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## Subject: Trilogy HIGHER BIOLOGY Year 11 Curriculum Map 2020 – 2021

### Resources:

Week Commencing	Topic (including links to additional resources)	Assessment Window
1 <sup>st</sup> September	Bridging work	
7 <sup>th</sup> September	Bridging work	
14 <sup>th</sup> September	Bridging work	
21 <sup>st</sup> September	Bridging work	
28 <sup>th</sup> September	<p><b><u>TOPIC 7 ECOLOGY</u></b>  <b><u>Lesson 1 – Classification</u></b>            Classify organisms based on their similarities.            Describe classification using:</p> <ul style="list-style-type: none"> <li>•Kingdom</li> <li>•Phylum</li> <li>•Class</li> <li>•Order</li> <li>•Family</li> <li>•Genus</li> <li>•Species.</li> </ul> <p>Explain why the importance of the binomial system to name organisms.            Explain how modern technologies have affected how organisms are classified today.            Describe Carl Woese's system of classification and classify organisms into the three mains.</p> <p><b><u>Lesson 2 – Communities</u></b>            Understand and use the terms ecosystem, community, competition, habitat, interdependence.            Describe factors that affect the survival of organisms in their habitat.            Explain how one species depends on others for survival.            Describe a stable community as one where all the species and environmental factors are in balance, so population sizes remain fairly constant. Give an example of a stable community.            Describe resources that plants and animals compete for in a given habitat.</p>	
5 <sup>th</sup> October	<p><b><u>Lesson 3 – Biotic and abiotic factors</u></b>            Name biotic factors in a habitat and explain how a change in a biotic factor might affect a community, eg:</p> <ul style="list-style-type: none"> <li>•availability of food</li> <li>•new predators arriving</li> </ul>	

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	<ul style="list-style-type: none"> <li>•new disease organisms</li> <li>•one species out-competing another so the numbers are no longer sufficient to breed.</li> </ul> <p>Name abiotic factors in a habitat and explain how a change in a biotic factor might affect a community, eg:</p> <ul style="list-style-type: none"> <li>•light intensity</li> <li>•temperature</li> <li>•moisture levels</li> <li>•soil pH and mineral content</li> <li>•wind intensity and direction</li> <li>•carbon dioxide levels for plants</li> <li>•oxygen levels for aquatic animals.</li> </ul>	
12 <sup>th</sup> October	<p><b>Lesson 4 – Distribution of organisms</b></p> <p>Describe how to carry out random sampling of organisms using a quadrat. Describe when and how a transect should be used. Evaluate data gathered by using a quadrat and transect. Calculate area, mean, median, mode and range. Explain why sample size is important to obtain valid results.</p> <p><b>Lesson 5 – Required practical</b></p> <p>Required practical: plan and carry out a valid method to estimate a plant population. Present and analyse the results.</p>	
19 <sup>th</sup> October (inset Friday 22 <sup>nd</sup> )	<p><b>Lesson 6 – Adaptations</b></p> <p>Describe and explain how structural, behavioural and functional adaptations, in a range of organisms, help them to survive in their habitat. Define the term extremophile and give general examples.</p>	
Half Term		
2 <sup>nd</sup> November	<p><b>Lesson 7- Levels of organization</b></p> <p>Explain what a food chain shows. Explain that photosynthetic organisms are the producers of biomass for life on Earth. Identify producers, primary, secondary and tertiary consumers in a food chain. Interpret and explain population curves, eg hare and lynx, red and grey squirrels, and native and American crayfish.</p>	
9 <sup>th</sup> November	AR1 Assessment	AR1 ASSESSMENTS
16 <sup>th</sup> November	DDI Wave 1 DDI Wave 2	AR1 ASSESSMENTS
23 <sup>rd</sup> November	Reassessment	
30 <sup>th</sup> November	<p><b>Lesson 8 – How material are cycled</b></p> <p>Interpret and explain the processes in diagrams of the carbon, water and decay cycles. Explain the importance of these cycles to living things. Explain the carbon cycle. Explain the water cycle. Explain the role of microorganisms in cycling materials through an ecosystem.</p> <p><b>Lesson 9 – Biodiversity</b></p> <p>Define the term biodiversity. Explain how great biodiversity maintains food supplies and shelter for organisms, and maintains the physical environment. Describe examples of how a reduction in biodiversity can affect climate, food supplies for humans, useful chemical for the future etc.</p>	

