Map Our Soils – Soil Practical Investigation

Background information:

In Activities 5.1 and 5.2, the physical and chemical attributes of soils were investigated. Knowing and understanding how these factors affect soils can help landowners prepare or adjust their soils depending on their needs.

Aims:

- To utilise geospatial tools and digital technologies to map your school.
- To conduct field and laboratory tests on soil samples.

Task 1:

1. Search for 'Google My Maps'.
2. Click on the 'create a new map' button.
3. Search for your school.
4. Name the map to include: your school, soil testing and the relevant year of testing.
5. Change the base map to the satellite option.
6. Rename the first untitled layer to the name of your school.
7. Using the 'draw a line' tool, select the outskirts of your school.
8. Now click on the 'add a layer' button.
9. Rename this layer 'pH.'
10. Repeat step 8 five more times so that you have six layers in total.
11. Rename the next layers accordingly:
    - Ribbon test
    - Salinity
    - Bulk density
    - Soil moisture
    - Water infiltration
12. As a class, decide where you are going to conduct your soil samples.
13. In your groups, add your sample sites onto the relevant layers of the map.

This resource has been developed by Primary Industries Education Foundation Australia, Soil Science Australia and Soils For Life, supported through funding from the Australian Government's National Landcare Program.

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Task 2:

1. **Collect the following items:**

- Small trowel
- 6 x large ziplock bags
- Impermeable plastic bag
- Large measuring cylinder + large bottle of water
- Digital device that can record photos/video
- Marker pens

Task 3:

1. **Locate and move to your sample site. At the site, clear any debris, leaf litter and remove the small top layer of organic matter (grass/humus etc).**

- If the soil is being tested in the laboratory, use the trowel to remove about 200g of soil from your sample site. This is about the same mass as a couple of apples. Add the soil to the ziplock bag. Label the bag with the date and the type of soil test to be conducted.
- If the soil is being tested 'on site', conduct the relevant test.

2. **Record photos/videos of the tests being conducted and results.**

3. **Return to the laboratory for further testing.**

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Task 4:

1. Add your results from the soil tests to the description section in the My Maps.
2. Having completed the soil tests, add data to the table below:

Soil test	Results / Observations
pH	
Ribbon test	
Salinity	
Bulk density	
Soil moisture	
Water infiltration	

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