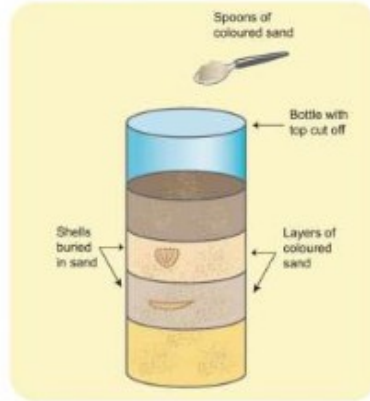


# The rock circus – online

For ages 5 to 7



Developed from  
the Earth  
Science  
Education Unit  
'The rock circus'  
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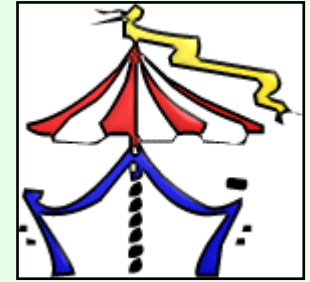
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Innovative, Earth-related teaching ideas



# The rock circus



Join our circus and explore the world!

Tackle the rocky part of the KS1 National Curriculum the scientific way.

Test the rocks, test to find out what they can tell us about the Earth we live on.

Try different interactive and hands-on practical activities that spotlight rocks as you may never have seen them before.

... and

Enjoy the thrills and spills of 'The rock circus' in your own classroom.



# The rock circus

## Summary

Try a series of 'hands-on' activities that involve identifying, sorting and classifying a range of things 'found in the ground'. Through the circus activities, focus first on minerals, then fossils, then rocks, before applying your identification skills to the 'Found in the ground' activity to distinguish all three. Then use this experience to build your own sedimentary rock and to identify natural materials in and around the school.

# The rock circus

## Workshop outcomes

The workshop and its activities provide the following outcomes:

- insights into how minerals, rocks, fossils and other things ‘found in the ground’ can be sorted, classified and identified most effectively;
- the use of evidence to distinguish fossils from non-fossils;
- an opportunity to explore the vicinity of the school for the natural materials found there;
- an opportunity to investigate sedimentary rock formation processes;
- the potential to use Earth materials for a wide range of cross-curricular and creative activities;
- practical activities that develop skills of exploration, discussion, argumentation and creativity;
- guidance on how the elements of Earth science in the curriculum can be taught most effectively.

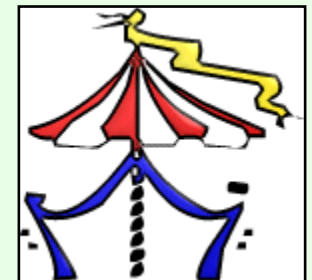
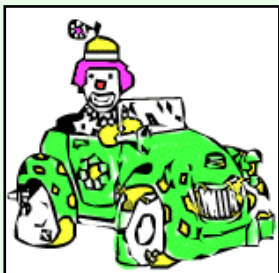
# The rock circus



## *Lay-dees and Gentlemen*

*– presenting the rock circus activity list ....*

- *Starter:* Pirates and Buried Treasure
- *Circus activity 1:* Fossil or not?
- *Circus activity 2:* Rock explorer
- *Circus activity 3:* Found in the ground
- *Circus activity 4:* Rock builder
- *Circus activity 5:* Rocks at school and beyond
- *Plenary:* Sensory treasure hunt



# The rock circus

<b>Video run times</b>	<b>m</b>	<b>s</b>
<i>Starter:</i> Pirates and buried treasure	9	35
Fossil or not?	9	07
Rock explorer	7	55
Found in the ground	8	33
Rock builder	9	08
Rocks at school and beyond	6	14
<i>Plenary:</i> Sensory treasure hunt	11	29



# The rock circus

*Starter:* Pirates and buried treasure



Go to video hyperlink:

[https://www.earthlearningidea.com/Video/Pr\\_Pirates.html](https://www.earthlearningidea.com/Video/Pr_Pirates.html)

# The rock circus

## *Circus activity 1: Fossil or not?*



Fossil bone - Ichthyosaur vertebra. Photo: P.Kennett



Some hazelnuts Photo: P.Kennett

Go to video hyperlink:

[https://www.earthlearningidea.com/Video/Pr\\_Fossil\\_or\\_not.html](https://www.earthlearningidea.com/Video/Pr_Fossil_or_not.html)



# The rock circus

## *Circus activity 1: Fossil or not?*

A body fossil:

A body fossil:

is the remains of the body of an animal or plant, or the imprint or cast of it

A trace fossil:

A trace fossil:

indicates that an animal or plant was there, but is not a body fossil; it includes footprints, burrows, signs of roots, tooth marks, etc.

