RAWLINSON ROAD MIDDLE SCHOOL- Home of Raider PRIDE

Student Name: _____ **Date:** _____

Course: 7th grade Science **Teacher:** Lee

Teacher Office Hours: 10-12 **Teacher Email:** nlee@rhmail.org
Other form of contact if help is needed: canvas

Instructions to complete the student packet:
Packet is labeled by day you have until April, 30 to complete all assignments. Work at your own pace.
If you have questions see above.

Instructions to submit work:

If possible take pictures and submit to teacher via email or canvas. If not possible keep until we return to school.

Technology

Laptop issues: please **email** the help desk- **helpdesk@rhmail.org** or **phone** at **(803)981-3531** and include the following information:

Student ID number (ex: RS12345)

Parent/Guardian name, Parent/Guardian email and phone number contact information.

School Name / Teacher name

A description of the problem with the computer

The Rock Hill Schools Technology Department Staff will be on call between the hours of 8AM - 8PM

Launchpad: https://launchpad.classlink.com/rockhill **Canvas:** https://rockhill.instructure.com/login/canvas

**** For more information on remote learning, please visit:**

RRMS website at https://www.rock-hill.k12.sc.us/domain/2596 or

RHS District website at: https://www.rock-hill.k12.sc.us/elearning

4/1/20 Lesson 8

Lesson #8 April 1, 2020

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Today your objective will be to identify and express your emotions. ~~Complete the~~ google doc ~~the link~~ is below. Take note of the emotions you check.

~~https://docs.google.com/forms/d/1tJGSUrp0EPmVEWLrwK27QAz4zjpQ6dmfwLnhM_w fr~~

See the attached pages

After you complete the google doc, choose the emotion you have been feeling the most. You will create a picture or write a story about why you have been feeling that emotion.

If you choose to do a picture you may either draw or create on your laptop an emoji poster. Your emoji should represent the emotion. Around the emoji you should include the reasons or thigs that make you feel that way.

Need help:

Link: How to draw emojis

Distance Check - In

* Required

1. Name: *

_____

2. Today I am (check all that apply)

Check all that apply.

- [ ] Happy
- [ ] Excited
- [ ] Sad
- [ ] Anxious
- [ ] Hungry
- [ ] Silly
- [ ] Tired
- [ ] Lonely
- [ ] Bored
- [ ] Overwhelmed
- [ ] Other: _____

3. Give a few details as to why you feel that way.

_____

4. How is your digital learning going?

Mark only one oval.

- ◯ I am on track, and all my work is complete so far
- ◯ I am doing ok, I have done some work, but still working on a few things
- ◯ I have done a little, but I am definitely falling behind
- ◯ I have hardly done any, because I have other responsibilities.
- ◯ I have hardly done any, because I don't want to.
- ◯ I have hardly done any, because I am so confused.

5. Today I am planning to (list school plan)

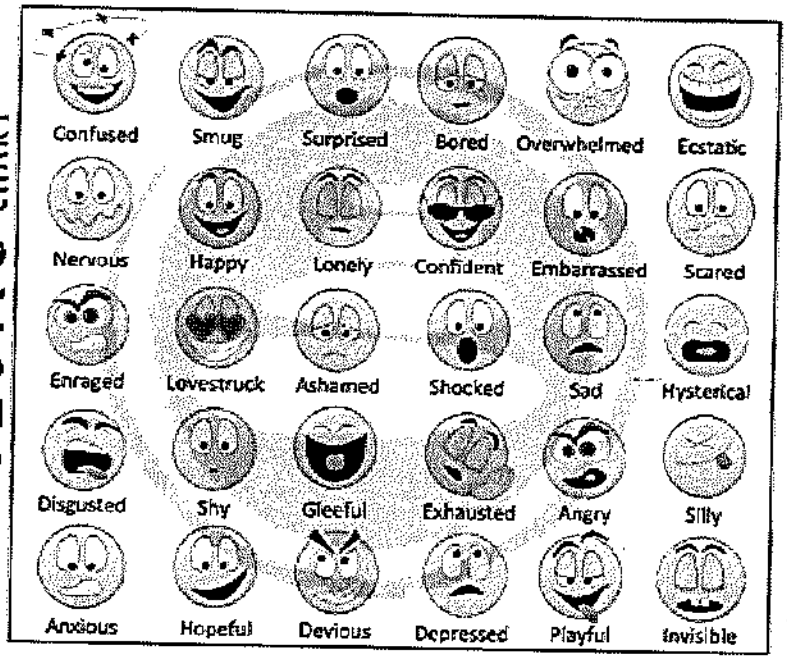
6. Today I am planning to (list something fun you are going to do)

7. It would be helpful if the following checked in with me. Check all that apply, we will do our best to check in with you today. You may also email the person.

