

**Year 8 Medium Term Plan Terms 3&4**

Unit Title and Lesson Number	Lesson Intent	Knowledge Goal	Practical Work	Steps to Success & Vocabulary	Assessment Opportunities & Homework
Biology Terms 3 & 4 lesson 1	<p>To describe the different ways organisms reproduce.</p> <p><i>This follows on from year 7 term 1 where students learn about cell division.</i></p> <p><i>This leads forward to year 11 variation where students learn how we inherit characteristics.</i></p>	<p>To describe the differences between internal, external, sexual and asexual reproduction.</p>	<p>Plant cutting.</p>	<ul style="list-style-type: none"> <li>• I can state the difference between internal and external fertilisation.</li> <li>• I can compare the advantages and disadvantages of internal and external fertilisation.</li> <li>• I can describe the differences between sexual and asexual reproduction.</li> <li>• I can give examples to organisms that reproduce sexually and asexually.</li> </ul> <p><b><u>Vocabulary:</u></b> Sexual, asexual, parent, gestation, offspring, reproduce.</p>	<p>Answers to retrieval questions.</p>
Biology Terms 3 & 4 lesson 2	<p>To know the structure of plants.</p> <p><i>This follows on from year 7 term 1 where students learnt about specialised cells.</i></p> <p><i>This leads forward to year 11 variation where students learn about inherited</i></p>	<p>To explain the adaptations of pollinated plants.</p>	<p>Flower dissection. Plant models.</p>	<ul style="list-style-type: none"> <li>• I can name the reproductive organs in plants.</li> <li>• I can describe the functions of the reproductive organs in plants.</li> </ul> <p><b><u>Vocabulary:</u></b> Pollen, anther, stamen,</p>	<p>Answers to retrieval questions.</p>

	characteristics.			ovule, filament, carpel.	
Biology Terms 3 & 4 lesson 3	To know how plants reproduce. This follows on from key stage 2 reproduction where students learnt about plant reproduction. This leads forward to year 11 variation where students learn about sexual and asexual reproduction.	To describe how plant fertilisation occurs.		<ul style="list-style-type: none"> <li>I can describe the stages in plant reproduction.</li> <li>I can explain the role of gametes in fertilisation.</li> </ul> <p><b>Vocabulary:</b> Pollen tube, grain, ovule, seed.</p>	Answers to retrieval questions.  <b>Homework:</b> Nettie Stevens and sex determination reading and comprehension task.
Biology Terms 3 & 4 lesson 4	To know different ways seeds are spread. This follows on from year 7 term 3 where students learnt about species and seed banks. This leads forward to year 11 variation where students learn how cross pollination leads to variation.	To describe how plants spread seeds.	Investigation.	<ul style="list-style-type: none"> <li>I can describe methods of seed dispersal.</li> <li>I can quantitatively investigate seed dispersal mechanisms.</li> </ul> <p><b>Vocabulary:</b> Dispersal, mechanism, transportation.</p>	Answers to retrieval questions.
Biology Terms 3 & 4 lesson 5	To know the function of the male and female reproductive systems. This follows on from year 7 term 1 where students learnt about specialised cells This leads forward to year 11 variation where students learn about genetic variation.	To describe the parts of the human reproductive system.		<ul style="list-style-type: none"> <li>I can name the organs in the male and female reproductive systems.</li> <li>I can describe the functions of the organs in the male and female reproductive systems.</li> </ul> <p><b>Vocabulary:</b></p>	Answers to retrieval questions.  Exit Ticket 1  Answers to homework questions.

