# GEOL 1120
# Learning Objective Activity #1 (Lessons 2–8)

Please read this entire assignment carefully. Post any questions you have in the Learning Objective Activities QUESTIONS discussion board thread on Canvas.

## Assignment

**Due date: Monday, February 3 at 11:59 pm**

Your assignment is to write a 250–500 word (excluding captions and references) lesson on a Learning Objective. This lesson should not just be a summary of the class material. Instead, you are expected to explain the topic in your own words in a way that will help other students learn it. You may include content that was not discussed in class if it is relevant and aids in understanding. The use of outside sources is required. Remember to cite all your sources using both in-text citations and a reference list. Be sure to check the rubric on the last two pages of this document.

Depending on which Learning Objective you have been assigned, you may have to expand on the topic as appropriate. For example, if you had the Learning Objective "Describe the principle of uniformitarianism", instead of just describing the concept, you could do further research on how this principle is applied in geology. Remember that this outside research must still be related to the course content.

You have been assigned a Learning Objective to write about, you do not get to pick your own. Your assigned Learning Objective is listed on the next page of this document.

Still unsure of what's expected? Check out the example lessons posted on Canvas.

Submit your assignment in the "Learning Objective Activity #1 (Lesson 2–8)" discussion board thread. Reply to the original thread, not to the posts of your classmates. Copy and paste your assignment into the dialogue box and insert the figures using the “embed image” button. Your lesson should have a title and the Learning Objective you were assigned should be listed at the top of the post. The post cannot be edited after you submit it and additional submissions will not be graded.

These assignments are posted publicly so that at the end of this activity all students will have access to at least one lesson about each learning objective. Use these as a resource to help you study for the final exam!

**Late policy:** Late submissions are accepted but with a penalty of –10% per day (including weekend days). An extension will only be granted due to university approved absence and, if possible, must be pre-approved.

## Assigned Learning Objectives

| LO # | Learning Objective | Student |
|---|---|---|
| 3B | Describe the factors that affect birth rate, death rate, and carrying capacity | Anghinetti, John |
| 3C | Explain the different stages of the demographic transition, and identify the stage that a country is in based on its population pyramid | Arnett, Evan |
| 3D | Describe what ecological footprint and biocapacity are | Bates, Morgan |
| 4A | Explain the characteristics of typical plate boundaries and the variability seen in boundary types | Billingsley, Kate |
| 4B | Interpret the distribution of earthquakes, volcanoes, and topographic features on the Earth | Bixler, Grace |
| 5A | Describe the principle of uniformitarianism | Boyd, Brooke |
| 5B | Illustrate and label the layers of the Earth and describe the basic properties of these layers (for both chemical composition and physical properties) | Bradley, Andrew |
| 5C | Describe and identify three different types of plate boundaries (divergent, convergent (3x), and transform) | Breakfield, Amanda |
| 5D | Explain what hot spots are and use them to interpret the direction of plate motion. | Brown, Kayla |
| 5E | Recognize and interpret associations between plate boundaries and associated features (e.g., trenches, mountains, volcanoes, mid-ocean ridges) | Callahan, Caroline |
| 6A | Define the term “mineral” and list ways that minerals are formed | Campbell, Joshua |
| 6B | Describe the atomic structure and bonding of common minerals | Cash, Andrew |
| 6C | Distinguish between different mineral classes based on their anionic groups | Cater, Andrew |
| 6D | Compare and contrast the chemical composition and mineralogy of each of Earth’s layers | Cherry, Aleah |
| 6D | Compare and contrast the chemical composition and mineralogy of each of Earth’s layers | Chiaviello, Annalee |
| 6E | Explain why minerals are important | Cromer, Cheyenne |
| 7A | Define the term “rock” and describe the rock cycle | Dendy, Lucas |
| 7B | Describe how igneous rocks are formed | Dukes, Robert |
| 7C | Distinguish between intrusive and extrusive, and felsic and mafic igneous rocks | Duscha, Maxwell |
| 7D | Describe the three ways magmas are generated | Ejlli, Isabella |
| 8A | Explain how sedimentary and metamorphic rocks are formed | Ellis, Riley |
| 8B | Distinguish between the three types of sedimentary rocks and the origin of their components | Featherston, Bailie |
| 8C | List and describe what drives metamorphism | Fender, Benjamin |

