

## How could I become fossilised?

### Thinking through fossilisation in the context of me or you

#### Fossil me?



A body with its skeleton

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Ask a visitor or one of your class\* to stand where everybody can see them and ask: What would happen if [his/her name] fell into a nearby river or the sea and died – how might they become fossilised? Then lead them through this possible story:

- the current drags the body along the bottom, scratching the skin so that blood runs into the water;
- creatures start eating at the scratches and at other softer parts of the body like the eyes;
- small water creatures enter through any holes and start eating from the inside;
- after a few days, decay of food in the stomach produces gas so that the body floats to the surface and is carried along;
- fish and other creatures attack any weak points and gradually begin to remove the skin;
- when the skin and other soft parts like the guts and lungs have been removed, the body sinks to the bottom again and the muscles start to rot;
- as the muscles rot and are eaten, most bones are still held together by ligaments – but these begin to decay so that small bones begin to separate;
- currents roll or drag the bones along the bottom grinding them down and breaking them up – first the smaller bones and then the larger ones;
- eventually, all that is left is the hardest part of the body, the teeth;
- these too are rolled around, worn down and broken up – so that finally nothing is left;
- this is what happens to perhaps 99.99% of dead creatures – they are eaten and broken up and are not fossilised.

\* someone who is confident and has a sense of humour!



A tooth – usually the last part of a human to be left and so the part most often fossilised.

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#### If I want to become fossilised – what should I do?

Ask the class this question – and steer them towards answers like these.

The best chances of fossilisation are:

- where there is no activity to drag bodies along;
- where there is no oxygen, so that animals that might eat the body can't live there;
- where there is no oxygen so that the bacteria that might rot the body can't live there either.

The best chance of getting these conditions is if the body is buried. So, if you want to be fossilised, don't fall into a river or the sea but ask to be buried!

But, burial is better in some areas than others. If you are buried in ground that water can flow through, like sand, the water will bring oxygen and bacteria that will decay and break up the body. You need to be buried in impermeable ground like mud or clay that will keep water and oxygen out - like this man who died more than 6000 years ago and was buried in a bog. Not only were his bones preserved, but also his skin and clothes as well.



4<sup>th</sup> century BC Tollund Man preserved in a peat bog in Denmark.

*Tollundmanden\_i\_Silkeborgmuseet.JPG Permission is granted to copy, distribute and/or modify this document under the terms of the GNU Free Documentation license*

#### If I don't want to become fossilised – what should I do?

Places where you are not likely to be fossilised include:

- areas with lots of physical activity, like mountain tops, fast flowing rivers, beaches and roads, and,
- areas with lots of oxygen – like most areas above ground at the Earth's surface.

## The back up

**Title:** How could I become fossilised?

**Subtitle:** Thinking through fossilisation in the context of me or you.

**Topic:** Pupils are asked to think through what is likely to happen to a human body after it dies in an active environment.

**Age range of pupils:** 11 – 18 years

**Time needed to complete activity:** 15 mins

**Pupil learning outcomes:** Pupils can:

- describe how a human body is likely to decay in an active river/marine environment;
- describe and explain environments in which bodies are less likely to decay and so in which fossilisation is more likely.

### Context:

Pupils think through the decay processes that the human body is likely to be involved in as it moves towards fossilisation - as a means of gaining understanding of fossilisation processes and what fossils are.

### Following up the activity:

Try the Earthlearningidea *What was it like to be there? – bringing a fossil to life*, published on the 11<sup>th</sup> August, 2008.

### Underlying principles:

- Bodies undergo a series of decay processes after death in which material is progressively lost.
- Most organisms, even those with hard parts, are never fossilised.
- The environment in which something dies or is buried is crucial to its fossilisation potential.
- To be classed as a true fossil, the object must have been preserved for at least 10,000 years. Many well-preserved human remains, like Tollund Man in the peat bog above, are more recent than this, but can still be used to illustrate the principles of fossilisation.

### Thinking skill development:

Pupils are asked to use their thinking skills to imagine how a body might decay – ‘bridging’ between the characteristics of a living body and how it might behave after death.

### Resource list:

- a person as a ‘model’ and a good imagination

### Useful links:

Consult the American Geological Institute (AGI) website: <http://www.k5geosource.org/content/dd/fossil/pg1.html> for more information on fossilisation.

**Source:** Devised by Chris King of the Earthlearningidea team.

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