				Testes, ovaries, sperm duct, glands, scrotum, uterus, cervix, fallopian, penis, vagina.	
Biology Terms 3 & 4 lesson 6	To know how pregnancy occurs and can be prevented. This follows on from year 7 term 1 where students learnt about life processes. This leads forward to year 11 homeostasis where students learn about the hormones involved in reproduction.	To explain what happens at human fertilisation	Contraception kit	<ul style="list-style-type: none"> <li>I can name a variety of methods of contraception.</li> <li>I can compare the different methods of contraception.</li> <li>I can explain the role of gametes at fertilisation.</li> </ul> <p><b>Vocabulary:</b> Barrier, contraception, sexually transmitted, abstinence, fertilisation.</p>	Answers to retrieval questions.  <b>Homework:</b> 6 mark question on contraception.
Biology Terms 3 & 4 lesson 7	To know how and why our bodies change. This follows on from key stage 2 where students learnt about life cycles of organisms. This leads forward to year 11 homeostasis where students learn about the role of hormones in the menstrual cycle.	To describe what happens during puberty.		<ul style="list-style-type: none"> <li>I can describe the changes that occurs in males and females during puberty.</li> <li>I can describe the stages of the menstrual cycle.</li> <li>I can make links between the menstrual cycle, fertilisation and fertility.</li> </ul> <p><b>Vocabulary:</b> Ovulation, uterus, lining, egg, follicle, period, menstruation.</p>	Answers to retrieval questions.
Biology Terms 3 & 4 lesson 8	To know how babies develop. This follows on from	To describe the stages of pregnancy.	Pregnancy model.	<ul style="list-style-type: none"> <li>I can describe the stages of pregnancy.</li> <li>I can discuss the</li> </ul>	Answers to retrieval questions.

	<p>key stage 2 where students learnt about life cycles of organisms.</p> <p>This leads forward to year 11 homeostasis where students learn about hormones in the menstrual cycle.</p>			<p>impact of maternal lifestyle on the foetus.</p> <p><b>Vocabulary:</b> Gestation, embryo, foetus, zygote, trimester.</p>	
<p>Biology Terms 3 &amp; 4 lesson 9</p>	<p>To know how babies are born.</p> <p>This follows on from key stage 2 where students learnt about life cycles of organisms.</p> <p>This leads forward to year 11 homeostasis where students learn about hormones in the menstrual cycle.</p>	<p>To describe the process of childbirth.</p>		<ul style="list-style-type: none"> <li>I can describe the stages of childbirth.</li> </ul> <p><b>Vocabulary:</b> Engaged, contraction, labour, uterus, dilation.</p>	<p>Answers to retrieval questions.</p> <p>Feedback on 6 mark question.</p>
<p>Biology Terms 3 &amp; 4 lesson 10</p>	<p>To consolidate all of our learning in the unit.</p>	<p>To prepare for assessment</p>		<ul style="list-style-type: none"> <li>I can identify my areas to develop.</li> <li>I can use a variety of resources to support my revision.</li> </ul>	<p>Answers to retrieval questions.</p> <p>Exit Ticket 2</p> <p><b>Homework:</b> Revision (Seneca, mats, bitesize)</p>
<p>Biology Terms 3 &amp; 4 lesson 11</p>	<p>To check what we know.</p>	<p>To undertake assessment</p>	<p>Low stakes assessment and go through identifying misconceptions.</p>		<p>Low stakes end of topic assessment.</p>
<p>Chemistry Terms 3 &amp; 4 lesson 1</p>	<p>To recall everyday chemical reactions happening all around us.</p>	<p>To describe how everyday chemical changes can be put to use.</p>	<p>Chemical spy.</p>	<ul style="list-style-type: none"> <li>I can name a variety of everyday chemical reactions.</li> <li>I can explain how</li> </ul>	<p>Answers to retrieval questions.</p>

