1 Warm up

Fossils are *remnants or impressions* of ancient *organisms* (living things) that are naturally preserved in stone. Look at the pictures and for each group of three, decide which fossil is different to the other two.

Group 1



A) a fossil of a dinosaur



B) fossil ferns



C) an insect preserved in tree sap, or amber

Group 2



D) a fossil of a tree



E) dinosaur footprints



F) an early hominid skull

2 Vocabulary

You are going to watch a video about fossils. Before you watch, complete the activities to define some vocabulary that you will need.

Group 1

Match the beginning and endings of these sentences and use the context to explain the meanings of the words or phrases in bold.

1. Our wet clothes were **clinging** to our bodies	a. and don't react with other elements.
2. The use of huge nets for commercial fishing also **entraps**	b. because we got caught in a rainstorm.
3. The police were able to **sequence** the **geneticmaterial**	c. in a liquid to make it easier to give to a patient.
4. Gases like argon and neon are **inert**	d. other animals like turtles and dolphins.
5. It's possible to **suspend** a powerful drug	e. proving that some species lived in social groups.
6. Scientists discovered the fossil footprints of young and adult dinosaurs together, **thereby**	f. they found at the crime scene and identify the killer.

Which four words relate in some way to the idea of not being able to move, escape or change?

Group 2

1. a texture	a. a hole or empty space in your teeth or body
2. a cavity	b. a type of hard material found naturally in the earth, for example iron or bauxite
3. tissue	c. a type of material that makes up part of a living thing, for example muscle or bone
4. a mineral	d. a very small hole in the outside surface of a living thing, for example in your skin or on a leaf
5. a pore	e. something that people study in a museum or scientific experiment
6. a specimen	f. something that stops a gas or liquid from leaving an enclosed space, for example on a bottle or around the door of a refrigerator
7. a seal	g. the way something feels when you touch it, for example smooth or rough

Why do all but one of these nouns have the indefinite article (*a*) in front of them?

3 Watch Part 1

Watch the first part of the video (00:00-01:57) and complete the notes about *fossilization*, or the process by which fossils are created. Write one word in each space.

Fossilization

There are _____ of types of fossils, but only two major categories. Body fossils are the remains of once-living plants and animals. Trace fossils show how an animal behaved - _____ are an example of this. There are also two major categories of body fossil. Sometimes an organism is not _____ by the fossilization process and the specimen shows its original form and _____ . This type of fossil includes animals and plants that have been _____ , preserved in tar pits or mummified. It can also include insects that have been preserved in amber. In this special case, tree sap covers an insect and forms a _____ . The sap hardens into amber. Because the amber is _____ , it preserves all the animal's soft _____ .

What do you think *mummified* means?

4 Watch Part 2

Watch the second part of the video (01:57-03:45) to find out if these statements are true or false.

Watch the second part of the video (01:57-03:45) to find out if these statements are true or false.

1. Coal is an example of fossilization where the specimen has been changed or altered.
2. Permineralization is an uncommon type of fossilization.
3. In permineralization, tiny particles of minerals cover the outside of an organism.
4. We can always identify the tree species of samples of permineralized wood.
5. We have some information about the genetic material of insects trapped in amber.
6. Footprints from thousands of years ago help us understand how the first humans lived.

After you watch the second part of the video, answer these questions.

1. What's the most interesting or surprising thing you learned from the video?
2. Look back at the vocabulary exercise. Which of the items do you think will be useful for you to remember and use in other contexts and which items do you think are only useful for watching this video, or discussing this topic?

5 Language point

Study the words in the table and answer the questions.

noun/adjective	verb relating to process	noun relating to process
fossil	fossilize	fossilization
carbon	carbonize	carbonization
mineral	mineralize	mineralization
mummy	mummify	mummification

1. How were the words in the column on the left changed into verbs?
2. How were the verbs in the middle column changed into another type of noun?
3. What do you notice about the pronunciation of the words as they grow longer?

6 Suffixes

Complete the gaps in the questions below, using the correct form of one of the words in the box with either an *-ify* or *-ize* suffix, possibly with *-ation* as well. You may need to use only part of the root word.

electric / glory / legal / liquid / memory / modern / pure / simple / solid / symbol

1. Besides babies, what sort of people need to have _____ food?
2. Do you think people who own historic cars should _____ them or should we keep them as part of history?
3. Do you think that the _____ of violence in some computer games is dangerous to children?
4. How do campers _____ water from rivers or streams?
5. How would your home or school benefit from _____ ?
6. Is there any part of English grammar that you think should be _____ ?
7. Jelly is a food that needs to _____ before you eat it. Give some more examples like this.
8. What are some reasons people have given in favour of the _____ of drugs?
9. What does a picture of a white dove normally _____ ?
10. What's your top tip for _____ new vocabulary?

7 Talking point

Discuss the following questions in pairs or small groups.

1. What do you think is the most exciting aspect of being a palaeontologist? What might be the most frustrating part of the job?
2. Do you think scientists will ever be able to use ancient DNA to bring extinct animals back to life? Is this a good idea?
3. What do you think is the most important thing that we can learn from the study of fossils?
4. Was the world better in the time of the dinosaurs? What do you think the earth will be like 150 million years from now?

LIVEWORKSHEETS