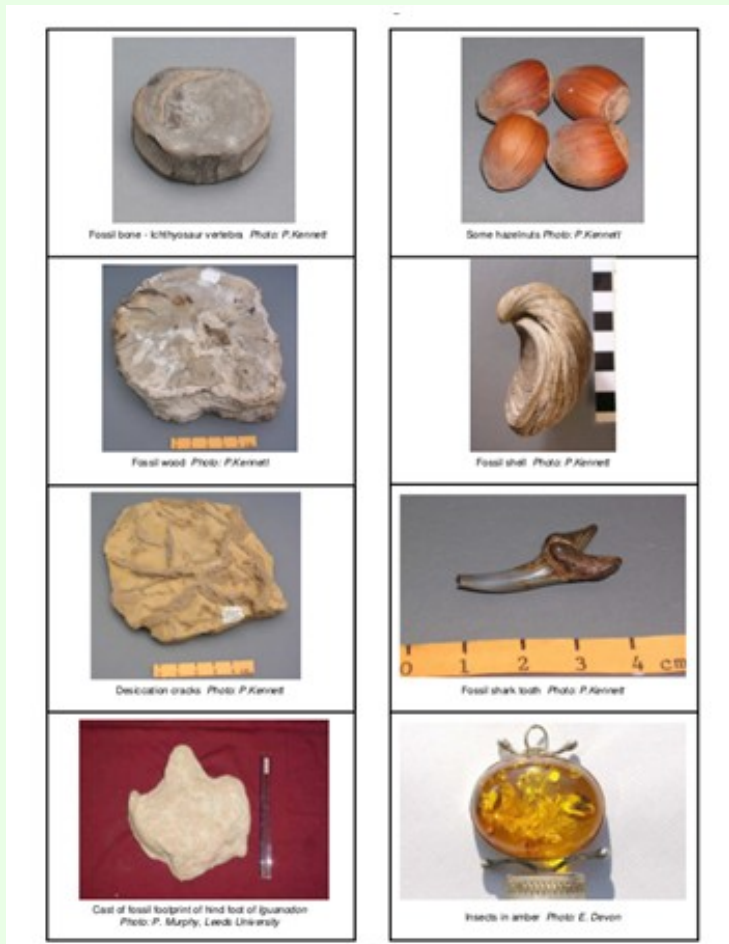
Not a fossil:

A fossil:

is any preserved sign of past life more than 10,000 years old

# The rock circus

## *Circus activity 1: Fossil or not?*



The pictures are of:

- fossil bone
- hazelnuts
- fossilised wood
- fossil shell
- desiccation cracks
- fossil tooth
- dinosaur footprint
- insects in amber