Check all that apply.

- [ ] Homeroom teacher
- [ ] LA Teacher
- [ ] Science Teacher
- [ ] History Teacher
- [ ] Math Teacher
- [ ] PE Teacher
- [ ] Music Teacher
- [ ] Unified Art Teacher
- [ ] Special Education Teacher
- [ ] School Counselor
- [ ] Social Worker
- [ ] Nurse
- [ ] Principal
- [ ] Vice Principal
- [ ] Other: _____

EMOTIONS VOCABULARY CHART



4/2/20 Lesson#9

Complete warm-up It is graded.

Warm-up:

"For all things come from earth, and all things end by becoming earth." - *Xenophanes of 580 B.C.*

What do you think this quote means? Why do you think that? (Make sure your answer is in your own words...***do not google it!!!***)

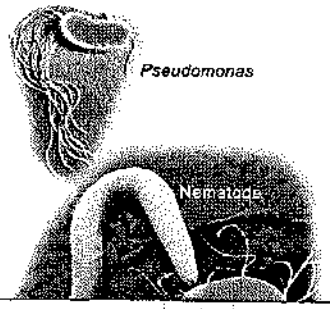
*Think specifically by what the author means by the word "Earth".

CHUMLEY'S CLASS:Then go to launchpad and log into Pearson textbook. You should complete the assignments titled: "Life Beneath Your Feet" and then listen to "How Soil Forms Active ebook Lsn".

LEE'S CLASS: See below

Life Beneath Your Feet

The soil beneath your feet may not look very interesting, but it's packed with life! Many microscopic organisms live in soil and affect the lives of other organisms. Some bacteria, like the *Pseudomonas*, can protect plants from disease. Hundreds of thousands of soil mites can live in a single square meter of soil. And tiny worms called nematodes eat plants, bacteria, fungi, and even other nematodes!



