



## Website - Pupil Evaluation

One teacher kindly provided us this lesson/activity plan that they had used to incorporate Soil-Net materials into the classroom. We suggest, adapted by age, that this could form a template for your activities also.

### Introduction (10 minutes)

I explained to the children that 'the grown-ups who decide what is important for children to know about' had realised that something had been overlooked. We were explaining to children the importance of air and water in staying alive, but had neglected to explain the importance of **soil**.

To this end, teaching materials were being developed that, it was hoped, would be both fun and interesting and at the same time informative. It was to be their job to test them out.

### Resources

I produced a booklet for each child, consisting of:

- A colouring sheet for the cover (each sheet has an interesting fact)
- A sheet entitled 'What I know about soil' - children to use this to brainstorm or map out what they already knew (or thought they knew)
- Blank sheets for note-taking as they investigated the site
- The wordsearch
- A sheet entitled 'What I *now* know about soil, having used the website'.
- A maze sheet as an endpage

I also produced a sheet with the lesson names and spaces beneath each section; the aim was to see, at the end, which sections the children could remember anything about. I hoped this would also provide prompts, along with their notes, to help children mindmap what they had found out.

## Strategies

Following my introduction, the children chose a booklet and settled down to work at the computer.

Most worked on their own at their own pace. I deliberately did not structure their use of the site, as I felt it would be more useful to see what the children would be most drawn to without intervention. I also wanted to see how much the children would learn without guidance and whether, as I suspected, they would '*play*' with the site, rather than '*use*' it.

After about 40 minutes of independent activity, I drew the group together to question them on how it was going, were they remembering to make notes, were there any sections that they hadn't looked at yet etc.

After morning break, we spent about 20 minutes working together as a group. Questioning had revealed that they had not really understood how all the sections worked, so we went through some of them together.

This was followed by another 20 minutes of independent work, during which pupils either revisited sections or looked at others that they had missed out.

By this time, some of the younger children had done as much as they were able to and used the word search, maze and colouring pages of their booklet. As the year 6's only joined us after break, they used the full hour to research the site.

As I could only access the ICT suite for the one morning, the lesson structure was somewhat artificial - go in, blitz it and come out again! After lunch, however, the group met for a more formal recording session, during which I was able to develop their understanding by referring back to their experience of the website.

## Learning Outcomes

This is reported in sections:

1. *'Important facts'; the children were asked to write down 3 important facts that they felt they learned (10 children)*
2. *Knowledge/ information gained, as evidenced by difference between before and after mind maps (12 children)*

### 1. Important facts (each child was asked to give 3; all could):

- Clay, sand and silt make up soil (given as 3 facts)
- 40% of soil is air and water ++
- It takes 500 years for 1cm of soil to form ++
- The first living soils formed 400 million years ago +
- One teaspoon of soil contains more creatures than there are humans on earth +
- Many different creatures live in the soil
- Carrots are roots in the ground
- Some soil doesn't let water through
- There are over 1,000 types of soil +
- Soil keeps us alive
- Under the microscope you can see all the small bits
- Soil is a living thing/ alive +
- Leaves are in soil
- In the rainforest, soil is fragile
- Bacteria live in soil
- The first soil formed 2,000 million years ago
- Soil is everywhere
- Some roots in rainforests grow above the land, because there is not very much goodness in the soil.
- Leaves decay and become soil
- Soil starts the food chain
- Everything is built on soil
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*These are the facts cited by 10 children. Each '+' represents an additional child; hence, no '+' means 1 child, 1 '+' means 2 children mentioned it etc.*

2. Knowledge/ information gained, as evidenced by difference between before and after mind maps

*(Complete list below to indicate the number of children who cited each of these newly learned fact.)*

1. Could name the constituents of soil [ \_\_\_\_\_ ]
2. Could name more creatures that live in soil [ \_\_\_\_\_ ]
3. Soil keeps us alive/ is part of the cycle of life/ grows food for all creatures [ \_\_\_\_\_ ]
4. Rocks break down to form soil [ \_\_\_\_\_ ]
5. It takes a long time to make soil (500 years - 1cm) [ \_\_\_\_\_ ]
6. Soil needs looking after (keep it moist, don't stamp on it because of the air holes) [ \_\_\_\_\_ ]
7. Organic matter decays to form soil (including animal poo!) [ \_\_\_\_\_ ]
8. Soil is everywhere under your feet [ \_\_\_\_\_ ]
1. Some soils are very old [ \_\_\_\_\_ ]
10. Soils differ from place to place (desert, rainforest) [ \_\_\_\_\_ ]
11. Humans put things on top of soil [ \_\_\_\_\_ ]
12. 1,000's of creatures live in soil [ \_\_\_\_\_ ]
13. There are 1,000's of types of soils [ \_\_\_\_\_ ]
14. Soil grows wheat which eventually becomes my sandwich [ \_\_\_\_\_ ]
15. Soil is important for food for humans and animals [ \_\_\_\_\_ ]
16. Soil is important for growing trees for timber for us to use [ \_\_\_\_\_ ]
17. Roots can be big and roots can be small in the soil [ \_\_\_\_\_ ]
18. Soil absorbs rainwater [ \_\_\_\_\_ ]
19. Different seasons bring different jobs to do in the garden [ \_\_\_\_\_ ]
20. Farmers respect soil [ \_\_\_\_\_ ]
21. Could state what can be seen at different magnifications [ \_\_\_\_\_ ]
22. Tropical soils get washed constantly and some roots grow above ground, as there is not much goodness in the soil [ \_\_\_\_\_ ]

### Notes

The second activity required the children to reflect for longer about what they now knew. They referred back to their original 'map' of what they knew to start with and to their notes.

The second activity differed from the first activity in that the children were asked to write down 3 facts that 'instantly' sprang to mind.

Note it was found that often children did not include their 'important fact' in their mindmap.