

1. Draw a picture of a soil profile. Label each horizon and describe the composition of each. (10pts)

O Horizon - humus (mainly organic materials)

A Horizon - topsoil (rich in nutrients)

B Horizon - subsoil

C Horizon - rock fragments

R Horizon - bedrock (no organic materials)

2. What is soil made up of? (5pts)

Air, water, living organisms, minerals, organic matter

3. What affects weathering rates? Give specific examples. (2pts)

The environment in which it occurs. For example: warm temperatures and moisture will increase the rate of weathering.

4. What is the parent material of soil. (1pt)

Rock

5. What is biota and how does it play a part in soil formation. Give at least two specific examples. (4pts)

Living things (animals and plants) burrow, and help breakdown (compost) plants to extract nutrients. Their burrowing breaks down rocks, and digesting of other living things, makes the soil rich in nutrients.

6. When the pH is high, what happens to the colour of the plant and why? (1pt)

The plant becomes yellow because it is not able to absorb iron.

7. Compare the organic and inorganic parts of soil. Give specific examples. (4pts)

Organic parts include animal plant life. Inorganic parts are minerals and rocks.

8. What is the difference between mechanical and physical weathering? Explain each, giving specific examples. (2pts)

Mechanical weathering changes the shape and size of the rocks. Physical weathering changes the makeup of the rock, by breaking down individual elements.

9. List three soil properties and describe how they can help you identify soil. (6pts)

| PROPERTY                                     | HOW CAN IT HELP YOU IDENTIFY SOIL |
|--|-----------------------------------|
| Colour,<br>texture,<br>structure,            |                                   |
| soil moisture,<br>pH,<br>fertility,          |                                   |
| consistency,<br>infiltration,<br>temperature |                                   |

Bonus: Describe how surface area affects weathering. Explain why. (1pt)

The smaller the pieces, the more surface area, and the quicker the process of weathering.

Bonus: What causes oxidation? (1pt) Oxygen