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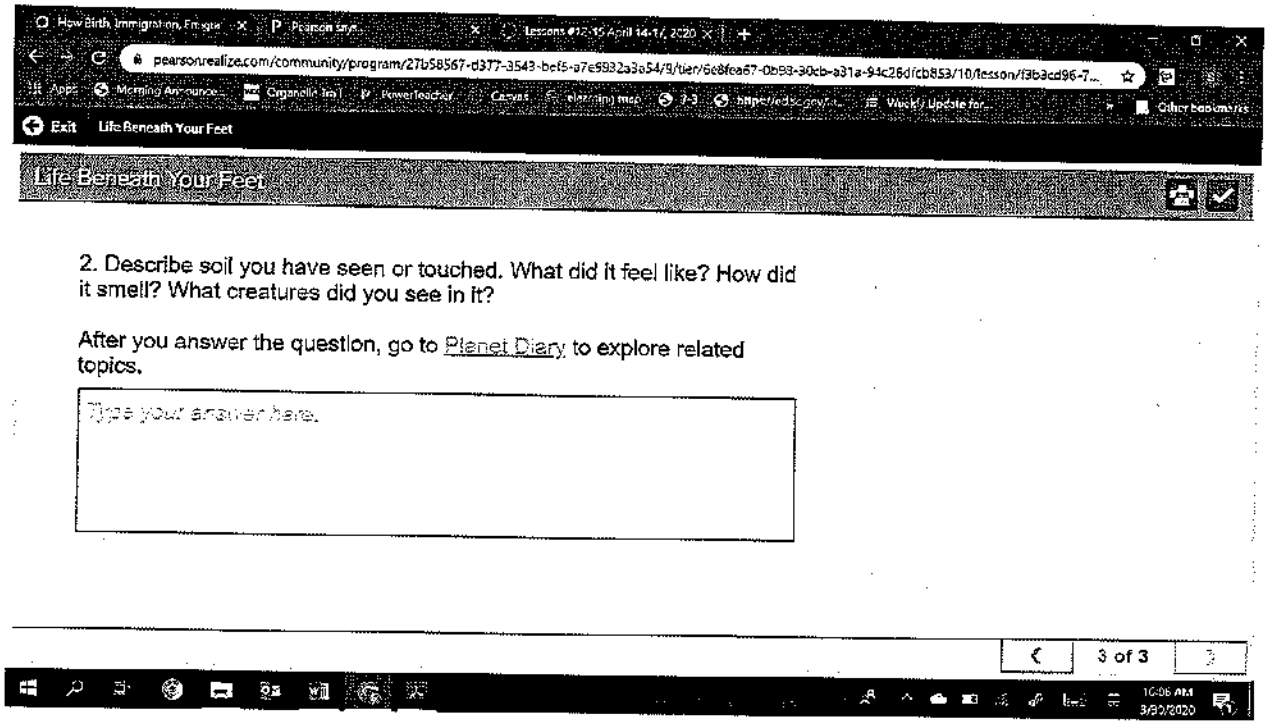
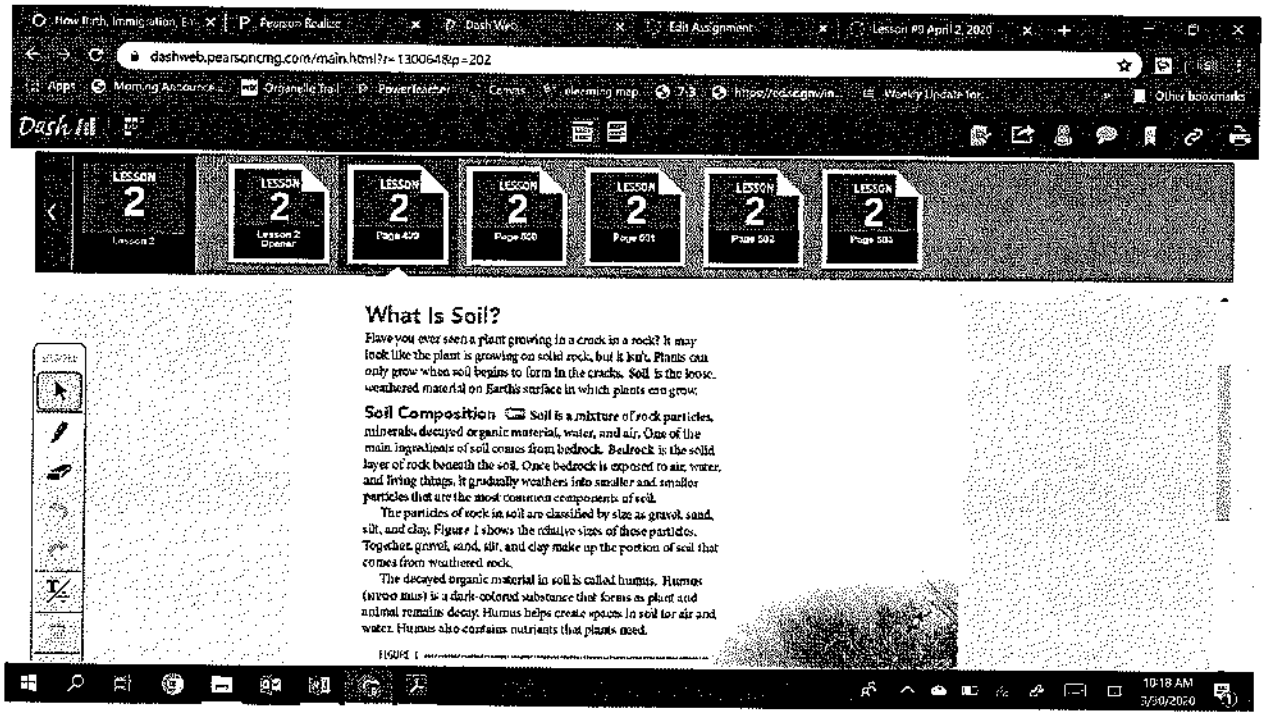
Exit | Life Beneath Your Feet
Life Beneath Your Feet

1. What are some examples of organisms that live in soil?

Type your answer here.



Read the following pages.



Vocabulary Suffixes How does adding the suffix *-ity* change the form of the word *fertile*?

Soil Fertility Fertile soil is rich in the nutrients that plants need to grow. The *fertility* of soil is a measure of how well the soil supports plant growth. Soil that is rich in humus generally has high fertility. Sandy soil containing little humus has low fertility.

Soil Texture Sandy soil feels coarse and gritty, but soil with lots of clay feels smooth and silky. These differences are differences in texture. Soil texture depends on the size of the soil particles.

Soil texture is important for plant growth. Soil that is mostly clay may hold too much water and not enough air. In contrast, sandy soil loses water quickly. Plants may die for lack of air or water. Soil that is made up of about equal parts of clay, sand, and silt is called loam. Loam is the best soil for growing most plants.

