HPS Geo Energy Q’s 2021 Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Per \_\_\_\_

Directions: Use the Geo Energy Q’s Slides with excerpts from the Earth Science textbook to answer the following questions. We will discuss as a large group halfway through the class period. For additional information on these objectives, visit the links on the title slide.

Objectives:

3. Compare and contrast the relationship between temperature, thermal energy, and heat.

4. Describe how thermal energy is transferred by conduction, convection and radiation.

5. Identify internal and external sources of heat energy in Earth’s systems.

7. Apply how differential heating of the earth’s surface & atmosphere drives convection within the earth’s system.

Questions:

1. Compare and contrast the GS and Physical Science definitions of temperature and heat.

2. List and describe the Earth’s three sources of heat outlined in the text.

3. What is radiation?

4. How does radiation differ from convection and conduction?

5. How does the air become warm?

6. What is conduction?

7. What conditions are necessary for conduction to occur?

8. What is convection?

9. Describe in detail the process of convection.

10. Convection currents are among the main mechanisms responsible for the vertical motions of air, which in turn cause the different types of \_\_\_\_\_\_\_\_\_\_.

11. What happens to the area illuminated by sunlight as the rays strike the ground at a lower angle? (at the poles)

12. What happens to the relative intensity of the sunlight as it strikes a lower (smaller) angle? (at the poles)

13. How is this different from what occurs at the equator? (impact angle and relative intensity)

14. How do regions manage to maintain fairly constant average temperatures?