

Introduction to Fossils

Slide number	Title	Information	Questions for students
2	Introduction what are fossils, where do you find them, how do they form?		
3	Life on Earth Pictures of animals and plants	We share this planet with millions of other organisms, big and small	<p>Q. Can you name different types of living things? A. Animals, Plants, Fungi, Bacteria, Viruses</p> <p>Q. Can you give examples of vertebrates and invertebrates?</p> <p>Q. Did these living things always exist on the Earth?</p> <p>Q. How do we now what creatures were on Earth before us?</p>
4	Ancient Life Picture of a fossil gastropod	<p>Fossils can tell us what living creatures were on the Earth millions of years ago</p> <p>Fossils are the remains of dead plants and animals preserved in rocks</p> <p>This gastropod lived during the carboniferous period over 300 million years old</p> <p>In Ireland we have lots of fossils from this time period</p>	<p>Q. Does anybody know what kind of animal this was? A. A snail – a big sea snail</p>
5	Ancient Life Picture of a fossil crinoid	This is another fossil from the Carboniferous period that is found in Ireland called a crinoid	

6	Ancient Life Picture of a fossil pliosaur	A pliosaur was a big marine reptile, had flippers instead of feet, lived in the ocean at the same time as dinosaurs about 200 million years ago	Q. Does anybody know what this is? A. Pliosaur
7	Ancient Life Picture of fossil dinosaurs in museums	Some of the most famous fossils in the world are dinosaurs – here we see a Brontosaurus and a T-Rex	
8	How do fossils form? Picture of a butterfly and a fossil butterfly		Q. How easy is it to make a fossil? Do we just have to squash it? Q. How does a living thing become a fossil?
9	How do fossils form? Death and Decay	First the creature has to die	Q. What happens to the creatures body after it dies? A. It decays or rots away Q. What parts of the body will decay? A. Soft parts such as organs and muscle
10	Decay Picture of frog and fossil frog		Q. what parts of this frog have decayed? A. Skin, tongue, eyes, inner organs, muscles Q. What parts have fossilised? A. Bones
11	How do fossils form? Burial	After the creature has died and its soft parts have decayed the hard parts must become buried – covered in layers of sand and/or mud After millions of years rock and fossils are formed due to the intense heat and pressure deep within the Earth	
12	How do fossils form? Uplift	Plate tectonic movements cause rocks to be compressed and pushed back up to the Earth's surface, this allows us to find fossils.	
13	Where do we find fossils? Picture of the Earth		Q. Where are good places to go looking for fossils?

			<p>Q. Can we find them everywhere on earth?</p> <p>A. Anywhere there are a lot of rocks exposed at the surface – need the right type of rocks – limestone, mudstone or sandstone</p>
14	<p>Beach Picture of fossil ammonite on a beach in the south of England</p>	<p>Giant ammonite, relative of squid and octopus</p> <p>Fossils are found in lots of places for people to enjoy, remember to leave any fossils you find where they are for other people to enjoy and never hammer or break rocks to find fossils</p>	
15	<p>Mountains Picture of a fossil trilobite found in the Canadian Rocky Mountains</p>	<p>These rocks were formed underneath the sea then pushed back to the surface by plate tectonics, this is why we can find fossil sea creatures on the tops of mountains!</p>	
16	<p>Quarries Picture of a fossil fish found in a quarry in Germany</p>	<p>Remember you need permission to enter quarries and you should always have an adult with you</p>	
17	<p>Footpaths Picture of fossil brachiopods in a footpath in Cork city</p>	<p>Limestone is a very common building rock used in Ireland and it is full of fossils – check out limestone buildings, walls or footpaths near you for fossils</p>	
18	<p>Stone Walls Picture of a fossil crinoids in a stone wall in county Mayo</p>		
19	<p>Museums Picture of a geological museum in Whitby</p>	<p>Often museums contain the very best fossils found by palaeontologists so they are a great place to see fossils!</p>	
20	<p>How old are fossils? Pictures of historical people</p>	<p>Lets think of some old historical people.</p>	<p>Q. When did the Normans come to Ireland?</p> <p>A. 1100 AD</p> <p>Q. When did the Egyptians build the pyramids?</p>

			<p>A. Over 5000 years ago</p> <p>Q. Do these people or events seem old?</p>
21	<p>Fossil are OLD Timeline with historical people in chronological order and to scale</p>	<p>Let's put these historical people on a timescale.</p> <p>So you can see fossils are really old! Millions of years and even hundreds of millions years old!</p>	<p>Q. If we extended this timescale how far back would we need to go to reach the first humans</p> <p>A. 20m – this was about 2 million years ago</p> <p>Q. What about the last non-flying dinosaurs?</p> <p>A. 660m – all dinosaurs (except flying ones which evolved into birds) went extinct 66 million years ago</p> <p>Q. How far back do we need to go to get to the first animals on earth??</p> <p>A. Some of the oldest fossil animals are over 700 million years old</p>
22	<p>Ireland's Fossil Heritage website</p>	<p>To find out more about Irish fossils you can check out our website, we have information on fossils, a fossil map and even a fossil video game!</p>	