Soil pH Soil can be acidic or basic. Acidic substances react with some metals and turn blue litmus paper red. Basic substances feel slippery and turn red litmus paper blue. The pH scale measures acidity. A substance with a pH less than 4 is strongly acidic. A substance with a pH of 7 is neither acidic nor basic. (Pure water has a pH of 7.) A substance with a pH greater than 10 is strongly basic. Most garden plants grow best in soil with a pH between 6 and 7.5. Some soils can have a pH as low as 4, which is quite acidic.

Ask Questions Before you read the section Soil pH, write a question that you would like answered. Then write the answer.

The Process of Soil Formation

Soil forms as rock is broken down by weathering and mixes with other materials on the surface. Soil forms constantly wherever bedrock weathers. Soil formation continues over a long period of time.

Gradually, soil develops layers called horizons. A soil horizon is a layer of soil that differs in color, texture, and composition from the layers above or below it. Figure 2 shows how scientists classify soil into three horizons.

C Horizon The C horizon forms as bedrock begins to weather. The rock breaks up into small particles.

A Horizon The A horizon is made up of topsoil, a crumbly, dark brown soil that is a mixture of humus, clay, and other minerals. Topsoil forms as plants add organic material to the soil, and plant roots weather pieces of rock.

B Horizon The B horizon, often called subsoil, usually consists of clay and other particles of rock but little humus. It forms as rainwater washes these materials down from the A horizon.

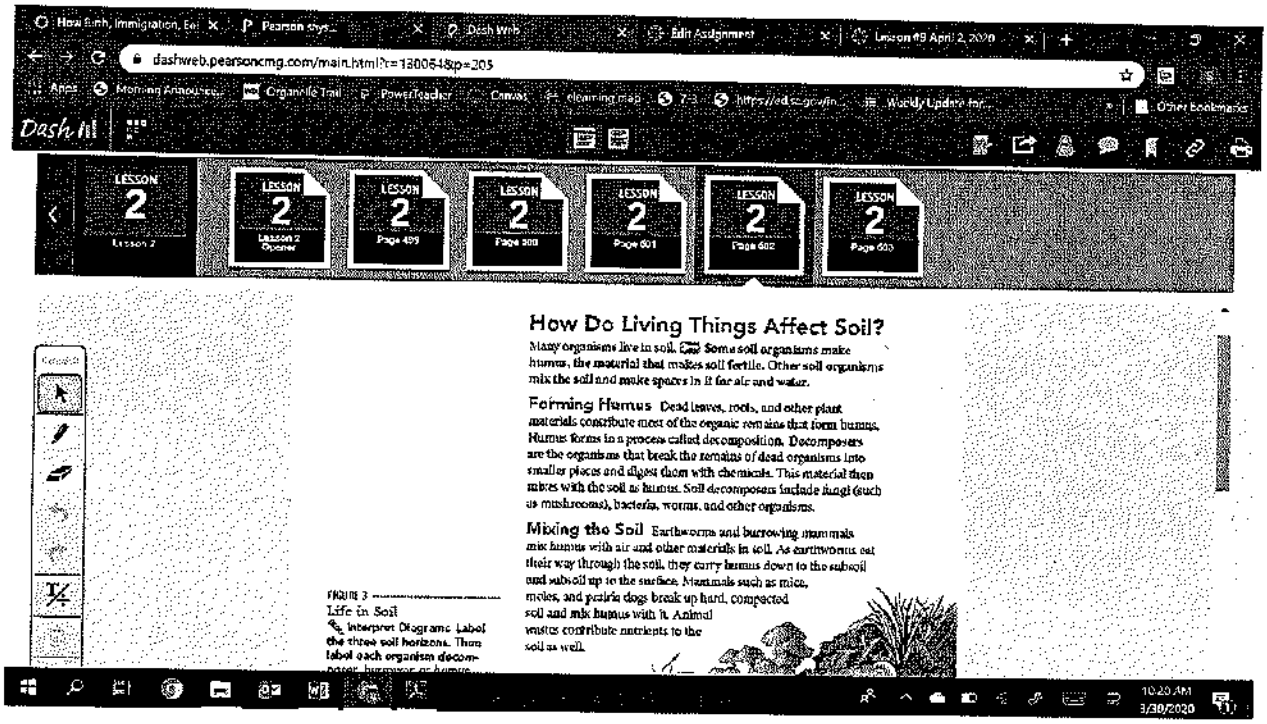
FIGURE 2

Soil Layers

Use the diagram to answer the questions.

