|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Total: \_\_\_ /24 | 4 | 3 | 2 | 1 |
| Research Paper  \_\_\_ /8 | **Two page typed** paper on your chosen Biome. It must be properly cited using APA format.  **-**What makes it that particular Biome   * **Location in the world** * **Landscape** * **Temperature** * **Ecosystem**   **-Positive impact**- human and natural  **Negative impact**- human and natural  **-**What careers are available in this field of study?  **-**What efforts of made to stop the negative impacts?  **-**What would you propose as the ecologist to stop negative impacts? | **Two page typed** paper on your chosen Biome. It must be properly cited using APA format.  **-**What makes it that particular Biome   * **Location in the world** * **Landscape** * **Temperature** * **Ecosystem**   **-Positive impact**- human and natural  **Negative impact**- human  **-**What careers are available in this field of study? | **1-2 page typed** paper on your chosen Biome. It must be properly cited using APA format.  **-**What makes it that particular Biome   * **Location in the world** * **Landscape** * **Temperature** * **Ecosystem** | **0-2 page typed** paper on your chosen Biome. |
| Food Web Mobile  \_\_\_ /4 | - Must stay true to your Biomes ecosystem  - Must have at **least 3 food chains** with at least **3 organisms in the food chain**  - Must include a **decomposer**  -Energy transfer **arrows** must be shown correctly | - Must stay true to your Biomes ecosystem  - Must have at **least 3 food chains** with at least **3 organisms in the food chain**  - Must include a **decomposer** | - Must stay true to your Biomes ecosystem  - Must have at **least 3 food chains** | - Must stay true to your Biomes ecosystem |
| Labeled Pyramid  \_\_\_ /4 | -Must model your Food Web Mobile  -What trophic level does it belong to: **autotroph** or **heterotroph**  -What consumer level does it belong to: **primary**, **secondary**, **tertiary**  -What consumer type is it: **producer**, **herbivore**, **carnivore**, **omnivore**, **decomposer**  **-** List of any relationships and symbiotic relationships: **mutualism**, **commensalism**, **parasitism**, **predation**, **competition** | -Must Model your Food web Mobile  -What consumer type is it: **producer**, **herbivore**, **carnivore**, **omnivore**, **decomposer**  **-** List of any relationships and symbiotic relationships: **mutualism**, **commensalism**, **parasitism**, **predation**, **competition** | -Must Model your Food web Mobile  -What consumer type is it: **producer**, **herbivore**, **carnivore**, **omnivore**, **decomposer** | What consumer type is it |
| Portfolio/Gallery walk self form and peer forms  \_\_\_ /8 | Explain overview of paper including:   * **What biome and why** * **organisms** * **climate** * **human and natural impact** * **Ecologist proposal**   Explain diorama and food web including:   * **Trophic levels** * **Consumer levels** * **Consumer types** * **Relationships** | Explain overview of paper including:   * **What biome** * **organisms** * **climate** * **human and natural impact** * **Ecologist proposal**   Explain diorama and food web including:   * **Trophic levels** * **Consumer levels** | Explain overview of paper including:   * **What biome** * **organisms** * **climate** * **human and natural impact** * **Ecologist proposal** | Explain overview of paper |

**ECOLOGY PROJECT FOOD WEB MODEL**

Your mobile must be of a food web from the biome you choose to research. This is not glue stuff to a poster kind of project. This is a 3-D mobil. Your mobile must be in a pyramid shape and hanging from something (like a hanger). You must provide your own supplies. The more creative and the more detail in your mobile the higher your grade will be. You must provide your own supplies. I will supply you with some, but you must provide the majority. The more creative and the more detail in your model the higher your grade will be.

* All food webs have a primary energy source (i.e. Sun or deep sea vents)
* All food webs must have decomposers
* Label the animals and plants with the common name and the scientific name.
* Label the trophic levels (i.e. Primary Producer, Primary consumer, secondary consumer, tertiary consumer, quaternary consumer)
* Label the Heterotrophs and the autotrophs
* Label whether the animal is a carnivore, omnivore, or a herbivore.

**ECOLOGY PROJECT PYRAMID-Must Model Your Mobile**

Ecology Pyramid must be in the shape of a Pyramid and must Model your Mobile. It must include all the following components.

* Trophic Level- Autotroph or Heterotroph
* Consumer Level- primary secondary and tertiary
* Consumer Type- producer, herbivore, carnivore, omnivore, decomposer
* List of symbiotic relationship- mutualism, commensalism, parasitism
* List of Abiotic and Biotic factors of your biome

**Partner Contract**

I \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ am partnered with \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. I understand that I am responsible for the duties set forth on this contract and that I will do the work or risk being fired. If I am fired, I will have to do the project on my own or risk failing.

**PARTNERS DUTIES**

**Take the time right now to split your duties in HALF! If you do not comply or follow duties you can be FIRED!**

|  |  |
| --- | --- |
| **Partner 1 Name:** | **Partner 2 Name:** |
| **I am in charge of the following duties:** | **I am in charge of the following duties:** |

**Steps to Fire your partner**

**Step 1- Warn teacher there is a problem and will try the following solution: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Step 2- Solution did not work; try teachers solution: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Step 3- Both solutions were unsuccessful now fired partner(s) must face consequences.**

**Partner One Signature\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Print your name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Partner two Signature\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Print your name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Timeline/ Checkpoint (Teacher Assignment will be provided throughout Project)**

|  |  |  |
| --- | --- | --- |
| **DATE** | **What needs to be done** | **Grade** |
| **3/28** | Pick a Biome and start research: abiotic and biotic factors, types of animals, food webs and chains |  |
| **4/2** | Start bringing in supplies. Brainstorm and create a blueprint for your project. Start a brainstorm map for your research paper (i.e. Intro, paragraphs,conc.) Start researching and answering questions from rubric. |  |
| **4/2** | Research your ecology terms found on rubric and figure out what your biome consists of. Continue your research for paper and begin writing. |  |
| **4/3** | Start building your project. Continue writing your paper. |  |
| **4/4** | Finish building your project. Finish writing the rough draft of your research paper. |  |
| **4/5-6** | Start perfecting your project and finishing your Final draft of your Research paper. |  |
| **4/7** | Start perfecting your project and make sure all aspects from the rubric are included. Perfect your presentation from rubric. NO POWERPOINTS! |  |
| **4/8** | Gallery walk of your project and turn in your research paper |  |

|  |  |
| --- | --- |
| **Knows** | **Needs to knows** |
|  |  |

**What you will need to turn in.**

**Portfolio with the following:**

Partner Contract

Rubric

Know and Need to know form

Brain storm blueprint for paper

Typed Biome Paper (you will be responsible to print this)

Peer/Self evaluation forms on Gallery walk (placed into your portfolio following the Gallery walk)

**3D Mobil Model of Food Web**

**Labeled Pyramid**