

NATURAL RESOURCE USAGE TRACKING

For one day, keep track of the following:

1. Everything you eat
2. Everything you throw away
3. All transportation that isn't your feet
4. Anything you use at school, at home or elsewhere (TV, pencil, pen, phone, etc.)
5. Anything you purchase (not listed from above)

Summarize in one paragraph of 5 - 7 sentences what natural resources you seem to use the most of and why you think that is. What could you do to reduce your usage of natural resources?

HUMAN ACTIVITIES

From your own experiences or others' experiences, identify one human activity that has a negative impact on the environment. Respond in complete sentences:

1. What is it?
2. What is the environmental impact of doing this?
3. Why do people do it?
4. What could people do in order to avoid making such a negative environmental impact?
5. What can *you* do to help?
6. Ask two others in the class for their responses, and write at least one paragraph each about what could be done to prevent this negative impact on the environment.

BIOME DISPLAY

You will make a free-standing biome display that meets the following characteristics:

1. Biome Name, in letters at least 1 inch tall.
2. A written description of the biome summarizing the biotic and abiotic factors.
 - a) Can be single or double spaced. Length to be between 1/2 and 1 page.
3. A chart of the average precipitation for one month, gathered for one year.
4. A chart of the average temperature for one month, gathered for one year.
5. A graph plotting temperature and precipitation on the same paper.
6. Food web, using the common names (not pictures) of the common plants and animals found in the biome and include the following: Animals, green plants, fungus (by name), animals found near or in the ground, bacteria (by name)
7. Construct a pyramid of energy for the biome using the names of common plants and animals you have researched.
8. A labeled diagram of a typical soil profile of the biome.
9. A map of North America with the biome colored or highlighted.
10. List two organisms in that biome that illustrate mutualism.
11. List two organisms in the biome that illustrate commensalism.
12. List two organisms in the biome that illustrate parasitism.
13. List a common example of interspecific competition.
14. List National Parks and Monuments found in the biome. Tell the location (state, province, or country if outside Canada or the U.S.)
15. Identify the main causes of environmental damage.
16. Identify solutions that are developed or being developed to correct this environmental problem.
17. Various pictures typical of your biome. May be photocopied and colored, may be originals which come from magazines (your own, not the schools) newspapers, and so forth, May be hand drawn or computer drawn.

HOME NUTRITION SURVEY

For one day, keep track of everything that you and two members of your family eat. For each item, determine:

1. How many calories it is
2. Where it comes from (cow, wheat, corn, etc.)

Summarize in one paragraph of 5 - 7 sentences how healthy you feel that you and your family is eating based upon this information. What changes do you think you could make in order to improve your and their diet?

FINITE RESOURCES

From your own experiences or others' experiences, identify one resource that we use which is non-renewable (has a limit, or is finite). Respond in complete sentences:

1. What is it, and why is it non-renewable?
2. What are the consequences of its continued usage?
3. What could people do in order to avoid using this resource? What can *you* do to help?
4. Ask someone in the class for their response, and write at least one paragraph about what could be done to prevent this resource's usage.

BUILD YOUR OWN ECOSYSTEM, PART 2

You will use your ecosystem from part one that you created. If you did not create an ecosystem, find a location for your ecosystem (it can be anywhere) and name three biotic factors (living things) in your ecosystem. Assume that your ecosystem is the size of Forest Hills to do the following:

1. Talk to two people and ask them for a natural disaster which could happen in your ecosystem. For each:
 - a) Write down their name
 - b) Write down the natural disaster
 - c) Predict what would happen to the carrying capacity of each of your three biotic factors due to this natural disaster. Assume that some living things are capable of surviving this natural disaster!
2. Make a food web for your ecosystem. Add enough biotic factors so that you get a total of at least 8 organisms, including producers, primary consumers and secondary consumers!

BASIC NEEDS OF ORGANISMS

1. What are at least ten basic needs that **you** have in order to survive?
2. The four basic needs that all animals have are: food, water, space and shelter. In your own life, how do you get these basic needs?
3. Get three environments. For each of these three environments, answer (you should have six total responses for this question):
 - a) What is the basic need that is the hardest to get for animals in this environment?
 - b) What is the basic need that is the easiest to get for animals in this environment?
4. Get three animals. For each of these animals, answer (you should have six total responses for this question):
 - a) Which of the basic needs is it the hardest to get for this animal?
 - b) Which of the basic needs is it the easiest to get for this animal?
5. Given the three animals, three environments, and your own basic needs, write the four basic needs in order of how hard they are to fulfill, from easiest to hardest. Explain your choices in one paragraph.

MUTATIONS AND PUNNETT SQUARES

1. Come up with a dominant human trait, give it a letter
2. Complete a Punnett's square for two homozygous dominant people
3. There's a nuclear accident and radioactive spiders bite 10 people. This causes a mutation and one allele becomes recessive for these people.
4. What's the name of this recessive trait?
5. Complete a Punnett's square between normal and mutant - what are the chances of a mutant?
6. Do Punnett's square between two mutants
 - a) What are the chances that they'll show the mutation?
 - b) What are the chances that they'll carry the mutant allele?

KINGDOMS OF LIFE

In this activity, you will do research to complete the following chart:

Name	Kingdom	Multi- or single-celled?	Does photosynthesis?	Has a centriole?
Bed bug				
House fly				
Yeast				
Yogurt				
E. coli				
Corn				
Moss				
Beans				
Mushroom				
Fern				
Cheese				
Amoeba				