1. Compare and Contrast Which layer contains the most organic material?

2. CHALLENGE In what climates would you expect soil to form fastest? Why?


dashweb.pearsoncmg.com/main.html?r=1800648&p=205
Dash
LESSON 2
Lesson 2
Lesson 2 Opener
Page 499
Page 500
Page 501
Page 502
Page 503
How Do Living Things Affect Soil?
Many organisms live in soil. Some soil organisms make humus, the material that makes soil fertile. Other soil organisms mix the soil and make spaces in it for air and water.
Forming Humus Dead leaves, roots, and other plant materials contribute most of the organic remains that form humus. Humus forms in a process called decomposition. Decomposers are the organisms that break the remains of dead organisms into smaller pieces and digest them with chemicals. This material then mixes with the soil as humus. Soil decomposers include fungi (such as mushrooms), bacteria, worms, and other organisms.
Mixing the Soil Earthworms and burrowing mammals mix humus with air and other materials in soil. As earthworms eat their way through the soil, they carry humus down to the subsoil and subsoil up to the surface. Mammals such as mice, moles, and prairie dogs break up hard, compacted soil and mix humus with it. Animal wastes contribute nutrients to the soil as well.
FIGURE 3
Life in Soil
Interpret Diagrams Label the three soil horizons. Then label each organism decom-
10:20 AM
3/30/2020

4/3/20 Lesson 10 4/13/20 Lesson 11

0 - Rawlinson Road...

Lesson #10-11 April 3 and April 13 , 2020

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Related Items

SpeedGrader

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Yesterday you read about how soil forms. For the next couple of days we are going to discuss the importance of soil and its' properties. It is important that as you are learning you think about how changes in the soil could affect an ecosystem.

~~Please click on the file below to access the power point.~~ Make sure you record all answers to the questions, you will submit them for a grade.

~~Soil PP.pptx~~

If you have any questions about the learning (this is new material), please ask your ~~question in the discussion below.~~ teacher

Soil

Once you have completed the above assignments. There is a quiz you need to take on Pearson textbook. It is called "How soil forms quiz". Chumley's class only

Points 100

Did you know soil is one of the most valuable abiotic factors in an ecosystem?

Objectives: I can give examples of the importance of soil.

I can explain how soil quality affects an ecosystem.

~~Click the link and watch the video:~~

~~https://www.youtube.com/watch?v=[illegible]~~

~~Afterwards, answer the following question:~~

~~What does CLORPT stand for?~~

Soil is one of the most valuable abiotic factors in an ecosystem.

- Soil has an effect on the types of plants that can grow in an ecosystem, which directly impacts the types of other organisms that can survive there.
- If a change in the properties of soil occurs, the ecosystem (including biotic and abiotic factors) will also change.

- **Without soil, there would be no jeans.**
  That's right! Jeans are made of cotton denim stitched together with cotton thread. Their blue color comes from indigo dye. Cotton and indigo come from plants that need soil to grow.
- **Without soil, we would have no aluminum cans.**
  Aluminum starts out locked inside the soil, in an ore called bauxite. Aluminum can also be recycled to make new aluminum products, like cooking pots, airplanes, or new cans.
- **Without soil, we'd have no penicillin.**
  Penicillin is a natural bacteria-killer that's made by a mold that grows in soil. Thousands of lives are saved each year by penicillin and other medicines that were discovered in soil organisms.
- **Without soil, we couldn't even eat breakfast!**
  Everything from the wheat in cereal to the oranges in orange juice to the animal proteins in milk, bacon, and eggs were nourished by the soil and what grows in it. Even a ceramic plate is made of a type of soil. No soil, no breakfast and no plates from which to eat.

Soil quality is based on properties that can be observed (qualitative observations) such as soil profile, composition, texture, or particle size.

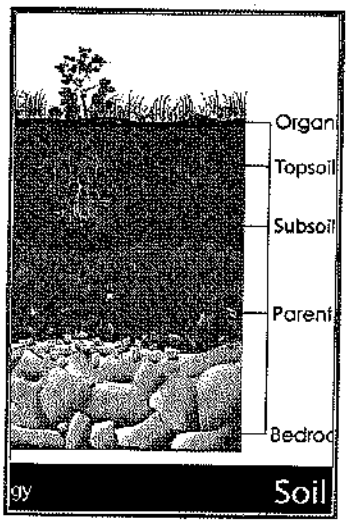
Soil Profile:

*Soils form in layers, or horizons, and all the layers make up the soil profile.

* A mature soil profile consists of three layers - topsoil, subsoil, and parent material above bedrock.

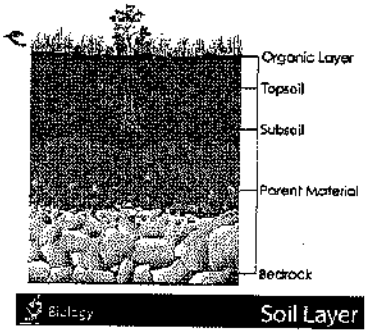
* Topsoil that is nutrient rich, containing a mixture of humus, clay, and minerals, is most suitable for plant growth.

