

SCI124: EARTH SCIENCE W/LAB

THIS COURSE DOES NOT REQUIRE A FINAL EXAM

SYLLABUS

READ THESE INSTRUCTIONS NOW!

Keep work organized by week, clearly labeled and typed or copy/paste onto your syllabus. Math and hand done projects: photograph, scan or screenshot and copy/paste to your syllabus. Keep images small so your file isn't too large to submit or save work as a PDF. Go to "Student Services" online for any issues with this course. If you need Microsoft Word, request an email from Student Services and follow the steps given to you.

- **SUBMITTING WORK: YOU MUST SUBMIT ALL WEEKS AT ONCE** on one file. Your syllabus may be submitted separately if you chose not to add your work to it. Go to the website and select "Submit Work", complete the form and attach your work. You may also share a public link such as Gdocs. You have two attempts at receiving a passing grade of "C" or better so submit your full effort original work. Do not mail work. You will receive a reply in about 5 business days. Do not call or email asking for us to verify your work. All components of your course must be completed by the end of the 8th week from the time of your registration; 12 weeks for a 2 credit class. If you have a medical emergency or disability preventing you from completing your class, contact "Student Services" and send an email to request up to a 2-week extension

BOOKS

THE PLANET WE LIVE ON

INTERACTIVE EARTH SCIENCE TEXTBOOK

Read, study, and use for assignment application.

Do not fall behind because it will be hard to catch up.

WEEK ONE

Read "The Planet We Live On" for a quick overview of Earth Science

READ: Interactive Earth Science Textbook CHAPTERS 1 – 2

ASSIGNMENT: Section Reviews must be submitted as follows:

The World of Earth Science Chapter 1

Section 1 Review

Section 2 Review

Section 4 Review

Maps as Models of the Earth Chapter 2

Section 1 Review

Section 2 Review

Section 3 Review

LABS: Use “Location Review Notes” PDF to help you complete and submit your “Longitude and Latitude” PDF LAB worksheet answers

ADD RESPONSES AND LAB BELOW

WEEK TWO

READ: Interactive Earth Science Textbook CHAPTERS 3, 4 & 6

ASSIGNMENT: Section Reviews must be submitted as follows:

Minerals of the Earth’s Crust Chapter 3

Section 1 Review

Section 2 Review

Rocks - Mineral’s Mixtures Chapter 4

Section 1 Review

Section 3 Review

The Rock and Fossil Record Chapter 6

Section 1 Review

Section 3 Review

Section 4 Review

ADD RESPONSES BELOW

LABS: Using your PDF – “Evolution and Natural Selection LABS”, submit the responses, LABS and photos of you completing the following LABS

a.) “Do all Organisms Become Fossils?”

b.) “Relative vs Absolute Time”

ADD RESPONSES BELOW

WEEK THREE

READ: Interactive Earth Science Textbook CHAPTERS 5

ASSIGNMENT: Section Reviews must be submitted as follows:

Energy Resources Chapter 5

Section 1 Review

Section 2 Review

Section 3 Review

LAB – ENERGY RESOURCE

LAB LINK <https://www.sciencebuddies.org/science-fair-projects/search.shtml?v=ia&ia=Energy&d=4,5,6>

LABS: Select a LAB of your choice. Give each step of the Scientific Method

Complete and submit your labs – include 2 photos

ADD RESPONSES AND LABS BELOW

WEEK FOUR

READ: Interactive Earth Science Textbook CHAPTERS 7-9

ASSIGNMENT: Section Reviews must be submitted as follows:

Plate Tectonics Chapter 7

Section 1 Review

Section 2 Review

Section 3 Review

Earthquakes Chapter 8

Section 1 Review

Section 2 Review

Volcanoes Chapter 9

Section 1 Review

ADD RESPONSES BELOW (You may scan map)

WEEK FIVE

READ: Interactive Earth Science Textbook CHAPTERS 10-12

ASSIGNMENT: Section Reviews must be submitted as follows:

Weathering and Soil Formation Chapter 10

Section 1 Review

Section 2 Review

Section 3 Review

Section 4 Review

The Flow of Fresh Water Chapter 11

Section 3 Review

The Agents of Erosion and Deposition Chapter 12

Section 3 Review

Section 4 Review

ADD REVIEW ASSIGNMENTS BELOW

LAB

Soil Erosion

Purpose

To demonstrate the devastating effects of soil erosion and its impact to the world's agriculture.

Additional information

Erosion is the wearing away of soil and rock, and the down-slope movement of soil and rock. Some factors that influence erosion include gravity, glaciers, water, wind, ice, and waves.

During the process of erosion, chemicals from farming which are contained in the soil, are washed into our waterways, causing pollution. Soil erosion is a worldwide environmental problem with up to 80% of the world's agricultural soils affected. It takes a long time for soil to form from the breaking down of rocks and organic matter. Without soil plants can't grow. Soil must be protected from erosion to preserve our futures.

Required materials

3 pans or plastic containers
Pitcher of water
3 cups of sand
Styrofoam cup
Pen or pencil
Journal (to record results)
Tissue

Estimated Experiment Time

About 30 minutes.

Step-By-Step Procedure

1. Lay your three pans about 6 inches apart.
2. Pour one cup of sand into the middle of each pan.
3. Shape two piles of sand into small mountains in the center of the pans. Smooth the third pile of sand so that it covers the whole area of the pan (you may need more sand for this).
4. Predict what you believe would happen if rain fell on one of your mountains and what would happen if it fell on the flattened sand. Write your predictions in your journal.
5. Make a small hole in the bottom of your Styrofoam cup. Place your finger over the hole and fill the cup about one-half way with water from the pitcher.
6. Hold the cup approximately 12 inches above the center of your smooth pan. Move your finger so that the water trickles out through the hole of the cup. When the cup has emptied, set it aside and record the results of what happened to the sand in your journal.
7. Repeat the same procedure in step 6, but this time on one of the pans with the mountain of sand. Don't forget to fill the cup one-half with water and hold it 12 inches from the center of the mountain. Record the results of what happened to the mountain in your journal.
8. Cover your second mountain (the third pan now) with your tissue. The tissue will represent the plants and brush that would grow on your mountain. Fill your cup one-half with water and let it trickle out

above the tissue-covered mountain until the cup is empty. Again, record your results in your journal.

Note

If you don't happen to live near a beach, you can actually buy the sand! Most pool and sporting good stores carry sand that is often used to weigh objects down.

Observation

How did the shape of the land influence the amount of erosion that took place? How did the tissue covering the mountain affect the rate of erosion? Of the three pans, which one resulted in the most erosion? Which resulted in the least?

YOUR RESPONSE GOES HERE:

Result

The sand formation with the tissue demonstrates what?

YOUR RESPONSE GOES HERE:

PHOTO EVIDENCE SHOWING YOU DOING YOUR PROJECT GOES HERE:

WEEK SIX

READ: Interactive Earth Science Textbook CHAPTERS 15 -17

ASSIGNMENT: Section Reviews must be submitted as follows:

The Atmosphere Chapter 15

Section 1 Review

Section 2 Review

Section 4 Review

Understanding Weather Chapter 16

Section 1 Review

Section 2 Review

Climate Chapter 17

Section 1 Review

Section 2 Review

Section 4 Review

ADD RESPONSES