**Biomes & Adaptation Project**

* You have been randomly assigned a biome to research for this project.
* Type the name of that biome here: Click or tap here to enter text.
* **Look up a world map to see all the possible locations that your biome exists or refer to your notes**

**Learning Targets**

1. I will communicate information that demonstrates how energy flows within an ecosystem (SEV1).
2. I will develop a model (food web or pyramid) based on the Laws of Thermodynamics to show energy transfers in an ecosystem (SEV1b).
3. I will evaluate evidence and reasoning to demonstrate the relationship between organism adaptations and the physical factors of its biome (SEV1d).
4. I will obtain and communicate at least one human impact on a biome or its natural resources (SEV4a).
5. I will discuss natural threats to the stability of a biome (NGSS Cross-cutting Principle Stability & Change).

**Product:** You will produce an informative travel guide. This can be done in one of several different formats:

* a digital brochure (can be a booklet or foldable)
* newsletter
* website

**\*\*\* This CANNOT be a power point or Google Slides! \*\*\***

**Grading:** You will be graded according to the rubric found at the end of this document.

**Research and References**

* As you gather photos and information, you must cite every website and photographer whose work you use. Keep a running document as you work where you copy-paste all links you use.
* This document will be your final Citations/references section.
* Photographers should be cited in the captions on the photo and do not need to be additionally cited in the References section.
* Use reputable sources as you research **(not Wikipedia or answers.com).** The sources should be reputable travel agencies, government websites, scientific agencies or universities, or scientific publications (like encyclopedias or National Geographic).

**Some suggested websites to get you started:**

**For general searches**

[**Cobb Virtual Library Gale Database Science in Context**](https://go.gale.com/ps/start.do?p=SCIC&u=powd59526)

**For Biome Information**

[**http://www.ucmp.berkeley.edu/glossary/gloss5/biome/**](http://www.ucmp.berkeley.edu/glossary/gloss5/biome/)

[**https://earthobservatory.nasa.gov/Experiments/Biome/**](https://earthobservatory.nasa.gov/Experiments/Biome/)

**For Environment and environmental issues Information**

<https://www.nationalgeographic.com/environment/>

<https://www.nationmaster.com/country-info/stats/Environment/Current-issues>

**PART 1:**

**Headings and Content Required**

* **Title Page or Header**
	+ Name of your biome
	+ Free stock photo of your biome
	+ Specific country within that biome you have chosen to make your travel guide for (make sure we are focusing on the natural plant & animal ecosystem, and **not a city for entertainment attractions).**
	+ Your first and last name
	+ The date the project is due (or if late, the date you are submitting it).
* **Map, Climate, & Weather**
	+ **Map** of the world with your biome highlighted and your country marked clearly
	+ **Climate** of your biome:
		- a graph of seasonal temperatures throughout the year
		- what seasons your biome has
		- a graph of seasonal precipitation (rainfall) of your biome
	+ **Guide for travelers planning to visit during a certain month**: what the weather is to be like in this area and how travelers should dress when visiting your biome during this time
	+ **Best time of year overall to visit** the wildlife (and ecosystems in general) in this area.

***Checkpoint 1: Due 1/25***

***Stop and submit PART 1 to your teacher through CTLS Assignments***

**PART 2:**

* **Local Wildlife (biotic factors)**
	+ **Flora**: List at least 5 plants in this biome by both their common and species names.
		- For 2 of the plants, include a free stock photo of the plant with a caption that describes how that plant is well suited to survive in that biome or climate.
	+ **Fauna**: List at least 5 animal-type organisms (insects, mammals, reptiles, amphibians, birds, fish, etc) that are native to this biome. Give both their common and species names.
		- For 2 of the animals, include a free stock photo of the animal with a caption that describes how that organism is well suited to this biome or climate (to do this, you should include at least 2 from this list: animal’s size, diet, how it hunts, how it gets water, how it regulates its body temperature, where it shelters, and how it defends itself).
	+ **Food Web OR Pyramid**: Select a top predator that is native to this biome and place at the highest trophic level in your model. Research what organisms or animals this predator eats. Include them in your food web or pyramid. Then, research what those creatures eat. Include that in your model. Continue this process until your model makes it down to the autotroph/producer level.
		- **This model must be made by you – It cannot be downloaded or copy-pasted** **from any source.**
* **Threats to the Biome**
	+ L**ist and describe at least 5 threats** to the wildlife or health of this biome
		- Include **1 (appropriate) free stock photo** that illustrates this threat in this biome, along with a caption explaining the photo.
		- Make sure your 5 threats include a mixture of human-caused threats as well as natural threats

