Why soil is important?

All land \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ depends on soil

There isn’t very much \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ soil.

Required to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ plants

All animal life on land depends on \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

What’s in soil?

Draw a circle graph of the makeup of soil

Most soils have all of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ shown, but some soils are missing some \_\_\_\_\_\_\_\_\_\_\_\_\_\_.

When soil is missing water, it is \_\_\_\_\_\_\_\_\_\_soil. When soil is missing organics, it is \_\_\_\_\_\_\_\_\_\_\_soil. When soil is missing air, it is \_\_\_\_\_\_\_\_\_\_\_\_\_soil

Where does soil come from?

All soil starts from \_\_\_\_\_\_\_\_. Rock that has never been worn down is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Rock must \_\_\_\_\_\_\_\_\_\_\_(break down) into smaller and smaller pieces

Rock can break down in \_\_\_\_\_\_ ways.

Chemical weathering (write/draw an example from the video)

Mechanical weathering (write/draw an example from the video)

Weathered rock doesn’t stay put, but is usually moved by \_\_\_\_\_\_\_\_\_\_\_\_\_\_

List 3 ways that erosion can take place

**CHARACTERISTICS OF SOIL**

Color, pH, Particle size, moisture, Texture, temperature, Consistency

**Soil color**

There are two sources of color in soil

**Minerals**—dark minerals help make \_\_\_\_\_\_\_\_\_\_\_\_\_ soil, light minerals make lighter soil, red minerals help make red soils, and so on.

**Organic Material**—the more organic material in soil, the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the soil. Soils that have a lot of organic material in them tend to be more fertile.

Organic material in the soil is called \_\_\_\_\_\_\_\_\_\_\_. Humus is the MOST important factor in soil \_\_\_\_\_\_\_.

**Soil particle sizes**

\_\_\_\_\_\_\_\_\_ is smaller than gravel. You can see the individual grains. Water flows easily through sand.

\_\_\_\_\_\_\_\_\_ is smaller than sand. You can’t see the individual grains with your eye. It feels smooth like powder in your hands. Water flows slowly through.

\_\_\_\_\_\_\_\_\_ is smaller than silt. It feels sticky and water doesn’t flow well at all through it.

Draw an illustration of the sedimentation tube below

**Soil consistency**

Consistency means how the soil likes to stick together. It depends on the kinds of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in the soil and how much water is in the soil.

**Soil pH**

pH is the way we measure how \_\_\_\_\_\_ or basic something is. It ranges from 0 to 14.

Some acids are: lemon juice, orange juice, soda, battery acid, stomach acid, \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Some bases are: Clorox, ammonia, baking soda, seawater

Pure water is neutral (pH 7), which means it is not acid or basic.

The best pH to dissolve minerals and put nutrients in the soil is between \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Nutrients are chemicals that an organism \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to grow or maintain its life.

**Soil moisture**

Soils must not be too wet or dry for plant growth. If they are too wet, the roots can “\_\_\_\_\_\_\_\_\_\_\_\_\_\_”, if they are too \_\_\_\_\_\_\_\_\_\_\_, roots can’t pull up any water for the plant.

When the soil becomes too \_\_\_\_\_\_\_\_\_\_ it can more easily erode in the wind.

**Dust Bowl**

The Dust Bowl took place in the 1930s. A \_\_\_\_\_\_\_\_\_\_ in the plains states along with with poor farming practices, caused heavy erosion of topsoil.The dust bowl lasted 10 years. It took place in the Southern \_\_\_\_\_\_\_\_\_\_\_states. The Dust Bowl caused many farmers to lose their farms, and many people died.

**Soil temperature**

Soil temperature determines what kinds of plants can grow. If soil is frozen, plants don’t grow well, if at all.