Name:

**Lesson 2: The Greenhouse Effect**

1. Review: What is the difference between climate and weather?
2. The global climate system arises from the interaction of \_\_\_\_\_\_\_\_\_\_\_\_\_\_ with Earth's atmosphere, \_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_, \_\_\_\_\_\_\_ \_\_\_\_\_\_\_ and other parts of Earth.
3. What is sunlight?
4. What are the types of radiation emitted by the sun?
5. Why do you think UV and visible waves are called shortwaves?
6. When the sun emits radiation to the Earth, about what percent of it is actually absorbed by the Earth’s surface causing it to heat up the Earth?
7. What happens to the solar radiation that is not absorbed by the Earth’s atmosphere?
8. What percent is reflected by clouds and the Earth’s surface?
9. What is albedo?
10. What type of surfaces tend to reflect better than others?
11. What happens to the remaining 20% of solar radiation?
12. Some of the radiation that is absorbed by the Earth’s atmosphere is transferred into \_\_\_\_\_\_\_\_\_\_\_ waves. What is this type of radiation called?
13. What does the Earth emit?
14. What happens to IR once emitted?
15. Without greenhouse gases to absorb and re-emit Earth's infrared radiation, what would happen to the temperature on Earth?
16. Summarize the Greenhouse Effect below using three steps.

1.)

2.)

3.)