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| 8D | Compare and contrast metamorphism in contact and regional settings | Freeman, Lawrence |
| 2A | Interpret a population pyramid | Fust, Nicholas |
| 2B | Explain how global population has changed through time | Gill, Tristan |
| 3A | Identify patterns in global population and population growth rate | Godfrey, Ben |
| 3B | Describe the factors that affect birth rate, death rate, and carrying capacity | Hairston, LeAndra |
| 3C | Explain the different stages of the demographic transition, and identify the stage that a country is in based on its population pyramid | Hartert, Todd |
| 3D | Describe what ecological footprint and biocapacity are | Hazel, Spencer |
| 4A | Explain the characteristics of typical plate boundaries and the variability seen in boundary types | Johnson, Windy |
| 4B | Interpret the distribution of earthquakes, volcanoes, and topographic features on the Earth | Jones, Huston |
| 5A | Describe the principle of uniformitarianism | Kerby, Joseph |
| 5B | Illustrate and label the layers of the Earth and describe the basic properties of these layers (for both chemical composition and physical properties) | Khatib, Hannah |
| 5C | Describe and identify three different types of plate boundaries (divergent, convergent (3x), and transform) | Koon, Anna |
| 5D | Explain what hot spots are and use them to interpret the direction of plate motion. | Le, Taylor |
| 5E | Recognize and interpret associations between plate boundaries and associated features (e.g., trenches, mountains, volcanoes, mid-ocean ridges) | Macris, Nick |
| 6A | Define the term “mineral” and list ways that minerals are formed | Mai, Michael |
| 6B | Describe the atomic structure and bonding of common minerals | Manuel, Will |
| 6C | Distinguish between different mineral classes based on their anionic groups | Mcallister, Drevon |
| 6D | Compare and contrast the chemical composition and mineralogy of each of Earth’s layers | Mccoy, Connor |
| 6D | Compare and contrast the chemical composition and mineralogy of each of Earth’s layers | Mcdonald, Cole |
| 6E | Explain why minerals are important | Mcdowell, Johnathan |
| 7A | Define the term “rock” and describe the rock cycle | Mcelvenny, Annie |
| 7B | Describe how igneous rocks are formed | McRoy, Gavin |
| 7C | Distinguish between intrusive and extrusive, and felsic and mafic igneous rocks | Mobbs, Harrison |
| 7D | Describe the three ways magmas are generated | Morrison, Alec |
| 8A | Explain how sedimentary and metamorphic rocks are formed | Natenstedt, Ryan |

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| 8B | Distinguish between the three types of sedimentary rocks and the origin of their components | Obuszewski, Kyle |
| 8C | List and describe what drives metamorphism | Pagett, Sarah |
| 8D | Compare and contrast metamorphism in contact and regional settings | Phillips, Valerie |
| 2B | Explain how global population has changed through time | Pollard, Nolan |
| 3A | Identify patterns in global population and population growth rate | Pond, Claire |
| 3B | Describe the factors that affect birth rate, death rate, and carrying capacity | Pugmire, Joseph |
| 3C | Explain the different stages of the demographic transition, and identify the stage that a country is in based on its population pyramid | Restrepo, Erick |
| 3D | Describe what ecological footprint and biocapacity are | Robertson, James |
| 4A | Explain the characteristics of typical plate boundaries and the variability seen in boundary types | Saad, Danny |
| 4B | Interpret the distribution of earthquakes, volcanoes, and topographic features on the Earth | Saleeba, David |
| 5A | Describe the principle of uniformitarianism | Saunders, Rhett |
| 5B | Illustrate and label the layers of the Earth and describe the basic properties of these layers (for both chemical composition and physical properties) | Seawell, Anastasia |
| 5C | Describe and identify three different types of plate boundaries (divergent, convergent (3x), and transform) | Shin, Daniel |
| 5D | Explain what hot spots are and use them to interpret the direction of plate motion. | Smith, Harris |
| 5E | Recognize and interpret associations between plate boundaries and associated features (e.g., trenches, mountains, volcanoes, mid-ocean ridges) | Steelman, Will |
| 6A | Define the term “mineral” and list ways that minerals are formed | Stone, Hunter |
| 6B | Describe the atomic structure and bonding of common minerals | Susol, Jakob |
| 6C | Distinguish between different mineral classes based on their anionic groups | Swavely, Alan |
| 6D | Compare and contrast the chemical composition and mineralogy of each of Earth’s layers | Taylor, Allen |
| 6D | Compare and contrast the chemical composition and mineralogy of each of Earth’s layers | Tebou, Cole |
| 6E | Explain why minerals are important | Towery, Jordan |
| 7A | Define the term “rock” and describe the rock cycle | Tuorila, Amelia |
| 7B | Describe how igneous rocks are formed | Vickio, Jacob |
| 7C | Distinguish between intrusive and extrusive, and felsic and mafic igneous rocks | Vocke, Cameron |
| 7D | Describe the three ways magmas are generated | Vu, Giang |

