PROJECT DESIGN: OVERVIEW

Name of Project: Biome Story Map		**Duration: 10 days**
Subject/Course: 6th Grade Science	**Teacher(s): Nicole Resmondo**	**Grade Level: 6**
Other subject areas to be included, if any: Geography		

Significant Content (CCSS and/or others)	SPI 0607.2.3 Identify the biotic and abiotic elements of the major biomes. SPI 0607.2.4 Identify the environmental conditions and interdependencies among organisms found in the major biomes.			
21st Century Competencies (to be taught and assessed)	Collaboration	X	Creativity and Innovation	
	Communication		Other: Research	X
	Critical Thinking			
Project Summary (include student role, issue, problem or challenge, action taken, and purpose/beneficiary)	Students will create a Google Tour map working in collaborative groups of 3 to 4 students by continent. Groups will research the environmental conditions and the interdependencies for the biomes contained in their continent. Each group will have a tour map for their continent and the biomes information contained in them. The students will present the map to another class, teacher and administrator when completed.			
Driving Question	*"How do living things interact with one another and with the non-living elements of their environment?"*			
Entry Event	Show "Introduction to Biomes" video on YouTube: https://www.youtube.com/watch?v=hIy0ZlyPPDg			
Products	Individual: World tour biome G.O. GeoInquiry- Ecosystems and Biomes		Specific content and competencies to be assessed: Abiotic and biotic factors of the biomes	
	Team: Google Tour map for group Continent w/ biomes		Specific content and competencies to be assessed: Research, collaboration, virtual workspace completion	

Public Audience (Experts, audiences, or product users students will engage with during/at end of project)	Another science class, teacher, and administrator.

Resources Needed	On-site people, facilities:
	Equipment: ARCGIS online, Google Tour Builder directions, computers, internet
	Materials: Biome books from the library
	Community Resources:

Reflection Methods (Individual, Team, and/or Whole Class)	Journal/Learning Log		Focus Group	
	Whole-Class Discussion	X	Fishbowl Discussion	
	Survey	X	Other: Success Criteria Self Assessment	x

Notes:

PROJECT DESIGN: STUDENT LEARNING GUIDE

Project: Story map of World Biomes

Driving Question: "What are the environmental conditions and interdependencies of the world's biomes?"

Final Product(s) Presentations, Performances, Products and/or Services	**Learning Outcomes/Targets** content & 21st century competencies needed by students to successfully complete products	**Checkpoints/Formative Assessments** to check for learning and ensure students are on track	**Instructional Strategies for All Learners** provided by teacher, other staff, experts; includes scaffolds, materials, lessons aligned to learning outcomes and formative assessments
(individual **and** team) I can conduct research and input information to an online map to represent the environmental conditions and interdependencies of the world's biomes.	I can research and identify the biotic and abiotic features, geographic features, climate, symbiosis, and plant and animal adaptations of the world's biomes.	• Complete a Geoinquiry correctly to become familiar with an AGO map • Exit tickets following lessons	• Teacher model of AGO online and Google Tour Builder • Teacher direct instruction of how to insert image urls • GeoInquiry- Elementary Biomes
	I can evaluate multiple sources on my topic and integrate valid sources into my map and presentation to speak knowledgably about the topic.	• Complete a graphic organizer on the features of the biomes that exist in the assigned continent. • Add map notes and images to tour.	• Video of Biomes • BrainPop- Land Biomes • Student/teacher conference with Graphic Organizer of information gathered.

Daily Lesson Plan -Resmondo (PBL to last 10 days)
Day 5

Grade/ Grade Band: 6th	**Topic:** Interdependence	**Lesson #** 5 **in a series of** 10 **lessons**
Brief Lesson Description: **Students will be able to classify organisms, interpret how materials and energy are transferred through an ecosystem, and analyze how living things interact with one another and with the non-living elements of their environment**.		
Performance Expectation(s): SPI 0607.2.3 Identify the biotic and abiotic elements of the major biomes. **SPI 0607.2.4** Identify the environmental conditions and interdependencies among organisms found in the major biomes.		
Specific Learning Outcomes: Students will obtain, classify, and evaluate information on one of the biomes that exist in their assigned continent and input that information into a Google Tour Map.		
Narrative / Background Information		
Student Knowledge: Students have had some exposure to food chains and food webs in ecosystems and classifying organisms that live there.		
Science & Engineering Practices: • Obtaining, evaluating, and communicating information • Asking questions and defining problems • Developing and using models	**Disciplinary Core Ideas:** LS2 Ecosystems: Interactions, Energy, and Dynamics	**Crosscutting Concepts:** Energy and Matter Patterns
ble Preconceptions/Misconceptions: Some students may have a misconception about biotic factors only meaning something that is alive now, at it also includes what was once alive, or will be alive. Some students will have a hard time sorting organisms into the correct biome.		
LESSON PLAN – 5-E Model		
ENGAGE: Opening Activity – Access Prior Learning / Stimulate Interest / Pique Curiosity/Generate Questions: (Should be hands on minds on) • A Starter will be on the board as students enter the classroom • After students complete the starter, there will be a class discussion of the answer. • Students will be given a set of directions on Tour Builder and an online link if needed. https://www.google.com/earth/outreach/learn/storytelling-with-maps-using-tour-builder/#beforeyoubegin		
EXPLORE: Lesson Description – Materials Needed / Probing or Clarifying Questions: • Students will use graphic organizers to research and collect information on each biome that exists in the assigned continents. • Approved materials and websites to use are: • www.earthobservatory.nasa.gov/experiments/biome/ • http://www.ducksters.com/science/ecosystems/world_biomes.php • Earth Floor- Biomes http://www.cotf.edu/ete/modules/msese/earthsysflr/biomes.html • GMS library page- Science Flix or Science in Context • Library book on biomes		
EXPLAIN: Concepts Explained and Vocabulary Defined: • "What are the environmental conditions and interdependencies of one of the biomes?" • Students will take the information obtained about 1 biome and practice adding it to the group's Google Tour map. Students can share the map with each other so all students in can edit the map. **Vocabulary:** Abiotic, biotic, adaptations, climate, biome, symbiosis, mutualism, commensalism, parasitism, tundra, taiga, deciduous forest, coniferous forest, marine, desert, freshwater, rainforest.		
ELABORATE: Applications and Extensions: Students will collect information on one biome at a time and then input that into the Tour builder map after information has been approved by the teacher. Students will add images and/or map notes to the tour map.		
EVALUATE: **Formative Monitoring (Questioning / Discussion):** Teacher will do checkpoints on each group's progress on obtaining information **Summative Assessment (Quiz / Project / Report):**		
Elaborate Further / Reflect: Enrichment: Students will be given a project rubric to follow for information and presentation.		