***Checkpoint 2: Due 1/28***

***Stop and submit PART 2 to your teacher through CTLS Assignments***

**PART 3:**

* **Advertisement**
	+ Give the **top 5 reasons why tourists should visit** this country/biome that relate to the natural ecosystem or wildlife (again, not the city or entertainment (like theme parks, etc. in the area).
	+ Include at least **2 public parks or lands** that are in your country and fall within this biome
	+ Include **1 photo of one of these public parks or lands** with a caption explaining where it is and what is special about it.
* **Citations/References**
	+ Use a citation generator to turn the links you have been using and keeping in your references document into APA citations. One good generator that is free (with some periodic ads) is <https://www.citationmachine.net/>
	+ The school also has free access to citation generators through the Hillgrove Website 🡪 Media Center resources
	+ Make sure you alphabetize your citations page!

**Keep the following in mind when creating your product**

* **Size & type of font-** other students will be using this as their primary resource for notes! (12-14-point font is a good general range)
* Headings for each topic are appropriate
* Neatness, creativity & non-distracting use of color
* Your writing for this assignment should contain correct grammar and spelling and be in complete sentences.

***Final Turn In: Due 2/1***

***Stop and submit PART 3 to your teacher through CTLS Assignments***

**Biomes Brochure Rubric**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **DESCRIPTION** | **10 POINTS** | **9 POINTS** | **8 POINTS** | **7 POINTS** | **0 - 6 Pts** |
| **Title Page** | Contains all of the required items. Photo is cited in the caption. | Missing one of the required components. | Missing 2 of the required components. | Missing 3 of the required components. | Missing 4 or more components or is not submitted |
| **Map, Climate, and Weather** | Contains all of the following:* Map with marked biome and city
* biome temperature graph
* biome precipitation graph
* the seasons experienced in the biome
* this week’s weather
* what travelers should wear
* best time of year to visit
 | Missing one component from the required list | Missing one or two items from the required list | Missing 3 items from the required list | Missing 4 or more items from the required listORIs not submitted. |
| **Local Wildlife:****Flora, Fauna & Food Model** | Contains all of the following:* 5 plants by species and common name
* two plant photos with captions
* 2 plants with described adaptations
* five animals by species and common name
* 2 animal photos with captions
* 2 animals with described adaptations
* Complete student-created food web or pyramid with at least 3 trophic levels
 | Missing part of 1 required component | Missing 1-2 entire required components | Missing 3 required components | Missing 4 or more required componentsORNothing submitted for this section |
| **Threats to the Biome** | Contains all of the following:* five biome threats listed
* All 5 biome threats described
* One free stock photo depicting one of these threats, with captions
* Threats include human causes
* Threats include natural causes
 | Missing a part of one of the required components | Missing 1-2 required components | Missing 3 required components | Mising 4 or more required components ORNothing submitted for this section |
| **Advertisement** | Contains all of the following:* Top 5 reasons to visit the biome/city
* 2 public parks or lands to visit nearby
* Includes a relevant picture.
 | Missing a part of 1 component | Missing 1 entire component | Missing 2 entire components | Missing almost all components ORNothing submitted for this section |
| **Citations or References** | Citations are given for all information researched (all facts can be found by clicking on those website links)All citations are in APA format and have been alphabetized. | Citations are given for all information researched (all facts can be found by clicking on those website links)All citations are in APA format, but not alphabetized. | Citations given for all information (all facts can be found by clicking on website links), but incorrect format. (Citation includes at minimum, website link, organization or author name, & publication date) | Citations are given for all information researched (all facts can be found by clicking on those website links), but only the website links are provided. | Citations are incomplete (does not show all facts used in the product) or are missing entirely. |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |
| **Description** | **5 POINTS** | **4 POINTS** | **3 POINTS** |  | **0 - 2 Pts** |
| **Grammar and Readability and overall Product** | Contains no spelling or grammatical errors that detract from the ability to read and understand the information.Font size, color, and use of headings enhance the readability of the information. | Contains no spelling or grammatical errors that detract from the ability to read and understand the information.Font size, color, and use of headings do not make it hard to read the information. | Contains a few spelling or grammatical errors that detract from the ability to read and understand the information.Font size and color make it challenging to read the information. Headings are not used. |  | Errors in spelling, grammar, and text make it impossible to read and understand the product. Font color is not readable against chosen background color. Font size is smaller than 10 point. |