* Most animals live in the topsoil horizon.



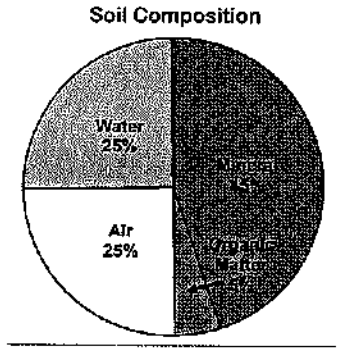
Go to the following website, click each layer to discover what you can find in each layer.

- https://www.thinglink.com/scene/713446802707185665 See next page
- Answer the following questions:
- 1. What do you find in horizon (A)
- 2. What do you find in parent material?
- 3. What horizon is parent material?



Soil qualities

- • Composition
- * Soil is a mixture of rock particles, minerals, decayed organic material, air, and water.
- * The decayed organic matter in soil is humus.
- * The sand, silt, and clay portion of soil comes from weathered bedrock material.
- * The combination of these materials in soil determines the soil type and affects the types of plants that can grow in it or animals that can live in it.
- * Factors that may affect soil type are the types of plants, climate, time, and slope of the land.

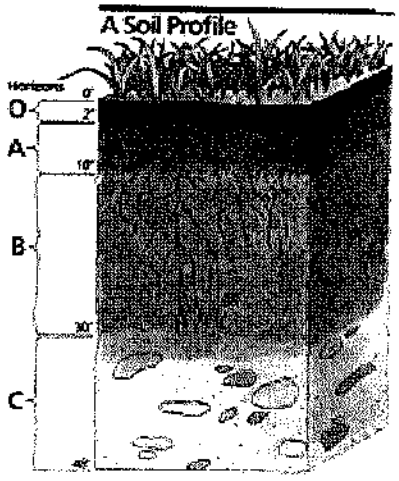


Soil Formation

SOIL.....it is not DIRT..... it is..... SOIL !!!
... without which all life on earth could not exist

→ The medium in which crops grow to provide food for humans

→ One of our *natural resources* (soil, water, air, plant, animal)



O horizon →organic debris on soil surface
A horizon →topsoil - leaching, water movement down, organic and mineral material transported downward

B horizon→subsoil - accumulation of dissolved material and fine clays

C horizon→partially altered parent rock material

Bedrock →unweathered parent material

Soil profile → an historical record of environmental processes that have been and/or are active at a particular point in the landscape

Soil formation:
→ Weathering (long term.....>1000 years) produces soils
→ Weathering rates mainly depend on:

- composition of the rock (parent material)
- temperature range and rainfall amount
- other factors (biology, topography, time)

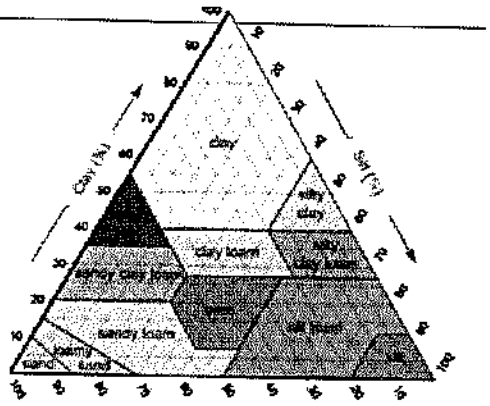
→ Soils may or may not remain in place, and any soil may be a combination of *residual* and *transported* material.

Residual soil: Remains in place; has not been transported

Transported soil: Transported by wind (Aeolian) or water (alluvial) and deposited.

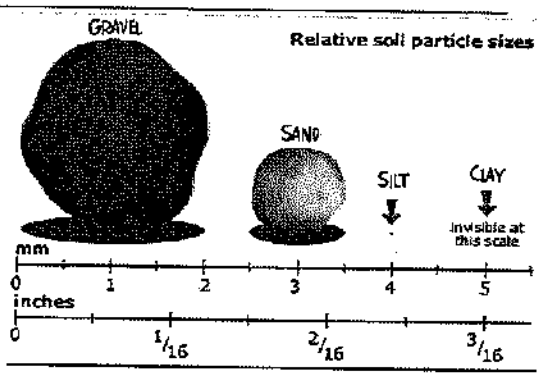
Texture:

- * Soil texture depends on the size of individual soil particles and is determined by the relative proportions of particle sizes that make up the soil.
- * Texture names may include loam, sandy clay loam, silt loam, or clay depending upon the percent of sand, silt, and clay in the soil sample.
- * The texture affects the amount of water that can be absorbed for use by plants and animals.