	<p>This follows on from year 7 term 3 where students learnt about chemical reactions.</p> <p>This leads forward to year 10 chemical changes where students learn about useful chemical reactions.</p>			<p>these reactions impact on our everyday life.</p> <ul style="list-style-type: none"> <li>I can describe that during chemical reaction the surroundings may increase or decrease in temperature.</li> </ul> <p><b><u>Vocabulary:</u></b> Corrosion, rusting, exothermic, endothermic, suitability.</p>	
Chemistry Terms 3 & 4 lesson 2	<p>To describe a metabolic pathway.</p> <p>This follows on from year 8 term 4 where students learnt about respiration and photosynthesis.</p> <p>This leads forward to year 10 bioenergetics where students learn about respiration and photosynthesis in greater depth.</p>	To explain how photosynthesis and respiration are similar.		<ul style="list-style-type: none"> <li>I can recall the word equations for photosynthesis and respiration.</li> <li>I can describe the similarities between the reactions of respiration and photosynthesis.</li> <li>I can explain what a symbiotic relationship is.</li> </ul> <p><b><u>Vocabulary:</u></b> Glucose, oxygen, carbon dioxide, water, energy, dependent, symbiotic, metabolic.</p>	Answers to retrieval questions.
Chemistry Terms 3 & 4 lesson 3	<p>To know where our rubbish goes.</p> <p>This follows on from key stage 2 grouping and classifying materials.</p>	To compare methods of rubbish disposal.		<ul style="list-style-type: none"> <li>I can describe what happens to waste once it leaves our homes.</li> <li>I can describe the advantages and</li> </ul>	<p>Answers to retrieval questions.</p> <p><b><u>Homework:</u></b> Silly Putty reading and</p>

	This leads forward to year 11 resources where students learn about life cycle analysis.			<p>disadvantages of different waste disposal methods.</p> <ul style="list-style-type: none"> <li>I can discuss the efficacy of recycling.</li> </ul> <p><b><u>Vocabulary:</u></b> Landfill, incineration, recycling, degradable, reusable, upcycling, disposal.</p>	comprehension task.
Chemistry Terms 3 & 4 lesson 4	<p>To investigate sustainable design.</p> <p>This follows on from key stage 2 grouping and classifying materials.</p> <p>This leads forward to year 11 resources where students learn about life cycle analysis.</p>	To explain drawbacks of sustainability.		<ul style="list-style-type: none"> <li>I can define the term sustainable.</li> <li>I can describe advantages and disadvantages of sustainability.</li> </ul> <p><b><u>Vocabulary:</u></b> Sustainability, sustainable..</p>	Answers to retrieval questions.
Chemistry Terms 3 & 4 lesson 5	<p>To know how polymers form.</p> <p>This follows on from key stage 2 grouping and classifying materials.</p> <p>This leads forward to year 11 resources where students learn about life cycle analysis.</p>	To link polymers to their uses.	Nylon making	<ul style="list-style-type: none"> <li>I recognise that different materials have different properties.</li> <li>I can describe some properties of polymers.</li> <li>I can explain the difference in properties of polymers with reference to their structure.</li> <li>I can link the uses of polymers to their properties.</li> </ul>	<p>Answers to retrieval questions.</p> <p>Exit Ticket 1</p> <p>Answers to homework questions.</p>

				<p><b><u>Vocabulary:</u></b> Polymer, monomer, thermosetting, thermosoftening, structure.</p>	
Chemistry Terms 3 & 4 lesson 6	<p>To know what ceramics are. This follows on from key stage 2 grouping and classifying materials. This leads forward to year 11 resources where students learn about life cycle analysis.</p>	To link the properties of ceramics to their uses.	Glass making.	<ul style="list-style-type: none"> <li>• I recognise that different materials have different properties.</li> <li>• I can describe some properties of ceramics.</li> <li>• I can explain the difference in properties of ceramics with reference to their structure.</li> <li>• I can link the uses of ceramics to their properties.</li> </ul> <p><b><u>Vocabulary:</u></b> Ceramic, brittle.</p>	<p>Answers to retrieval questions.</p> <p><b><u>Homework:</u></b> KS3 Science Workbook pages 101-103</p>
Chemistry Terms 3 & 4 lesson 7	<p>To evaluate gore-tex and Kevlar. This follows on from key stage 2 grouping and classifying materials. This leads forward to year 11 resources where students learn about life cycle analysis.</p>	To describe composite materials.		<ul style="list-style-type: none"> <li>• I recognise that different materials have different properties.</li> <li>• I can describe some properties of composites.</li> <li>• I can explain the difference in properties of composites with reference to their structure.</li> <li>• I can link the uses of composites to their</li> </ul>	<p>Answers to retrieval questions.</p>