# The rock circus

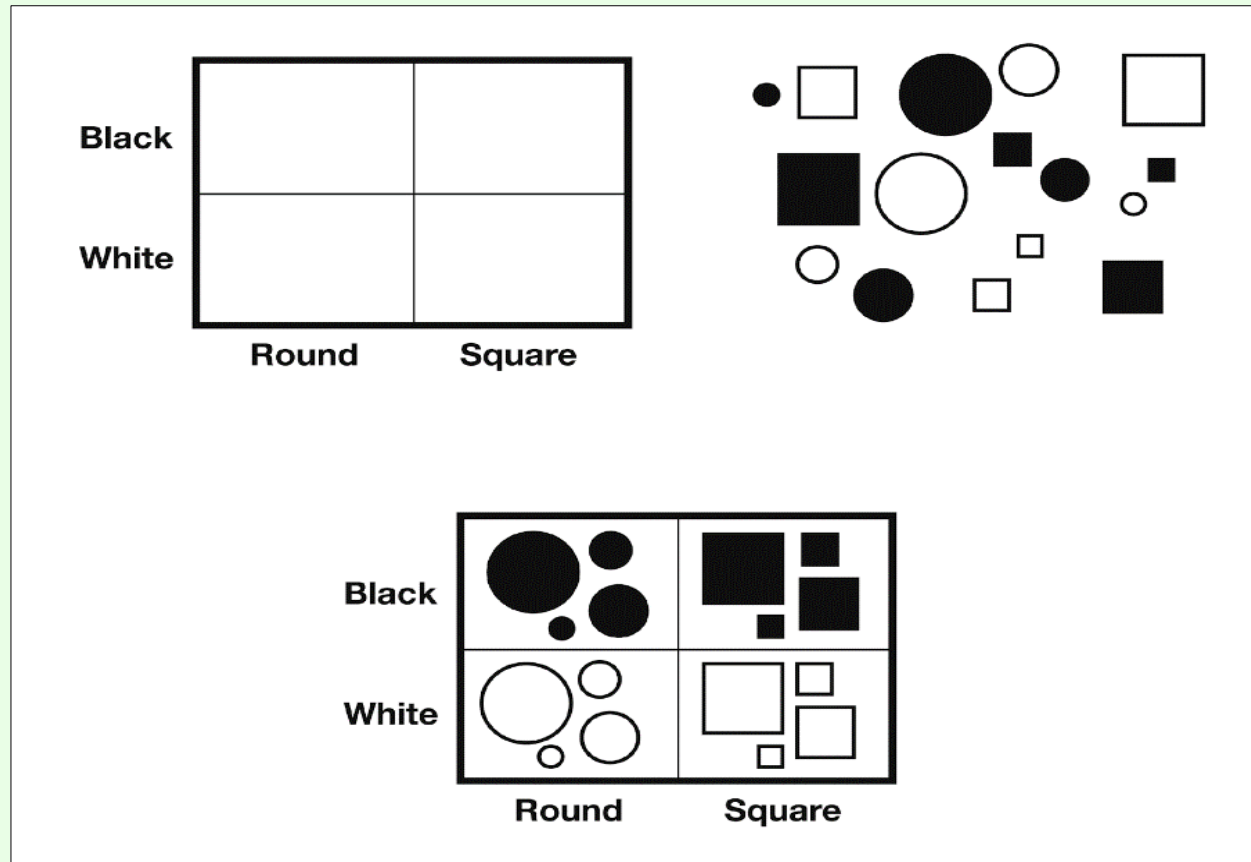
## *Circus activity 1: Fossil or not?*

### ***Which of the following are fossils?***

<input type="radio"/> 4000 year-old footprints like ours as found in mud north of Liverpool, UK	not old enough to be a trace fossil
<input type="radio"/> a squirrel killed on the road	not a fossil, not old enough
<input type="radio"/> 3500 million year old cell filaments	body fossil
<input type="radio"/> a petrified tree stump	body fossil
<input type="radio"/> the trail of a trilobite in 530 million year-old rocks	trace fossil
<input type="radio"/> 'tree-like', dendritic mineral growths	not a fossil – not produced by life
<input type="radio"/> a beach pebble with holes bored by marine organisms	probably not a fossil, unless the boring took place more than 10,000 years ago, in which case the boring is a trace fossil
<input type="radio"/> a human shape preserved in volcanic ash at Pompeii	not old enough to be a fossil – Vesuvius erupted, burying Pompeii, in AD79
<input type="radio"/> a piece of dinosaur skin	body fossil

# The rock circus

## *Circus activity 2: Rock explorer*



Go to video hyperlink:

[https://www.earthlearningidea.com/Video/Pr\\_Rock\\_explorer.html](https://www.earthlearningidea.com/Video/Pr_Rock_explorer.html)

# The rock circus

*Circus activity 3: Found in the ground*



Go to video hyperlink:

[https://www.earthlearningidea.com/Video/Pr\\_Found\\_in\\_ground.html](https://www.earthlearningidea.com/Video/Pr_Found_in_ground.html)

# The rock circus

*Circus activity 3: Found in the ground – helpful cards*

**Pupil success criteria card (Found in the ground)**

**Sort them out**

**To do this in the best way, you will:**

- 1) Group the samples into about two or three ‘categories’ with at least two things in each ‘category’;**
- 2) Not have a group which is made of ‘things that couldn’t be fitted into the other groups’;**
- 3) Make your choices based on the properties of the samples**

## Rock

natural and made of ‘bits’ called grains

## Non-rock

may or may not be natural and are usually not formed of ‘bits’

