

Name:

# Leave a Lasting Impression! (Teacher Version)

## Types of Rock

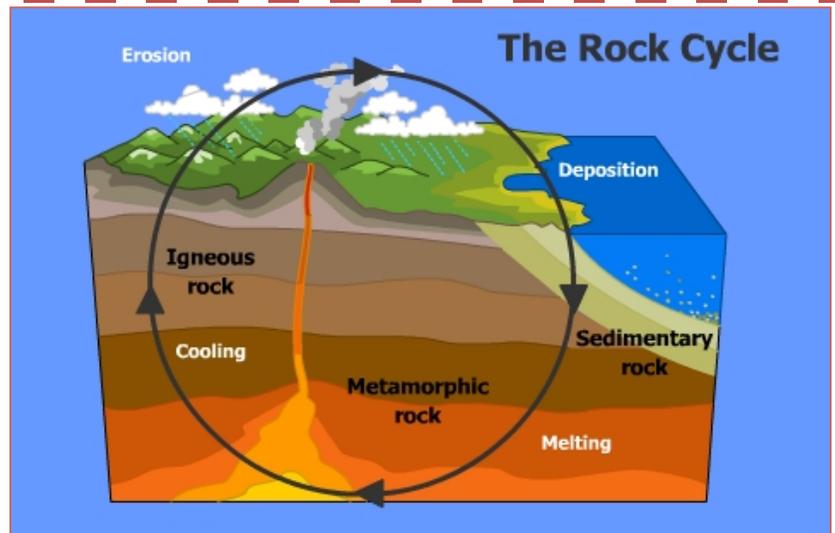
Below are the three types of rock.  
Can you match their description with  
the picture?

Igneous (Volcanic) Rocks:  
Crystal solids formed from cooled  
magma. *Centre*

Sedimentary (Layered) Rocks:  
Compact layers of looser sediment  
that forms on top of the igneous  
crust. *Left*

Metamorphic (Changed) Rocks:  
Formed from other types under  
extreme pressure and heat.

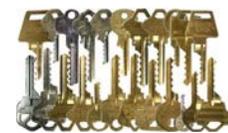
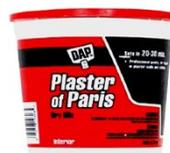
*Right*



## Let's Make a Fossil!

### Materials:

- Ruler
- Can or glass
- Paper clips
- Plaster of Paris mix
- Several different door keys
- Posterboard
- Modelling clay



### Instructions:

1. Flatten a piece of clay to a thickness of about your pinkie finger. Use a can or glass to cut out a circle of clay.

3. Cut out a strip of posterboard about 4cm wide. Wrap this around your clay circle and use paperclips to join the ends.

2. Press the key into the to the centre of the circle until it is level with the clay. Carefully lift out your key.

4. Pour the Plaster of Paris mix into the mould, filling to the top of the posterboard. Use a ruler to level off and wait about 2 hours for it to dry.

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## Follow-up:

Unwrap the posterboard, and lift off the plaster cast.  
Which key came from which cast? How can you tell?

How is this cast like a fossil?

What can scientists learn about plants and animals from looking at fossils?



## Questions:

1. How is making a fossil with clay similar to the way fossils are actually made? *In the end, you wind up with a cast that reflects the more obvious properties of your original object. However, the chemical breakdown that occurs to turn living things into fossils hasn't happened.*

2. Is it easy to tell what object is which? *The finer details are hard to tell apart, such as the teeth spacing. This makes palaeontologists' jobs very tricky when dealing with all the details of a dead organism.*

3. Would it be more difficult to tell other fossils apart, such as dinosaurs or shells? *It would be difficult to distinguish between characteristics within a species. For example, it would be hard for us to tell the difference between two types of modern-day finches.*

## Fossil Facts:

Many fossils have preserved the “hard” parts of an organism’s body, such as bones and teeth. However, softer organisms, such as insects or parts of plants, have been preserved by being covered in Amber (a hardened form of tree sap).



## To Fossilize, or Not to Fossilize?

Which of the following factors do you think contribute to an object becoming a fossil? Circle them!



Availability of  
Sedimentary Rock

Creatures buried  
after death

Availability of  
Metamorphic Rock

Availability of Igneous  
Rock

Presence of silica,  
calcite, or pyrite

Presence of  
scavengers

Animal decomposes  
quickly

Presence of water  
and minerals

Minerals  
recrystallizing

Name:

## **Making Fossils/Lasting Impression Image Sources:**

### The Rock Cycle:

1. Museum Network: <http://www.museumnetworkuk.org/materials/materials/stonewhere.html>
2. Ethos Marble Care: <http://www.ethosmarblecare.co.uk/petrology-technical/igneous-rock.shtml>
3. Canadian Geographic: <http://www.canadiangeographic.ca/atlas/glossary.aspx?alpha=s&id=280&lang=En>
4. Wikipedia: [http://en.wikipedia.org/wiki/Metamorphic\\_rock](http://en.wikipedia.org/wiki/Metamorphic_rock)

### Follow-Up:

1. Discovery Education: <http://school.discoveryeducation.com/clipart/clip/fossil2.html>
2. Discovery Education: <http://school.discoveryeducation.com/clipart/clip/fossil1.html>

### Let's Make a Fossil:

1. Clker: <http://www.clker.com/clipart-ruler.html>
2. Hootensteel: <http://www.hootensteel.com/SearchResults.asp?Cat=1580>
3. Ontarge Web Solutions: <http://ontargetwebsolutions.com/orlando-seo/keep-canned-content-in-the-cupboard/>
4. Treehugger: <http://www.treehugger.com/sustainable-product-design/office-school-supplies-recycled-paper-clips.html>
5. Amazon: <http://www.amazon.com/School-Smart-Poster-Board-Assorted/dp/B0062TNT8I>
6. My Nearest And Dearest: <http://mynearestanddearest.com/ocean-themed-modelling-clay-activity-for-kids/>
7. Null-Byte: <http://null-byte.wonderhowto.com/how-to/create-bump-key-open-any-door-0130500/>

### Fossil Facts:

1. ZME Science: <http://www.zmescience.com/science/geology/insects-trapped-in-amber-offer-a-precious-glimpse-on-prehistoric-bugs/>

### To Fossilize, or Not to Fossilize:

1. Science Kids: <http://www.sciencekids.co.nz/sciencefacts/earth/fossils.html>