				properties.  <b><u>Vocabulary:</u></b> Composite, strength.	
Chemistry Terms 3 & 4 lesson 8	To investigate fossil fuel usage. <i>This follows on from year 8 term 1 where students learnt about energy resources.</i> <i>This leads forward to year 9 energy where students learn to link energy resources to their suited use.</i>	To evaluate energy produced by different fuels.	Whoosh bottle (using different alcohols).	<ul style="list-style-type: none"> <li>I can recall the three fossil fuels.</li> <li>I can describe the advantages and disadvantages of burning fossil fuels.</li> <li>I can describe the demand for fossil fuels over time.</li> </ul> <b><u>Vocabulary:</u></b> Fossil, climate change, acid rain, greenhouse effect, global warming, demand, supply.	Answers to retrieval questions.  Answers to homework questions.  <b><u>Homework:</u></b> 6 mark question on burning fossil fuels.
Chemistry Terms 3 & 4 lesson 9	To know how medicines are produced. <i>This follows on from key stage 2 grouping and classifying materials.</i> <i>This leads forward to year 11 resources where students learn about life cycle analysis.</i>	To describe the stages in medicine development.		<ul style="list-style-type: none"> <li>I can recognise that different substances have different properties.</li> <li>I can describe the stages of drug development.</li> <li>I can explain the purpose of each stage of drug development.</li> </ul> <b><u>Vocabulary:</u></b> Trial, blind test, double blind testing, clinical, placebo.	Answers to retrieval questions.
Chemistry Terms 3 & 4 lesson 10	To describe the chemical changes in cooking food. <i>This follows on from</i>	To know what happens when food is cooked.	Fry an egg.	<ul style="list-style-type: none"> <li>I can describe examples of chemical and physical change.</li> </ul>	Answers to retrieval questions.



	<p>year 7 term 3 where students learnt about chemical reactions.</p> <p>This leads forward to year 11 variation where students learn about protein synthesis.</p>			<ul style="list-style-type: none"> <li>I can describe what happens during a chemical change.</li> <li>I can explain the effect chemical changes on food properties such as taste and texture.</li> </ul> <p><b><u>Vocabulary:</u></b> Physical, reversible, irreversible, texture, consistency.</p>	
Chemistry Terms 3 & 4 lesson 11	To consolidate all of our learning in the unit.	To prepare for assessment		<ul style="list-style-type: none"> <li>I can identify my areas to develop.</li> <li>I can use a variety of resources to support my revision.</li> </ul>	<p>Feedback on 6 mark question.</p> <p>Answers to retrieval questions.</p> <p>Exit Ticket 2</p> <p><b><u>Homework:</u></b> Revision (Seneca, mats, bitesize)</p>
Chemistry Terms 3 & 4 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 Terms 3 & 4 lesson 1	<p>To know the types of wave and be able to label them.</p> <p>This follows on from year 8 term 1 where students learnt about methods of transferring energy.</p> <p>This leads forward to</p>	To describe the properties of waves.	Ripple tank, slinky.	<ul style="list-style-type: none"> <li>I can state what waves can travel through.</li> <li>I can state that light moves at the speed of light.</li> <li>I can describe the reflection of an observed wave in</li> </ul>	<p>Answers to retrieval questions.</p> <p><b><u>Homework:</u></b> 6 mark question on types of wave.</p>

	year 11 waves where students learn about longitudinal and transverse waves.			<p>water.</p> <ul style="list-style-type: none"> <li>• I can label compressions and rarefactions.</li> <li>• I can describe transverse waves with reference to oscillations and energy.</li> <li>• I can compare light waves and waves in matter.</li> </ul> <p><b><u>Vocabulary:</u></b> Transverse, longitudinal, compression, rarefaction, oscillation, vibration.</p>	
Physics Terms 3 & 4 lesson 2	<p>To accurately draw reflection diagrams.</p> <p>This follows on from key stage 2 where students learnt about the effects of light.</p> <p>This leads forward to year 11 waves where students learn to apply the idea of reflection.</p>	To investigate and apply the law of reflection.	Mirrors and ray boxes.	<ul style="list-style-type: none"> <li>• I can recognise reflection.</li> <li>• I can draw ray diagrams.</li> <li>• I can state the law of reflection.</li> <li>• I can describe dispersion with reference to wave speed.</li> </ul> <p><b><u>Vocabulary:</u></b> Protractor, normal, incidence, reflection, dispersal.</p>	Answers to retrieval questions.
Physics Terms 3 & 4 lesson 3	<p>To accurately draw and explain refraction diagrams.</p> <p>This follows on from key stage 2 where students learnt about</p>	To explain the process of refraction.	Perspex blocks and ray boxes, pencil, beaker, coin and cup.	<ul style="list-style-type: none"> <li>• I can recognise and describe refraction.</li> <li>• I can describe how light behaves in relation to different materials.</li> </ul>	Answers to retrieval questions.

