**Biome/Ecology Museum**

**Project Based Learning STEM Assignment**

All 7th grade students will be creating an interactive biome museum exhibit for each homeroom on the 7th grade hallway. Biomes will be assigned in science classes by class period and expert teams within the class periods will research different topics of each biome in science and social studies classes. Students will begin by learning about biomes and ecosystems in science class. They will then research, design, and begin to plan the homeroom exhibit using the research they conducted in social studies and science classes, and at home. Students will apply their knowledge to create an exhibit that shows a bright, colorful, and interactive panoramic view of their assigned biome, along with fact cards highlighting the information that they researched. This will be completed in the science classes where the biomes and homerooms were assigned. Students will then visit the homeroom museum exhibits on Tuesday, March 26, 2019 and will complete an exhibition fact sheet for the biomes they visit.

Research the following information by answering the provided questions about your assigned biome. The most accurate, best written and informational rich product will be used as the presentation plaque for the homeroom biome. (Do not use pronouns (it, they, that)). Research will be conducted in science and social studies classes, and at home. Your government structure research can be a specific region/location/state/providence (Himalayas Alpine Tundra) or a general area like China or Japan that are mostly temperate deciduous forests.

**LOCATION/LANDFORMS (Terrain) (primarily completed in Social Studies Class or at home)**

1. What is/are the location of this biome?
2. Is the biome found in multiple locations?
3. Describe the landforms found in this ecosystem
4. How were the landforms in this ecosystem formed?
5. Is the ecosystem a rocky place? Explain.
6. What is the soil like in this ecosystem?
7. How does the soil in this ecosystem help plants grow?
8. How far is the location from North America?

**Government Structure (primarily completed in Social Studies Class or at home)**

1. What is the current governmental structure for the region?
2. Provide a brief (1-paragraph) history of the major governing history of the region.
3. Provide a description of the current economic structure of the region and a history of major economic shifts if any (1 paragraph)
4. Statistics: Current Population: GDP: GNI: Life Expectancy: Poverty % of Population: CO2 Emissions
5. What is the current dominant religion and what are other minority religious sects; include % of population for each religion, include a brief description of history

**IMBALANCE IN THE ECOSYSTEM (primarily completed in Social Studies Class or at home)**

1. Which of these changes would cause the greatest imbalance for this ecosystem? Explain your thinking.
* Flooding
* Drought
* Extreme temperature
* Lack of food
* Change in terrain

**ECOSYSTEM THREATS (primarily completed in Social Studies Class or at home)**

1. Describe the major threats to this ecosystem.
2. How do these threats make it harder for plants and animals to survive?
3. Are there any other threats to this ecosystem?
4. What can humans do to reduce these threats?

**CLIMATE (primarily researched in science class or at home)**

1. Describe the climate of this ecosystem; include temperature ranges and precipitation ranges
2. What is the average temperature during each season?
3. What is the average precipitation during each season?
4. Are there any seasons that are longer than others are?
5. Are there any seasons that change life for plants and animals in this ecosystem?

**PLANT LIFE (primarily researched in science class or at home)**

1. Describe the plants in this ecosystem.
2. How dense is the plant cover?
3. What are some plants that grow from the ground?
4. What are some plants that grow from other plants?
5. Which plants are most common?
6. Describe the life cycle for one of these plants.

**ANIMAL SPECIES (primarily researched in science class or at home)**

1. What are the animal species that thrive in this ecosystem? Separate by species (birds, mammal, reptiles, and amphibians). Provide a description
2. How do the animal species use the plant cover of this ecosystem to help it thrive?
3. How does this animal species use the terrain of this ecosystem to help it thrive?
4. What adaptations make it possible for this animal species to thrive in the climate of this ecosystem?
5. How does this animal species use other animals to help it thrive?

**Biome/Ecoregions for Research**

**Potential Research Locations**

**Temperate Deciduous forest – Moore HR**

North East Asia

Korea/China/Japan

India- most of eastern continent

**Temperate or Alpine Rainforest – Alexander HR**

Caspian Hyrcanian forest (Iran and Azerbaijan)

High elevation mountain rain forests (Taiwan)

Baekdu Mountain Range

Taebaek and Sobaek Mountain Ranges

South Sea forests (Korea)

Taiheiyo (Pacific) rain forests (Japan)

Southern Siberian rainforest

Temperate rainforests of the Russian Far East

**Tropical Rainforest – Lampkins HR**

Anywhere in Southeast Asia

Borneo

New Guinea and Papua New Guinea

**Wetlands/Swamp/Marsh – LJ HR**

Myristica Swamps of India

State of Kerala

China- marsh and swamps

**Estuaries – Donegan HR**

Mumbai, India

Paravur Estuaries of India

Sir Creek border of Pakistan and India

Yangtze River Delta

Pearl River Delta

Shijing River Delta

**Chaparral – Cheffen HR**

South Africa-Cape Town

Australia Western Tip

Mediterranean Coastline

Most of Spain/Portugal

California- Baja Peninsula

Central Chile

**Savanna – Hite HR**

Terai-Duar savanna and grasslands – India/Nepal/Bhutan

Africa Central/Southern – Famous – Serengeti

Trans Fly savanna and grasslands – New Guinea, Papua New Guinea, Indonesia

**Tundra or Alpine Tundra – Water Fountain Area**

Himalayas

Mount Fuji

Siberia

Northern Canada/USA

**PLAQUE TEMPLATE/GUIDELINES FOR SOCIAL STUDIES**

12X18 inch sheet (will fit two 8x11 sheets of copy paper)

**PAGE 1**

Location of Biome – brief description based on questions

Climate of Biome - brief description based on questions

Imbalance in the Ecosystem - brief description based on questions

Ecosystem Threats - brief description based on questions

**PAGE 2**

Government Structure questions 9-13

Example Template (Completed Primarily in Social Studies Class or at home)

Page 1 Page 2

Location of Biome

Government

What is the current governmental structure for the region?

Provide a brief (1-paragraph) history of the major governing history of the region.

Economics

Provide a description of the current economic structure of the region and a history of major economic shifts if any (1 paragraph)

Statistics: Current Population: GDP: GNI: Life Expectancy: Poverty % of Population: CO2 Emissions

MAP with area highlighted (Temperate Deciduous Forest)



Religion

1. What is the current dominant religion and what are other minority religious sects; include % of population for each religion, include a brief description of history

Climate of Biome

Biome Imbalance

Biome Threats