**Chapter 14: Climate**

1. What is weather? Provide two examples.
2. What is climate? Provide two examples.
3. Name the 5 factors that affect climate.
4. What location on Earth has the most direct sunlight?
5. What location on Earth has the most indirect sunlight?
6. Why do different locations receive different amounts of sunlight through the year?
7. How does the amount of insolation affect climate of a particular location?
8. What color reflects the most sunlight? Name two surface features that reflect a lot of sunlight.
9. What color absorbs the most sunlight? Name two surface features that absorb a lot of sunlight.
10. How does reflectivity affect the temperature of an area?
11. What is a positive feedback loop?
12. Explain, in detail, one example of a positive feedback loop (climate-based) and the impact that this loop may have on the current types of life on Earth.
13. What is a negative feedback loop?
14. What are two reasons that cities, at the same latitude, would have very different climates?
15. Which substance warms faster…water or land? What is the impact on a region’s climate?
16. What are the three main characteristics/variables used to determine the climate of a region?
17. Name ***and*** describe the 5 main climate zones. \*\*Make sure to include location (latitudes) and any special facts/information about each of the zones!\*\*
18. What causes the tropics to be much warmer than the rest of the climate zones?
19. What two factors cause the poles to be much colder than the rest of the climate zones?
20. What is the “sphere” that contains all living things, recently living things, and products of living things?
21. What is the “sphere” that contains rocks, minerals, volcanoes, and fossil fuels?
22. What is the “sphere” that contains all of the water on earth and in the atmosphere?
23. What is the “sphere” that acts like a greenhouse and keeps the Earth warm?
24. Name an interaction that moves from…
    1. Biosphere to Atmosphere
    2. Atmosphere to Biosphere
    3. Atmosphere to Hydrosphere
    4. Hydrosphere to Atmosphere
    5. Lithosphere to Atmosphere
25. What is a greenhouse gas?
    1. What are the four main greenhouse gases?
    2. What percentage of the atmosphere is made up of greenhouse gases?
    3. Which greenhouse gas is created by the burning of fossil fuels?
26. List at least 3 human activities that lead to the creation of greenhouse gases.
27. What is the “Greenhouse Effect”?
28. Is the greenhouse required for humans to live on the planet? What might happen if the greenhouse effect were completely eliminated?   
    \*\*Think of all the factors we discussed – humans, temperature, precipitation, vegetation, etc.
29. What is global warming? What is the main cause of global warming?
30. What are the four effects of global warming? Make sure to include how each of your answers might affect current climates and/or human activities.
31. How is global warming different than the Greenhouse Effect?
32. What are some strategies (at least 3) that we, as humans, can use to reduce the amount of greenhouse gases that are released into the atmosphere?
33. El Nino:

|  |  |  |
| --- | --- | --- |
| **Describe the following characteristics:** | **Normal Year** | **El Nino Year** |
| Direction of Equatorial Winds |  |  |
| Direction of Equatorial Ocean Currents |  |  |
| Climate of NW South America |  |  |
| Climate of Australia |  |  |
| Relative number of hurricanes hitting Florida |  |  |
| **Describe** the amount of upwelling & its effect on commercial fishing |  |  |