	<p>the effects of light.</p> <p>This leads forward to year 11 waves where students learn to apply the idea of refraction.</p>			<ul style="list-style-type: none"> <li>I can explain refraction with reference to particles and the speed of light.</li> </ul> <p><b><u>Vocabulary:</u></b> Dense, bends, speed, apparent, refraction, medium.</p>	
<p>Physics Terms 3 &amp; 4 lesson 4</p>	<p>To know how long and short sight are corrected.</p> <p>This follows on from key stage 2 where students learnt about the effects of light.</p> <p>This leads forward to year 11 waves where students learn to apply the idea of lenses to deuce focal length.</p>	<p>To describe how lenses work.</p>	<p>Lenses and ray boxes.</p>	<ul style="list-style-type: none"> <li>I can identify objects that form images.</li> <li>I recognise what convex lenses do.</li> <li>I can describe how convex and concave lenses work.</li> <li>I can compare eyes and cameras.</li> </ul> <p><b><u>Vocabulary:</u></b> Convex, concave, divergent, converging, enlargement.</p>	<p>Answers to retrieval questions.</p> <p>Feedback on 6 mark question.</p> <p><b><u>Homework:</u></b> Refraction and lenses reading and comprehension task.</p>
<p>Physics Terms 3 &amp; 4 lesson 5</p>	<p>To know the primary and secondary colours of light.</p> <p>This follows on from key stage 2 where students learnt about the effects of light.</p> <p>This leads forward to year 11 waves where students learn to apply the idea of colour to stage techniques.</p>	<p>To describe coloured light and filters.</p>	<p>Triangle prisms, ray boxes, filters.</p>	<ul style="list-style-type: none"> <li>I can recognise the light spectrum and absorption.</li> <li>I can describe how we see colours.</li> <li>I can describe how to make secondary colours.</li> <li>I can describe colours of light in terms of frequency.</li> </ul> <p><b><u>Vocabulary:</u></b> Primary, secondary,</p>	<p>Answers to retrieval questions.</p> <p>Exit Ticket 1</p>

				frequency, absorption, reflection.	
Physics Terms 3 & 4 lesson 6	To clearly explain the colour of an object in different coloured lights. <i>This follows on from key stage 2 where students learnt about the effects of light.</i> <i>This leads forward to year 11 waves where students learn to apply the idea of colour to mixing.</i>	To predict the colour of an object.		<ul style="list-style-type: none"> <li>I can explain how we see different colours in different coloured light.</li> </ul> <p><b><u>Vocabulary:</u></b> Reflect, absorb, primary, secondary, black, white.</p>	Answers to retrieval questions.  Answers to homework questions.
Physics Terms 3 & 4 lesson 7	To use vocabulary to describe sound waves. <i>This follows on from key stage 2 where students learnt about sound and vibration.</i> <i>This leads forward to year 11 waves where students learn how to apply properties of sound waves to sound devices.</i>	To describe the properties of different sounds.	Signal generator and oscilloscope.	<ul style="list-style-type: none"> <li>I can state that sound waves are longitudinal.</li> <li>I can recognise a longitudinal wave, frequency and auditory range.</li> <li>I can explain why sound is a longitudinal wave with reference to the direction of vibrations and energy.</li> <li>I can state how sound is produced and that it cannot travel through a vacuum.</li> <li>I can explain how sound travels with reference to particles.</li> </ul>	Answers to retrieval questions.  <b><u>Homework:</u></b> KS3 Science Workbook pages 192-194

