



THE KNOX SCHOOL

Earth Science Project Summer 2022

Introduction

Welcome to the Earth Science course.

Until now, you have learned science by exploring small sections from each major science subject. The Earth Science course will be the first time you will spend an entire school year on one science concentration. In this course you will learn what makes the Earth a living, moving, and changing planet. You will learn about the Earth's spheres and how the many interactions between these spheres allows life to thrive here.

This Earth Summer Project will introduce you to some of the concepts you will explore during the course. This project is worth **1 TEST Grade**.

DUE: 2nd Class Meeting.

- 1) This project is due the 2nd class day. No Exceptions.
- 2) Late submissions will only be accepted up until 5 calendar days after the due date. For each day late you will lose 5% points.
- 3) On the 6th day and beyond you will lose 10% per day.

Working together

In science collaboration is key. You are encouraged to work together but must still submit separate, different work that YOU yourself have created. Plagiarism will not be tolerated.

Submission.

You have the choice to complete it in one day or 7 weeks. Its up to you, however I advise you don't wait until one day before classes begin to start work.

For your submission I recommend creating a Google Slides Document. This must be shared with me. Using the following email. jgonzalez@knoxschool.net

PART 1

Introduction to Earth's Spheres

READING

The 4 Spheres of the Earth
by Matt Rosenberg

Read the Article - attached to this document and summarize what you learned by answering the following questions in your Slides report.

- In one sentence define What is the **Lithosphere**
- In one sentence define What is the **Atmosphere**
- In one sentence define What is the **Geosphere**
- In one sentence define What is the **Biosphere**
- Give ONE EXAMPLE of how one sphere might interact / influence the activity of another sphere.

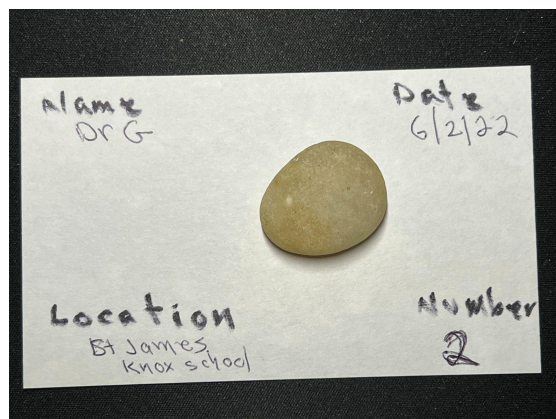
PART 2

The Geosphere

ACTIVITY

You can find rocks everywhere. During our study of the Geosphere, you will learn how rocks are formed. For this part of your summer project follow these steps

- 1) Collect 5 different types of rocks that are larger than 1 inch but smaller than 3 inches.
- 2) Take a photo of each rock individually using the following photo as a guide. Number and identify each rock by placing it on a 3"x5" index card with your name, date, location found and number.



Complete the following chart for each rock you find (You can add more rocks if you find some really interesting ones).

	Number -->	Rock 1	Rock 2	Rock 3	Rock 4	Rock 5
1	Rock Type					
2	Name					
3	Source					
4	Streak					
5						
5	Color					
6	Shiny or Dull					
7	Contains Grains					
8	Smooth /Jagged					
9	Layers					

Don't worry about answering the first four questions. We will complete these when we learn about rocks in class.

For 7 - look to see if it contains smaller particles or other rocks or sand (any color)

For 9 - Does it look like the rock is made up of distinct layers?

PART 3

The HYDROSPHERE

ACTIVITY

It's almost obvious that water is a very important part of our Earth. After all, over 70% of the Earth's surface is covered with it. For this activity you will review the **Water Cycle**. You probably have heard about it. However it is much more than just Evaporation - Condensation, and Precipitation.

Use the Water Cycle vocabulary words listed below to create a story about ONE drop. Give the drop a cool name. Tell the story of how this one drop has traveled throughout the earth and has visited all places water might take it via the water cycle. --

Key points

- The water drop must visit each location where water might pass through in the water cycle
- It must end up back where it started
- It might pass through the same place twice or more times.

You can create a comic strip, or write a story - it's up to you. Make it fun, funny, colorful, the choice is yours.

Hydrosphere vocabulary words

You must use each of these words correctly at least Once in your story or comic strip. Make sure to make them easily visible by underlining or highlighting.

Evaporation	Condensation	Water Vapor
Liquid Water	Snow	Precipitation
Runoff	Icemelt	Sublimation
Infiltration	Percolation	GroundWater
Transpiration	Translocation	Transportation
Aquifer	Groundwater Discharge	The Ocean
River Lake	Plant	Animal

PART 4

The BIOSPHERE

ACTIVITY - RESEARCH

One of the topics we will explore in Earth Science is the concept of sustainability. This concept is the idea that we need to create resources (like food) that won't run out, however we need a plan.

One such sustainability project revolves around different methods for growing food and how to theoretically make sure we don't run out of the seeds we need to start each new plant.

For this activity. You need to answer the following by conducting online research that details how different plants grow.

- 1) Select 2 different seeds - one for an herb, one for a vegetable or fruit.
 - a) *Note You don't need to purchase these*
- 2) What are the **steps** in the life cycle of this plant
- 3) What are the conditions that will allow for optimal growth

Use the information you find to complete the table below. - Here is an example table

Seed	Herb - Mint	Fruit - Strawberries

Once you have completed the chart, start thinking of ways you can actually grow these plants starting with a seed and ending with a fruit, herd, or fruit

Have a great SUMMER