

APES 2022: Earth Science Summer Assignment



Introduction:

Earth Science is the study of the properties of the planet, including the lithosphere (solid earth), atmosphere (gasses), hydrosphere (water) and biosphere (life). Earth Science is an important foundation to understanding Environmental Science and we will expand on these topics throughout the year.

Assignment:

1. Locate the Earth Science [online textbook](http://www.oercommons.org/courses/earth-science-4/view) by going to the Earth Science Open Educational Resources website: <http://www.oercommons.org/courses/earth-science-4/view>. Within the text are links to additional, *optional* resources to explore for more information.
2. Create a GoogleDoc and answer the following questions about the assigned topics. **Most questions can be answered in 1-3 sentences** (you do not need to write paragraphs).
3. Some of the chapters contain information beyond the scope of this course- you are responsible for the information related to the Questions to Answer, not necessarily the entire chapter.
4. **Submit the GoogleDoc through Canvas by 11:59 PM, Monday September 5.**
5. This assignment will count as a 50-point quiz.

Chapter	Topic	Questions to Answer
Earth's Interior Processes	Earth's Interior	1. What is the Crust, Mantle and Core? 2. Describe a mantle convection cell.
	Plate Tectonics	3. Describe the three types of tectonic plate boundaries and how the processes lead to changes in Earth's surface features. 4. What is the driving force of plate tectonics and how does this impact earthquakes and volcanoes around the world?
	Volcanoes	5. Describe how volcanoes form a) at convergent plate boundaries and b) at divergent plate boundaries. 6. What is a volcanic hot spot and where do they occur?
Surface Water	Earth's Freshwater	7. Describe the distribution of Earth's water around the world.
	Streams and Rivers	8. Describe the anatomy of a stream/river. 9. Explain what a divide is and how it influences streams/rivers. 10. How can runoff lead to erosion?
	Groundwater	11. What is groundwater? 12. Explain the location, use and importance of aquifers. 13. Explain how recharge influences the water table. 14. Why is overuse of groundwater an environmental concern?
	Floods	15. Describe the impact of floods.
	Wetlands	16. Analyze and describe the importance and functions of wetlands (give at least three examples).
The Ocean	Ocean Currents	17. Describe how surface currents form and how they affect the world's climate. 18. What is the Coriolis Effect? How do they affect surface currents? 19. Describe the causes of deep currents. 20. Relate areas of upwelling to their impact on the food chain.
The Atmosphere	The Atmosphere	21. What is the chemical composition of the atmosphere? 22. Describe the relationship between altitude and a) temperature, b) pressure and c) density. 23. What is the greenhouse effect?
Stellar Evolution and Our Sun	Sun- Earth Relationship: The Seasons	24. Explain how the four seasons are determined in the northern hemisphere.