				<p><b><u>Vocabulary:</u></b> Vacuum, longitudinal, frequency, amplitude, wavelength.</p>	
Physics Terms 3 & 4 lesson 8	<p>To calculate the speed of sound, distances and times.</p> <p>This follows on from key stage 2 where students learnt about sound and vibration.</p> <p>This leads forward to year 11 waves where students learn how to apply properties of sound waves to standing waves.</p>	To deduce the speed of sound.	Trundle wheel, clapper board.	<ul style="list-style-type: none"> <li>I can describe the term echo.</li> <li>I can use echoes to determine the speed of sound.</li> <li>I can identify sources of error and how to reduce them.</li> </ul> <p><b><u>Vocabulary:</u></b> Echo, error, minimise.</p>	Answers to retrieval questions.
Physics Terms 3 & 4 lesson 9	<p>To know how the ear works.</p> <p>This follows on from key stage 2 where students learnt about sound and vibration.</p> <p>This leads forward to year 11 waves where students learn how to apply properties of sound waves to how sound transfers through different media.</p>	To describe the structure of the ear.	Ear model.	<ul style="list-style-type: none"> <li>I can label the structure of the human ear.</li> <li>I can state the function of each part of the human ear.</li> <li>I can describe how sound waves transfer information if converted to electrical signals.</li> </ul> <p><b><u>Vocabulary:</u></b> Vibration, pinna, fluid.</p>	<p>Answers to retrieval questions.</p> <p>Answers to homework questions.</p>
Physics Terms 3 & 4 lesson 10	<p>To know how sound waves transfer energy.</p> <p>This follows on from key stage 2 where students learnt about sound and vibration.</p>	To describe how loudspeakers and microphones work.		<ul style="list-style-type: none"> <li>I can describe how sound waves transfer information if converted to electrical signals.</li> <li>I can describe</li> </ul>	<p>Answers to retrieval questions.</p> <p><b><u>Homework:</u></b> KS3 Science Workbook pages 197/198</p>

	This leads forward to year 11 waves where students learn how to apply properties of sound waves to sound devices.			applications of absorbing sound waves.  <b><u>Vocabulary:</u></b> Acoustics, absorb, amplify.	
Physics Terms 3 & 4 lesson 11	To know some uses of sound waves. This follows on from key stage 2 where students learnt about sound and vibration. This leads forward to year 11 waves where students learn how to apply properties of sound waves to everyday uses.	To explain how ultrasound works.		<ul style="list-style-type: none"> <li>I can describe sonar, ultrasound and echolocation.</li> <li>I can link sonar, ultrasound and echolocation to examples.</li> </ul> <b><u>Vocabulary:</u></b> Ultrasound, infrasound, frequency, echolocation, sonar.	Answers to retrieval questions.
Physics Terms 3 & 4 lesson 12	To use and manipulate the wave equation. This follows on from key stage 2 where students learnt about sound and vibration. This leads forward to year 11 waves where students learn how to apply properties of sound waves to deduce the speed of waves using a variety of techniques.	To calculate wavelengths, frequencies and wave speeds.		<ul style="list-style-type: none"> <li>I can link the equation for speed to the application of sound waves.</li> <li>I can calculate frequency, wavelength and wave speed.</li> </ul> <b><u>Vocabulary:</u></b> Manipulate, rearrange, wave speed, wavelength, frequency.	Answers to retrieval questions.  Answers to homework questions.
Physics Terms 3 & 4 lesson 13	To consolidate all of our learning in the unit.	To prepare for assessment		<ul style="list-style-type: none"> <li>I can identify my areas to develop.</li> <li>I can use a variety of resources to support my revision.</li> </ul>	Answers to retrieval questions.  Exit Ticket 2  <b><u>Homework:</u></b>

					Revision (Seneca, mats, bitesize)
Physics Terms 3 & 4 lesson 14	To check what we know.	To undertake assessment	Low stakes assessment and go through identifying misconceptions.		Low stakes end of topic assessment.