Biology > Big idea BVE: Variation, adaptation and evolution > Topic BVE3: Evolution

Key concept (age 11-14)

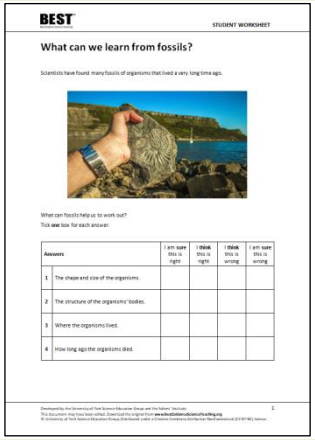
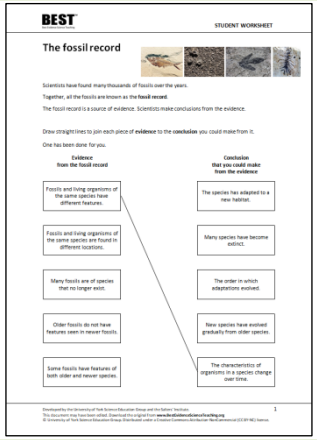
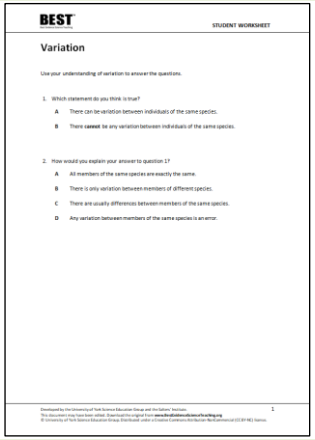
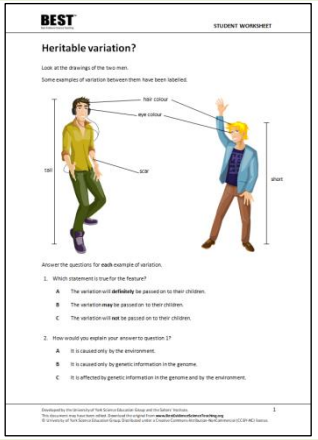
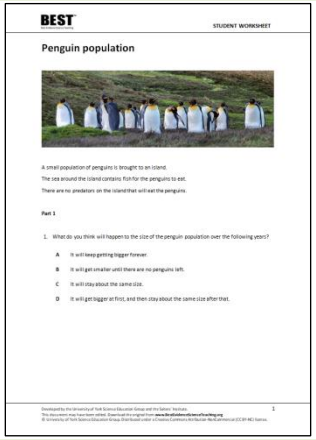
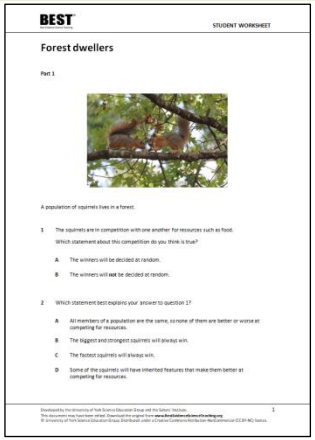
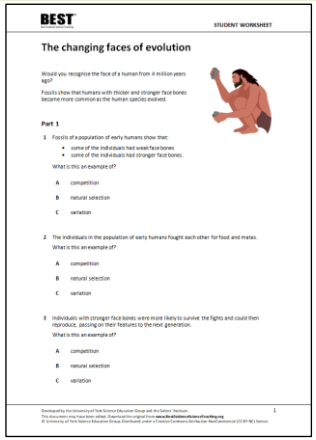
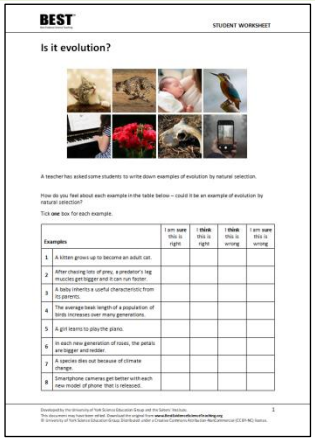
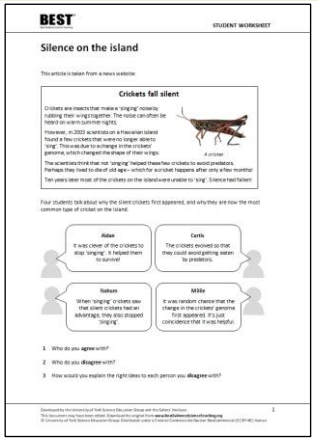
BVE3.1: Explaining evolution

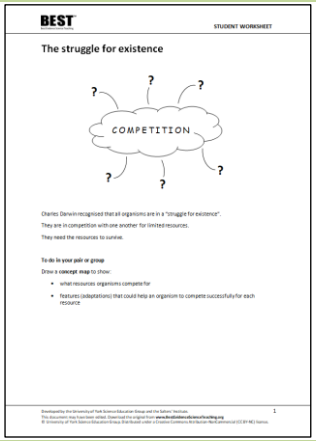
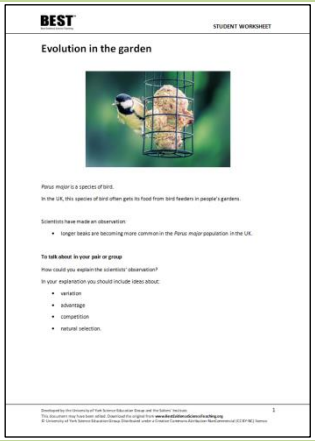
Learning focus	The characteristics of a species can change over generations as advantageous adaptations become more common; this is evolution, and can be explained by a process of natural selection.				
As students' conceptual understanding progresses they can:	CONCEPTUAL PROGRESSION				
	Explain how the fossil record provides evidence that species change over time. **P**	Recognise that there is variation between individuals within a species, and that only genetic variation can be inherited.	Recognise that organisms compete for limited resources, and that some individuals have traits that help them compete more successfully than other individuals in the same population.	Use ideas about heritable variation, competition, fitness and natural selection to explain why an advantageous trait became more common in a population over a number of generations.	Apply the idea that evolution by natural selection occurs within populations, over generations and without foresight.
Diagnostic questions	What can we learn from fossils?	Variation	Penguin population	The changing faces of evolution	Is it evolution?
	The fossil record	Heritable variation?	Forest dwellers		Silence on the island
Response activities		Observing and explaining variation	The struggle for existence	Evolution in the garden	
		Can it be inherited?			

Key:

P Prior understanding from earlier stages of learning

B Bridge to later stages of learning

What can we learn from fossils?	The fossil record	Variation	Heritable variation?	Penguin population
				
Confidence grid	Linking ideas	Two-tier multiple choice	Two-tier multiple choice	Simple multiple choice
Forest dwellers	**The changing faces of evolution**	**Is it evolution?**	**Silence on the island**	
				
Two-tier multiple choice	Simple multiple choice	Confidence grid	Talking heads	

Observing and explaining variation	Can it be inherited?	The struggle for existence	Evolution in the garden
			
Challenge to thinking, discussion	Discussion	Concept map, discussion	Discussion