Food Web and Nutrient Cycles Project

This will be a two-part project! One part will be creating a detailed food web and the other is to illustrate one of the nutrient cycles we talked about.

# Part One: Food Web

Goal: To create a food web based on a chosen ecosystem with at least 7 organisms that interlock.

Materials: Notes, Ecology Text book, Paper, Colored Pictures, etc.

## Requirements:

* At least 2 producers and at least 4 consumers
* At least 1 decomposer
* Labeled consumers and their trophic level (ex: Primary consumer, tertiary consumer)
* Labeled producers and their trophic level
* Arrows that show the direction of energy flow. Remember some items may have more than one arrow coming to it or leaving it.
* A detailed description of each item. Including: the name of the organism, if it is a consumer, producer, or decomposer, if it is an herbivore, carnivore, or omnivore.
* A list of used resources

Format: You can choose your presentation format. It could be a poster, a power point, a Prezi, or a brochure.

**Most likely you will need to do a little research to decide on an ecosystem and what organisms you will use. Make sure you include a list of the resources (an or websites) you used.**

# Part Two: Nutrient Cycles

Goal: To explain the process of the Nitrogen Cycle, the Carbon Cycle, or the Phosphorous Cycle.

Materials: Notes, Ecology Text book, Paper, Colored Pictures, etc.

## Requirements:

* You must pick between the Carbon Cycle, the Nitrogen Cycle, or the Phosphorous cycle.
* Include 4 reservoirs (or storage areas)
* At least 4 processes that move the nutrient (example: Water cycle Evaporation, Condensation) and a brief description
* Arrows that show the movement of the nutrient
* Color and Pictures to help illustrate your cycle
* A list of used resources (like your notes)

Format: You could create a poster/ diagram, a song or poem, a story, or a textbook quality drawing.

# Total Points Possible: \_\_\_\_\_\_\_\_\_\_\_\_\_\_/ 45 points

**Rubric is on the following page.**

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| --- | --- | --- | --- | --- | --- | --- |
|  | 5 points | 4 points | 3 points | 2 points | 1 point | 0 points |
| Food Web- Components | Contains 2 producers, 4 consumers, and 1 decomposer | Is missing one producer, consumer, or decomposer | Is missing two producers, consumers, or decomposers | Is missing three producers, consumers, or decomposers | Is missing four producers, consumers, or decomposers | Is missing five or more producers, consumers, or decomposers |
| Food Web- Labeled consumers and producers | All consumers and producers are labeled as such with their trophic level | All consumers and producers are labeled as such, but trophic levels are missing | 5 consumers and producers are labeled, but are labeled with their trophic level. | 3 consumers and producers are labeled, but are labeled with their trophic level. | 1 Consumers and producers are labeled, but are labeled with their trophic level. | No consumers or producers are identified, and none are labeled with their trophic level |
| Food Web- Description of Organisms | All organisms have a description such as: Name and if it is an herbivore, omnivore, or carnivore | 6 organisms have a description such as: Name and if it is an herbivore, omnivore, or carnivore | 5 organisms have a description such as: Name and if it is an herbivore, omnivore, or carnivore | 4 organisms have a description such as: Name and if it is an herbivore, omnivore, or carnivore | 3 organisms have a description such as: Name and if it is an herbivore, omnivore, or carnivore | 2 or less organisms have a description such as: Name and if it is an herbivore, omnivore, or carnivore |
| Food Web- Arrows | There are at least 5 arrows, some may be overlapping. | There are at least 4 arrows, some may be overlapping. | There are at least 3 arrows, some may be overlapping. | There are at least 2 arrows, some may be overlapping. | There is at least 1 arrow. | There are no arrows. |
| List of Resources | A list of resources is included. |  |  |  |  | There is no list of resources included. |
| Nutrient Cycles- 4 reservoirs | There are 4 reservoirs identified that are relevant to the cycle picked | There are 3 reservoirs identified that are relevant to the cycle picked | There are 2 reservoirs identified that are relevant to the cycle picked | There is 1 reservoir identified that is relevant to the cycle picked | There is 1 reservoir identified that is not relevant to the cycle picked | There is 1 reservoir identified that is not relevant to the cycle picked |
| Nutrient Cycle- 4 processes of how nutrient moves | There are 4 processes provided with a brief description of each. | There are 3 processes provided with a brief description of each | There are 2 processes provided with a brief description of each | There is 1 process provided with a brief description it. | There is 1 process provided without a description. | There are no processes provided. |
| Nutrient Cycle- Arrows or movement description | There are 5 arrows that represent movement, or an explanation of each movement | There are 4 arrows that represent movement, or an explanation of each movement | There are 3 arrows that represent movement, or an explanation of each movement | There are 2 arrows that represent movement, or an explanation of each movement | There is 1 arrow that represents movement, or an explanation of the movement | There are no arrows or an explanation of movement |
| Color and Pictures | At least 10 visuals and color | At least 8 visuals and color | At least 6 visuals and colors | At least 4 visuals and colors | At least 2 visuals or color | No visuals or colors included. |