Chapter 3 Reading Guide – The **Biosphere**, p. 64

Class Copy- Do not write on!

*Answer these questions in your notebook from your reading in Chapter 3. Answers need to be in complete sentences unless in a table or drawing.*

1. What is the name of this chapter referring to (i.e., what is the biosphere)?

2. Look at the word eco logy. What does it mean, literally?

3. Define the following in your own words (A-H):

a. Biome b. Individual c. Population d. Community

e. Ecosystem f. Biosphere g. Biotic h. Abiotic

4. On the back, draw a simple picture of any Montana ecosystem – mountains, plains, etc. Label 3 **biotic** and 3 ***a*biotic** factors.

5. Suppose a corporation wants to build a factory that it knows might release a particular chemical it claims won’t hurt the stream ecosystem nearby. Which method of ecological research would you choose in your study of the potential problem? Explain.

6. Use your text to fill this this table in your notebook:

|  |  |  |
| --- | --- | --- |
| Content | **Autotrophs** | **Chemoautotrophs** |
| Process of getting energy | Photosynthesis (from the sun) | Chemosynthesis (from chemicals) |
| Explain how they get their energy: |  |  |
| Examples: |  |  |

7. In your notebook, use your text to fill out the table below which explains what consumers eat in order to get their energy.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Herbivore** | **Carnivore** | **Omnivore** | **Detritivore** | **Decomposer** |
| Eat what? | Plants only |  |  |  |  |
| Examples  | Elk/deer |  |  |  |  |

1. What is the ultimate energy source for life on earth?
2. Explain trophic levels. Make a pyramid of numbers for the organisms in your forest biome. Label the primary producers and first-, second-, and third-level consumers.
3. What is a biogeochemical cycle? Name the four in your book.

11. On the back, draw a simple example of a **food chain** using a Montana forest biome. Be creative – think about what plants and animals live here. Include at least 4 items. Then, use a different color arrow to connect 4 more items in your biome to make a **food web**.