

Year 10: Living World- Evolution

	Check	Date
Revise assumed knowledge: SC4-14LW relates the structure and function of living things to their classification, survival and reproduction	<input type="checkbox"/>	
SC4-15LW explains how new biological evidence changes people's understanding of the world		
LW4 The <u>theory</u> of evolution by natural selection explains the diversity of living things and is supported by a range of scientific evidence. (ACSSU185)		
EXPLAINING BIODIVERSITY		
<i>5LW4a. describe scientific evidence that present-day organisms have evolved from organisms in the past</i>	<input type="checkbox"/>	
Define the terms evolution	<input type="checkbox"/>	
Identify evidence used by Darwin and other scientists during the development of the scientific theory of evolution	<input type="checkbox"/>	
Identify evidence of evolution e.g. palaeontology, biogeography, comparative anatomy, comparative embryology and genetics	<input type="checkbox"/>	
Describe <u>Palaeontology</u> (transitional fossils) as evidence of evolution	<input type="checkbox"/>	
Describe <u>biogeography</u> (large flightless birds) as evidence of evolution	<input type="checkbox"/>	
Describe <u>comparative anatomy</u> (Pentadactyl limbs) as evidence of evolution	<input type="checkbox"/>	
Describe <u>comparative embryology</u> as evidence of evolution	<input type="checkbox"/>	
Describe <u>genetics</u> as evidence of evolution	<input type="checkbox"/>	
Compare and contrast divergent and convergent evolution	<input type="checkbox"/>	
LITERACY SET 1: COSMOS ARTICLE		
Assessment: Oxford online test- Explaining biodiversity Students to achieve 100% in Support and Consolidate OR Consolidate and Extend	<input type="checkbox"/>	
BIODIVERSITY AND EVOLUTION OF A SPECIES		
<i>5LW4c. explain, using examples, how natural selection relates to changes in a population, e.g. in the development of resistance of bacteria to antibiotics and insects to pesticides 🦋</i>	<input type="checkbox"/>	
Define natural selection	<input type="checkbox"/>	
Identify the four requirements of natural selection	<input type="checkbox"/>	
Explain how some bacteria have become resistant to antibiotics (superbugs)	<input type="checkbox"/>	
LITERACY SET 2: MIXED ACTIVITIES		
<i>5LW4d. outline the roles of genes and environmental factors in the survival of organisms in a population 🦋</i>	<input type="checkbox"/>	
Define the terms mutation, gene, allele, speciation, adaptation	<input type="checkbox"/>	
Distinguish between a gene and allele, give examples	<input type="checkbox"/>	
Identify the role of mutations in allele formation	<input type="checkbox"/>	
Describe the two methods that cause variation in organisms (Nature-Nurture) i.e. gene mutations AND environmental factors	<input type="checkbox"/>	
Relate the formation of new alleles to evolution by natural selection	<input type="checkbox"/>	
CODE: 10LW1 First-hand investigation: Effect of environment on individuals within a species.	<input type="checkbox"/>	
CODE: 10LW2 First-hand investigation: PhET Modelling natural selection	<input type="checkbox"/>	

AND/OR CODE: 10LW3 First-hand investigation: Modelling natural selection: Peppered moth interactive http://www.techapps.net/interactives/pepperMoths.swf AND/OR CODE: 10LW4 First-hand investigation: Modelling natural selection (Oxford pg76)		
Identify the three main isolating mechanisms vital for speciation (genetic isolation) i.e. temporal, behavioural and mechanical	<input type="checkbox"/>	
CODE: 10LW5 First-hand investigation: Modelling speciation (Oxford pg82)	<input type="checkbox"/>	
CODE: 10LW6 Activity 2.2.1: Generational change	<input type="checkbox"/>	
CODE: 10LW7 Activity 2.2.2: Selection challenge	<input type="checkbox"/>	
NUMERACY AND SKILLS SET	<input type="checkbox"/>	
Assessment: Oxford online test- Evolution of a species Students to achieve 100% in Support and Consolidate OR Consolidate and Extend	<input type="checkbox"/>	
EVIDENCE OF EVOLUTION- fossils and radiometric dating		
<i>5LW4b. relate the fossil record to the age of the Earth and the time over which life has been evolving</i>	<input type="checkbox"/>	
Define the terms fossil, radioisotope	<input type="checkbox"/>	
Identify the main processes involved in the formation of fossils	<input type="checkbox"/>	
Identify that the age of the fossil is the same as the rock layer where it was found	<input type="checkbox"/>	
Distinguish between absolute and relative dating (law of superposition)	<input type="checkbox"/>	
Describe how the fossil record is evidence for evolution e.g. transitional fossils	<input type="checkbox"/>	
Explain how fossils can be used to estimate the age of the Earth and how this is further evidence in support of evolution	<input type="checkbox"/>	
CODE: 10LW8 First-hand investigation: Examine and compare a range of fossils	<input type="checkbox"/>	
Identify common examples of radioisotopes e.g. carbon and uranium	<input type="checkbox"/>	
CODE: 10LW9 First-hand investigation: PhET "radioactive dating game" Play the "radioactive dating game" and complete the " Half-life and radio-dating questions"	<input type="checkbox"/>	
Assessment: Oxford online test- Evidence of Evolution Students to achieve 100% in Support and Consolidate OR Consolidate and Extend	<input type="checkbox"/>	
Assessment: Evolution Chapter Test	<input type="checkbox"/>	
Comments and Suggested improvements		
Name: Signature: Date:		