Particle size

- * Soil particles are classified by size ranging from coarse sand to very fine sand to silt, and finally to the smallest particle, clay.
- * Soil particles that are larger than 2mm are called gravel.
- * Particle size also affects the amount of water that can be absorbed and used by plants and animals.

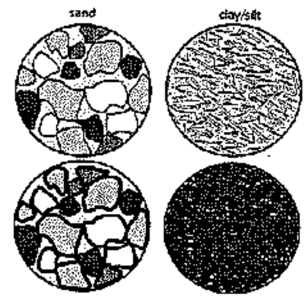


Soil quality is also based on properties that can be measured (quantitative observations), such as permeability and pH.

Permeability:

* Soil particles have open spaces (pores) between them that let water flow through.

- * How freely that water flows is the permeability of the soil.
- * The closer the particles pack together because of particle size, the less permeable the soil is.
- * Measuring permeability involves calculating the rate of drainage.



Complete th~~e virtual la~~b. Click the link below. ~~Be sure to read the background information and procedure on the left of the virtual lab screen.~~ Answer the following questions and be ready to submit them in canvas

Use the attached notes to help you.

- ~~http://www.glencoe.com/sites/common_assets/science/virtual_labs/CT02/CT02.html~~

- What determines the texture of soil?
- What is meant by the permeability of a soil? What is porosity and how is it related to permeability?
- Soil type and texture are very important to farmers. Too little water in the soil may cause plants to wilt and die. Too much water in the soil can disrupt a plant's ability to take in oxygen. Based on your data, which type of soil do you think is best for agriculture? Explain your answer.

Soil: Porosity and Permeability Lab

Introduction

While some precipitation falls to the earth and runs off into streams and rivers, another portion seeps slowly through the soil into the upper layers of the earth's crust. This underground water, or groundwater, fills the empty spaces of pores between rock and soil particles. Subsurface rock and sediment units through which large volumes of water can flow and be stored are called aquifers. How water travels through these aquifers is determined by a number of factors.

Two major factors affecting groundwater movement are permeability and porosity. **Porosity** is the percentage of open pore spaces in a given volume of rock or sediment, and determines the total amount of water a material will hold . The larger the volume of pore spaces, the higher its porosity, and the more water it can hold. Porosity is largely influenced by factors of particle size, shape, assortment, and compaction.

Permeability refers to the ability of a rock or sediment to transmit water freely. The rate at which a material transmits water depends not only on its total porosity, but also on the size of the passageways between its openings. To be considered permeable, the open spaces in a rock must be connected. The size and sorting of the particles composing the rock or sediment will affect its permeability. Generally, materials of larger particle size, which are well sorted, will be more permeable.

Objectives

To explore the concepts of porosity and permeability by observing what effect particle size and shape have on the amount of water that can be held in the open spaces between particles , and also how these two factors impact the rate of water flow.

Is the soil permeable?

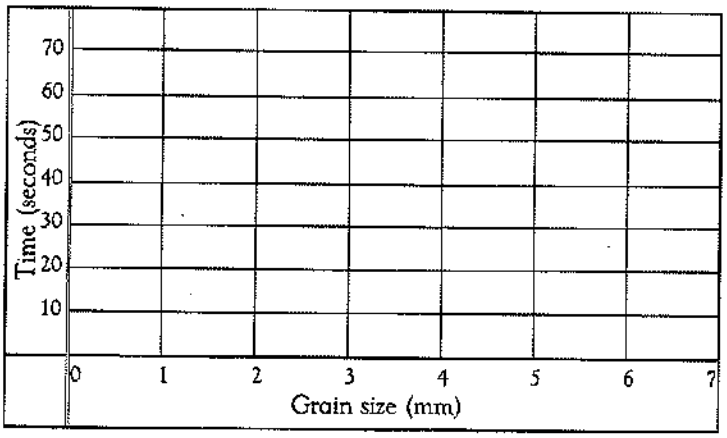
Background knowledge

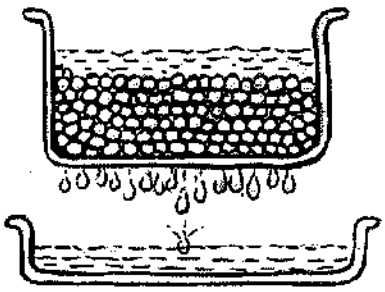
The amount of time water takes to drain through a soil is known as the soil's *permeability*. Some soils drain easily, others do not. How quickly a soil drains depends on the proportion of humus and on the size of the grains of rock.

