul style="list-style-type: none"> I can explain the term light year. I can link knowledge to light waves to explain how light and heat energy travel to earth from the sun. <p><u>Vocabulary:</u> Doppler, big bang, shifted, radiation.</p>	Answers to retrieval questions.
Physics Term 6 lesson 10	<p>To explain issues related to exploring space.</p> <p>This follows on from</p>	To describe problems associated with space exploration.		<ul style="list-style-type: none"> I can describe methods of exploring the universe. 	<p>Answers to retrieval questions.</p> <p>Answers to homework</p>

	<p>key stage 2 where students learnt about the shape of stellar objects and day, night and years.</p> <p>This leads forward to year 11 space where students link electromagnetic waves to the life cycle of stars.</p>			<ul style="list-style-type: none"> I can link the method of exploration to its suitability. I can describe advantages and disadvantages of space exploration. <p>Vocabulary: Exploration, rover, robotic, unmanned, debris.</p>	<p>questions.</p>
Physics Term 6 lesson 11	To consolidate all our learning in the unit.	To prepare for assessment		<ul style="list-style-type: none"> I can identify my areas to develop. I can use a variety of resources to support my revision. 	<p>Answers to retrieval questions.</p> <p>Exit Ticket 2</p> <p>Homework: Revision (Seneca, mats, bitesize)</p>
Physics Term 6 lesson 12	To check what we know.	To undertake assessment	Low stakes assessment and go through identifying misconceptions.		Low stakes end of topic assessment.