**Ecosystems Portfolio**

**Biome Region \_\_\_\_\_\_\_\_\_\_\_\_\_\_ Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Check List**

1. **Abiotic Information**

* Map – Location of biome region, oceans, mountain ranges, distance from equator
* Analysis of the map questions
* Climate - average temperature and rainfall – compare winter vs summer
* Geological features – landscape and soil
* **Summarize**: How is the location of your biome region affecting its climate?

1. **Climatograph**

* City or country from your biome region – *include a map*
* Correct format (temp = line, precipitation = bars) and axis labelled
* Hand drawn or computer generated
* Description of the climate of your biome region – based on the climatograph

1. **Two Examples of Adaptations**

* Two different organisms (named)
* Pictures of each organism
* Explanation of why the adaptations have occurred. In other words, why are these changes beneficial?

1. **Symbiosis**

* Picture, correct type and description given

1. **Food Chain**

* 3 Organisms minimum
* Include pictures/names of the organisms
* Arrows show the energy flow
* Trophic levels correctly labeled

1. **Pyramid of Energy, Biomass or Number**

* Include pictures/names of the organisms
* Same organisms as food chain
* Include trophic levels

1. **Food Web**

* At least 10 organisms – with names and pictures
* Arrows show the energy flow
* Lots of connections
* Trophic levels indicated through a legend

1. **Nutrient Cycles**

* Paragraph explaining what happens in the carbon cycle
* Paragraph explaining what happens in the nitrogen cycle
* Paragraph explaining what happens in the phosphorous cycle

1. **Bioaccumulation**

* Give an example of bioaccumulation – what is the chemical and how does it affect organisms in the ecosystem as it biomagnifies?
* Keystone species – with name and picture. Is it affected by bioaccumulation? Impact on ecosystem?

1. **Foreign Species**

* Example of a foreign species, name, picture
* Description of how the foergin species has impacted the native species in the biome region
* **Final Product**
* All documents put in order according to your table of contents or assembled into a large presentation board
* **Bibliography**
* All pictures correctly cited in MLA or APA format
* At least 5 sources correctly cited in MLA or APA format

Today you will learn about the abiotic factors that affect the climate of your biome region:

1. Distance from the equator (latitude)
2. Proximity to oceans
3. Nearby mountain ranges

You will need to research and fill in the information required in each section of the following table: biome map, organisms, climate and geological features. This is due next day.



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| 1. Biome Map  * Outline where your biome region is located * Label the oceans that are near your biome * How far from the equator is your biome region? (is it near the Tropic of Cancer / Capricorn or near artic/antarctic circle?) * Label any mountain ranges in your biome |  |
| 1. Analysis of the Map |  |
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