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7 <sup>th</sup> December	<p><b><u>Lesson 10 – Waste management</u></b></p> <p>Describe the problems associated with an increasing human population. Interpret graphs showing human population growth. Describe how water can be polluted with sewage, fertiliser or toxic chemicals. Analyse and interpret data about water pollution. Describe examples of air pollutants and where they come from. Describe the effects of smoke on buildings, humans and plant photosynthesis. Describe how acid rain is formed and the effects of acid rain on living organisms. Analyse and interpret data about air pollution. Evaluate the use of fertiliser on plant growth and oxygen levels. Describe what herbicides and pesticides are used for.</p>	
14 <sup>th</sup> December	<p><b><u>Lesson 11 – Land use and deforestation</u></b></p> <p>Explain what peat is and why it is important to preserve areas of peat. Explain why peat should not be burnt. Define the term deforestation. Explain why vast tropical areas have been cleared of trees. Explain how deforestation increases the amount of carbon dioxide in the atmosphere and leads to a reduction in biodiversity.</p> <p><b><u>Lesson 12 – Global warming</u></b></p> <p>Explain the terms greenhouse effect and global warming. Explain with the aid of a diagram how levels of carbon dioxide and methane contribute to global warming. Describe the possible effects of global warming.</p>	
Christmas Holiday		
4 <sup>th</sup> January	<p><b><u>Lesson 13 – Maintaining biodiversity</u></b></p> <p>Describe programmes introduced to maintain biodiversity:</p> <ul style="list-style-type: none"> <li>•breeding programmes for endangered species</li> <li>•protection and regeneration of rare habitats, eg coral reefs, mangroves, heathland</li> <li>•reintroduction of field margins and hedgerows in agricultural areas</li> <li>•reduction of deforestation and carbon dioxide emissions by some governments</li> <li>•recycling resources rather than dumping waste in landfill.</li> </ul> <p>Explain and evaluate conflicting pressures on maintaining biodiversity</p>	
11 <sup>th</sup> January	Prep for MOCKS	
18 <sup>th</sup> January	.PREP for MOCKS	
25 <sup>th</sup> January	PAPER 1 and PAPER 2 (2020 Summer used in the autumn)	FULL MOCK EXAMS
1 <sup>st</sup> February		FULL MOCK EXAMS
8 <sup>th</sup> February (Inset 12 <sup>th</sup> February)		FULL MOCK EXAMS
February Half Term		
22 <sup>nd</sup> February	Revision	

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1 <sup>st</sup> March	Revision	
8 <sup>th</sup> March	Revision	
15 <sup>th</sup> March	Revision	
22 <sup>nd</sup> March	Revision	
29 <sup>th</sup> March	Revision	
Easter Holiday		
19 <sup>th</sup> April	Revision	
26 <sup>th</sup> April	Revision	
3 <sup>rd</sup> May	Revision	
10 <sup>th</sup> May	EXAMS BEGIN	
17 <sup>th</sup> May	EXAMS	
24 <sup>th</sup> May	EXAMS	
7 <sup>th</sup> June	EXAMS	
14 <sup>th</sup> June	EXAMS	
21 <sup>st</sup> June	EXAMS	
28 <sup>th</sup> June		
5 <sup>th</sup> July		
12 <sup>th</sup> July		
19 <sup>th</sup> July (School closed from 22 <sup>nd</sup> )		

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