Label the diagram of soil layers below using the words from the word bank:
NOTE: only need to say which horizon it is.



**Word Bank:**

|  |  |  |
| --- | --- | --- |
| **O Horizon** (loose and partly decayed organic matter) | **R horizon** (Bedrock) | **E horizon** (lightly coloured zone of leeching) |
| **C horizon** (parent material that has been slightly changed) | **B Horizon** (accumulation of clay and silt from above layers) | **A Horizon** (Mineral matter mixed with some humus) |

**Lab Assignment**

Instructions

1. Working in groups of 5, grab the following tools:
	* 1 Shovel
	* 4 containers
	* 1 Sharpie/Marker
	* 1 meter stick

You will also need:

* + 1 phone in your group, capable of taking pictures and emailing them.
	+ Something to write with
1. Take your tools and head outside. Pick a location to dig in.
BEFORE YOU DIG:
	* Note the location on the diagram below with a circle or an X. The black object represents the school. Note where in the school yard you dug.
	* Record (in words) 2 items:
	1. WHERE you are digging. (example: close to building, OR, in centre of field)

	2. Plant growth in the area. (example: very little plant growth, OR, covered in grass/weeds) **(take a picture)**
2. Dig a 2 feet deep, 2 feet wide hole in the chosen location, placing the dirt next to the hole so you can fill it back in after. (Use your meter stick to measure).
3. When the hole is dug, take a photograph of any soil horizons you can see. You will label this photograph later. YOU MUST SHOW THIS PHOTO TO ME BEFORE THIS PHASE IS COMPLETE
4. From the first soil horizon, take a pile of dirt and fill one of the containers. Label the container (on the masking tape) with the sharpie to identify the soil layer. Repeat this for each soil horizon.

How many different soil layers did you find? (Just put a number down)

1. Did you find any organisms in the soil you collected?
If so, make a drawing or name them. If not, list 2 reasons why there might not be any organisms in the soil.

**BEFORE YOU PUT THE SOIL BACK, HAVE YOU:**

* **Photographed the soil horizons?**
* **Taken samples from each soil horizon?**
* **Labeled the container for each horizon sample?**
* **Recorded where you dug?**
* **Made note/take picture of the area and plants growing in the spot you dug?**
* **Checked for organisms in the soil samples?**If you have completed all of the above in the checkpoint, and can show all of your evidence to the teacher, then put the soil back into the hole you have dug.

Back in the Classroom:

1. Email the photograph of your soil horizons to Mr. Ziegler at this email address:

Corey.ziegler@rbe.sk.ca . i will print the photos in colour for you on a sheet of paper. Each person in your group will get a copy and should staple this to your lab workbook.

1. Label the photograph of your soil layers using the following labels:

NOTE: Not all layers may be present!

|  |  |  |
| --- | --- | --- |
| **O Horizon** (loose and partly decayed organic matter) | **R horizon** (Bedrock) | **E horizon** (lightly coloured zone of leeching) |
| **C horizon** (parent material that has been slightly changed) | **B Horizon** (accumulation of clay and silt from above layers) | **A Horizon** (Mineral matter mixed with some humus) |

**REMEMBER: this labeled photograph should be stapled to this worksheet and should have your name on it!**

1. Decide whether or not you believe it would be a good soil type for the following plants and describe why!
	1. Cactus
	2. Evergreen tree
	3. Rose bush
	4. Grass
2. Soil Texture

Using the flow chart provided on the next page, classify the soil types you found.

Place your answers in the table below. **You might not use all the space provided. That’s OK.**

|  |  |  |
| --- | --- | --- |
| **Soil Types** | **Classification (clay, sand, etc.)** | **Which feature made the classification obvious?** |
| Example: Type 1 | Silty Clay Loam | Soil formed a ballSoil formed a ribbonSoil makes 1-2” ribbon before it breaksSoil feels very smooth |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
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