## Mineral

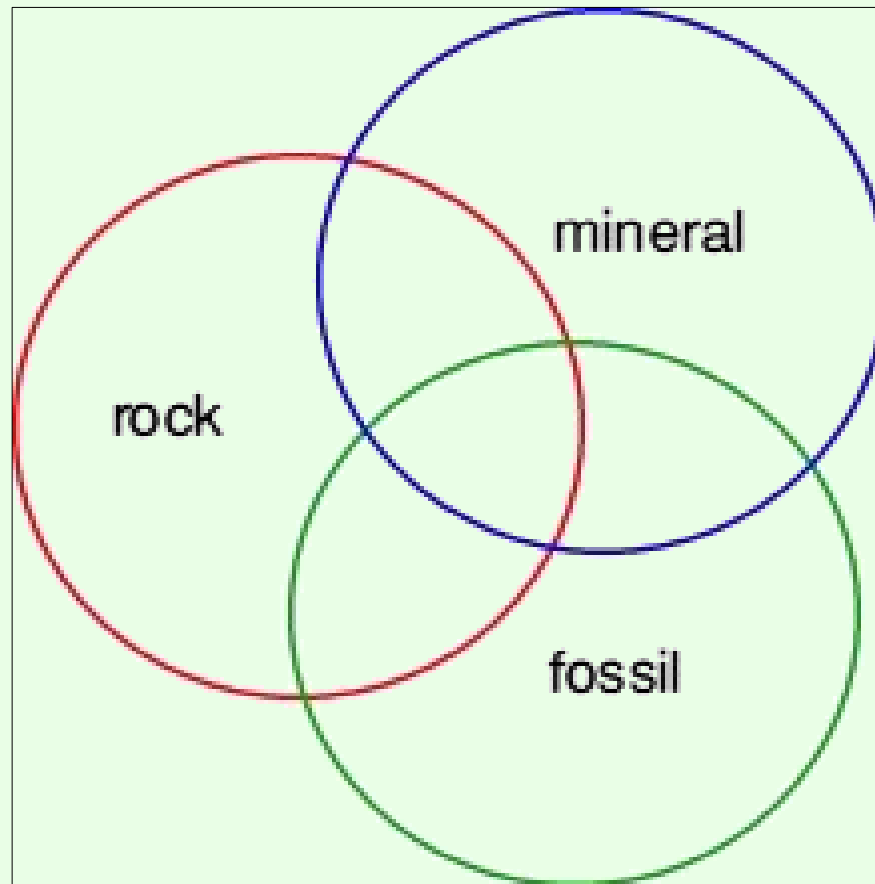
natural chemicals with the same properties all the way through