Science activity

Does a soil's grain size affect how quickly it drains? Make a line graph with the data in the table below to answer this question. Connect the points.

Size of grain	Time taken (for 1 liter of water to drain through a cup of soil)
2 mm	60 seconds
1 mm	70 seconds
6 mm	20 seconds
4 mm	40 seconds
3 mm	50 seconds





How does grain size affect a soil's permeability? .....

Science investigation

Take extra care - ask an adult to supervise you.

Obtain two tennis cans with lids. Cut the bottom off one anddiscard its lid. Punch holes in the lid of the other and place it on thecan. Place the cut can on top of the covered can and use electricaltape to attach them together. Place a coffee filter inside the open topcan. You have now created a soil filter. Design and conduct your ownexperiment to test the permeability of different soils.

Is the soil permeable?

Background knowledge

The amount of time water takes to drain through a soil is known as the soil's *permeability*. Some soils drain easily, others do not. How quickly a soil drains depends on the proportion of humus and on the size of the grains of rock.

Science activity

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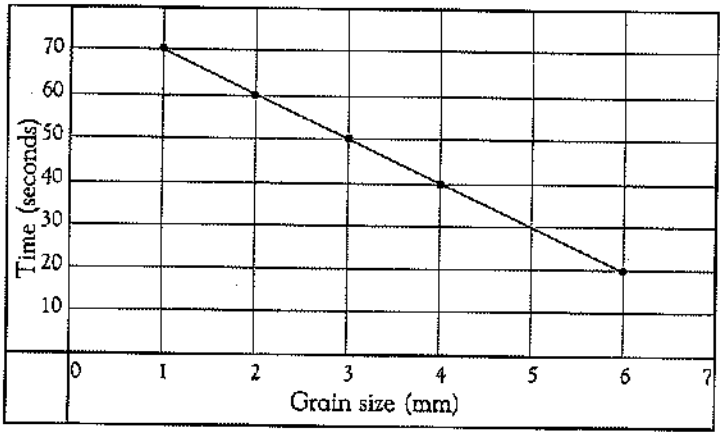

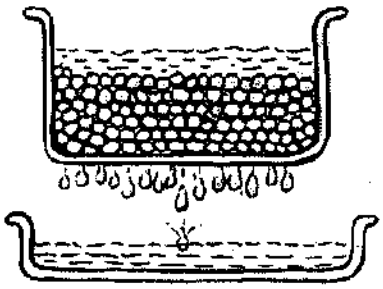

How does grain size affect a soil's permeability? The larger the grain size, the faster the water can drain.

Science investigation

If you do not have tennis cans, use plastic liter bottles. Cut off the top half of the liter bottle and insert it upside down in the bottom half, then follow the same procedure.

4/14/20 ⇒ 4/17/20

Lesson 12, 13, 14, 15

Lessons #12-15 April 14-17, 2020

Published | Edit | ⋮

Related Items

SpeedGrader

Click the link below. Choose 3 Squares in a row or diagonally. You MUST make tic tac toe for a grade. ~~You will have to upload your work here~~. If what you do is on paper, you will have to take a picture of it and submit.

choice board.pptx

Points 100

Submitting a text entry box or a file upload

Due	For	Available from	Until
Apr 27	Everyone	Apr 13 at 12am	Apr 27 at 11:59pm

Think Tac Toe

Natural hazards: write a song/rap or poem about a natural hazard and describe a positive and negative impact it would have on an ecosystem	Climate: Create a power point on: what climate is? What issues are we facing today due to climate change? What impact is it having in the US?	Availability of Resources: Choose a species of animal that currently is in need due to a limiting factor. Create a PSA to make people aware.
Climate: Pretend you are a news reporter. Create a short 3-5 minute video in which you explain the relationships between weather, climate, and biomes.	Availability of Resources: Free choice on how you present the info. What is carrying capacity? 2. How are limiting factors related to carrying capacity?	Natural Hazards: Choose a particular natural hazard, research it, make a power point that tells us the impact it had on the ecosystem right away and any issues still going on today
Availability of Resources: Write an article on the effects of a limiting factor on a specific animal. Pick an animal and identify the natural resources it uses for food, shelter, water, and space. Be sure to include what the outcomes of the situation could be.	Natural Hazards: Make a poster of at least 3 natural hazards and describe how it would positively and negatively impact the ecosystem it is located in.	Climate: Create a children's book. The plot should center around a limiting factor. Choose an ecosystem and predict how climate change is likely to affect it and the populations and communities within it.