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| 8A | Explain how sedimentary and metamorphic rocks are formed | Weglarz, Elias |
| 8B | Distinguish between the three types of sedimentary rocks and the origin of their components | Wilson, Michael |
| 8C | List and describe what drives metamorphism | Wojcik, Alexis |
| 8D | Compare and contrast metamorphism in contact and regional settings | Wright, Chloe |

## Grading Rubric

| Criteria | Marking Scheme | | | | Extra Notes |
|---|---|---|---|---|---|
| | **Full Marks (100%)** | **Partial Marks (66.7%)** | **Partial Marks (33.3%)** | **Zero Marks (0%)** | |
| Length (1 point) | LO meets the length criteria of 250 to 500 words. | Over/under the length criteria by 30 words or less. | Over/under the length criteria by 50 words or less. | Over/under the length criteria by more than 50 words. | *Length criteria excludes diagram/figure/table captions, and references |
| Communication (3 points) | Clearly explains the LOA in own words, in a simple way that other students can learn from it. Any jargon used is defined or simplified, and lay-language is used when necessary. All of the material in the lesson is accurate. | Much of the writing is simply paraphrased from the sources, but it is presented in a simple way that other students can learn from it. Some of the jargon used is not clearly defined or simplified, and some lay-language is missing. All of the material in the lesson is accurate. | Most of the writing is poorly paraphrased, **AND/OR** more than 10% of the material presented is quoted from the sources, **AND/OR** the material is not presented in a simple way that other students can learn from it; **AND/OR** Some of the material presented in the lesson is not accurate. | All of the writing is a poorly paraphrased summary of the resources **AND/OR** the material is not presented in a simple way that other students can learn from it, **AND/OR** the majority of the material presented is not accurate. | |
| Clarity (2 points) | Written in complete and clear sentences with few grammatical errors. Format of the assignment is neat and organized. | Contains a few incomplete/confusing sentences. Grammatical errors make portions of the writing difficult to follow, but the main points are still understood. Format of the assignment is neat and organized. | Contains several incomplete/confusing sentences. Grammatical errors make a large portion of the material presented difficult to follow; **AND/OR** Poor formatting of the lesson takes away from ability to follow the material presented. | Written mostly/completely in incomplete or point-form sentences. Many grammatical errors make the writing very difficult to understand; **AND/OR** Poor formatting of the lesson takes away from ability to follow the material presented. | |
| Figures (1 point) | Includes at least one figure/graph/table sourced from outside the course content that helps the reader better understand the topic. Each figure caption fully explains the figure and its relevance to the lesson. | Includes at least one figure/graph/table sourced from outside the course content that may help the reader better understand the topic, but it does not have a caption that fully explains the figure and its relevance to the lesson. | Figure(s) is/are only from the course content **AND/OR** includes an irrelevant figure/graph/table from outside the source content that does not help the reader better understand the topic. Figure captions, if present, do not fully explain the figure(s) and | Does not include a figure/graph/table **AND/OR** includes only irrelevant figures. | *Don't forget to caption your figures and refer to them in-text. |

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| | | | its/their relevance to the lesson. | | |
| Resources (2 points) | Uses at least 3 different resources and all of them are reliable. (For example, the course content, the Gemological Institute of America (GIA), and Elements Magazine.) | Uses only 2 different reliable resources. | Uses only 1 reliable resource. | All resources are unreliable. | *Course content can be used as one of your reliable resources.<br>*Search engines such as Google, Google Scholar, or the Clemson library are great tools to find resources!<br>*Wikipedia is a good place to **start** looking for resources, but it itself is not a reliable source. |
| Citation style (1 point) | Cites all resources using both in-text citations and a reference list, and a proper and consistent citation style (APA, MLA, or Chicago). | Cites only some resources using both in-text citations and a reference list, **AND/OR** does not use a proper and consistent citation style (APA, MLA, or Chicago). | Does not use in-text citations **AND/OR** does not have a reference list, and does not use a proper and consistent citation style (APA, MLA, or Chicago). | Does not cite resources in-text or in a reference list. | *Remember to cite the portions of the course material you used!<br>*You can cite resources using either APA, MLA, or Chicago, but you must be consistent. Great guides for these formats are available at: https://owl.purdue.edu/owl/research_and_citation/resources.html |