## Fossil

any preserved sign of past life more than 10,000 years old

# The rock circus

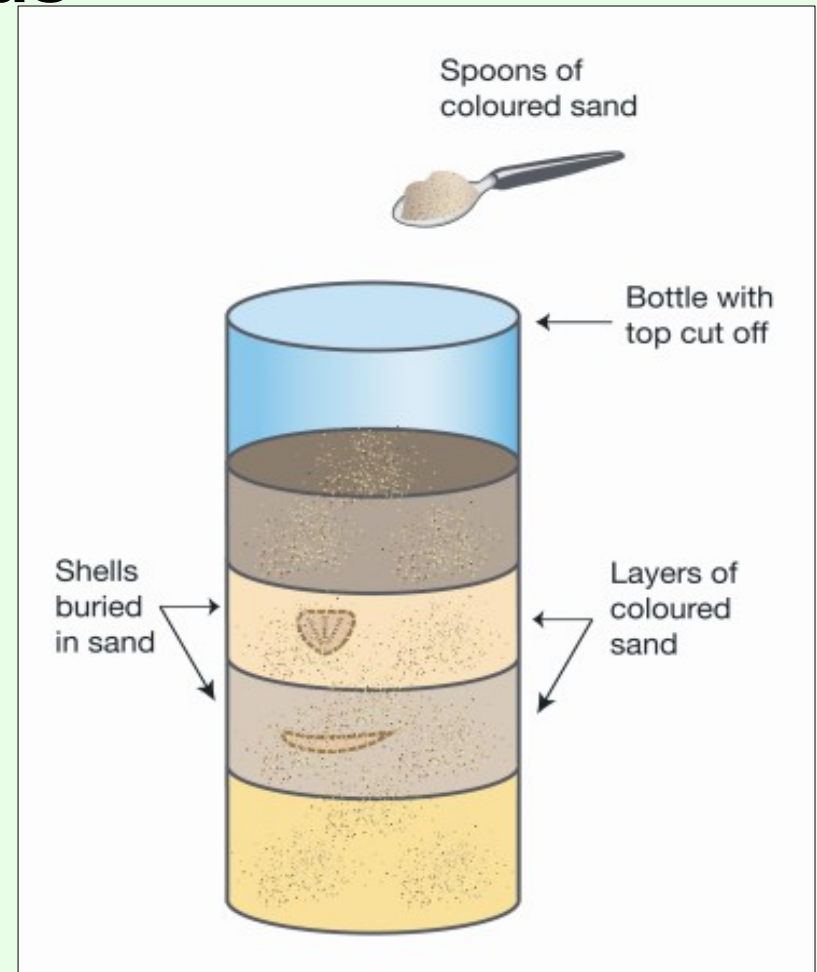
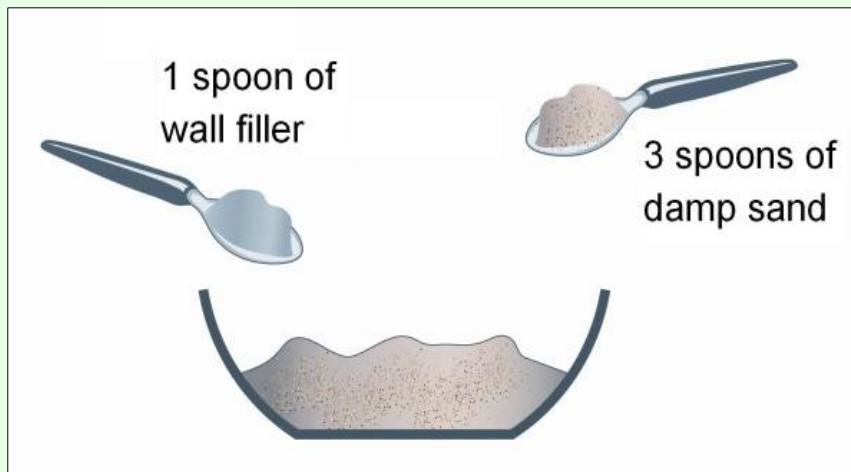
*Circus activity 3:* Found in the ground  
- using the Venn diagram approach





# The rock circus

## Circus activity 4: Rock builder



Go to video hyperlink:

[https://www.earthlearningidea.com/Video/Pr\\_Rock\\_builder.html](https://www.earthlearningidea.com/Video/Pr_Rock_builder.html)

# The rock circus

*Circus activity 5: Rocks at school and beyond*



Go to video hyperlink:

[https://www.earthlearningidea.com/Video/Pr\\_Rocks\\_school.html](https://www.earthlearningidea.com/Video/Pr_Rocks_school.html)

# The rock circus

*Plenary:* Sensory treasure hunt



Go to video hyperlink:

[https://www.earthlearningidea.com/Video/Pr\\_Sensory\\_treasure.html](https://www.earthlearningidea.com/Video/Pr_Sensory_treasure.html)

# The rock circus

*Plenary:* Sensory treasure hunt

Property  
hard

Property  
soft

Property  
stretchy

Property  
stiff

Property  
shiny

Property  
dull

Property  
rough

Property  
smooth

Property  
bendy

Property  
not bendy

Property  
waterproof

Property  
not waterproof

Property  
absorbent

Property  
not absorbent

Property  
transparent

Property  
opaque

# The rock circus

## Workshop outcomes

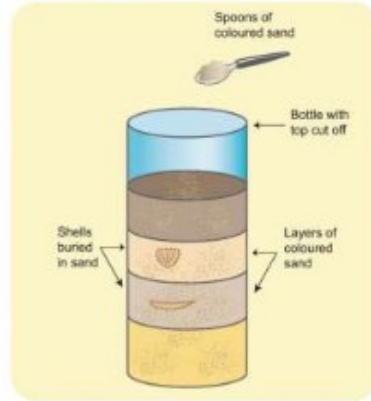
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