Lesson Title	The Savanna Biome and Climate Change
Length of Lesson	One (50 minute) class period
Created By	Charlotte Buehler
Subject	General Science
Grade Level	7th grade
State Standards	7th: Inquiry (1d, h), Life Science (3a)
DOK Level	DOK 3
DOK Application	Assess, Connect, Explain Phenomena in Terms of Concepts
National Standards	5-8: Inquiry (A), Life Science (C)
Graduate Research Element	Although biomes on earth each have unique characteristics, all will be affected in some way by climate change. The invasive Australian pine, as a plant currently in the subtropical biome, may be more capable than neighboring native plants to adapt to a changing climate because of its adaptive strategies.

Student Learning Goal:
MS 7th Grade:
Inquiry- (1c) Collect and display data using simple tools and resources to compare information (resources), (1h) Make relationships between evidence and explanations
Life Science- (3a) Major characteristics of land biomes, adaptations of various plants and animals to survive and reproduce in different biomes

National Science Education Standards of Content 5-8:
Inquiry (A)—Develop descriptions, explanations, predictions, and models using evidence
Life Science (C)—Populations and Ecosystem

Materials Needed (supplies, hand-outs, resources):
- Computer, projector, crayons, markers
- PowerPoint (INSPIRE_Buehler_LP_Biomes_4_1_12),
- Comic strip hand out (INSPIRE_Buehler_HO_comic strip)

Lesson Performance Task/Assessment:
In this lesson students will learn about the savanna biome-- comparing and contrasting the savanna with what they know about their home biome (deciduous forests of Mississippi). The lesson concludes with students determining how climate change may

affect the savanna biome by illustrating their own comic strip depicting how the savanna flora and fauna may change in response to climate change.

Lesson Relevance to Performance Task and Students:
When students understand that difference biomes exist around the world (besides their own home biomes) they connect why, for example, elephants, toucans, or palm trees don't exist in their home area. Learning about what a biome is inherently teaches students about climate and the placement of continents, which integrates weather and plate tectonics. This lesson particularly focuses on the savanna biome, and students learn the driving climatic factors that determine the flora and fauna of the region. Integrating climate change as part of this lesson serves to introduce students to how the savanna may be negatively affected (more extreme drought, loss of biodiversity, and animal/people migration).

Anticipatory Set/Capture Interest:
The instructor will begin by informing the class that there will be a friendly competition and the winner will get their activity (the comic strip) "published" in the Mississippi State University GK-12 newsletter (or another publicly displayed news format).

Guided Practice:
The lesson does not incorporate guided practice, instead, after the short PowerPoint the students work independently on creating and illustrating their comic strip of the savanna biome (making sure to include the appropriate flora and fauna and effect of climate change on the savanna environment).

Independent Practice:
The students draw their comic strip depicting the savanna biome and climate change on the handout (INSPIRE_Buehler_HO_comic strip).

Remediation and/or Enrichment:
Remediation- Individual IEP; work in groups to discuss how climate change may affect the savanna biome.
Enrichment – Have the students pick another biome to compare and contrast it to the savanna biome.

Check(s) for Understanding:
Can the students define what a biome is? Do the students integrate the appropriate savanna flora and fauna into the comic strip? Have the students incorporated climate change into their comic strip?

Closure:
Question 1: How is the savanna biome different from the students' home biome?

Question 2: How will climate change affect the savanna biome? How might those changes affect the people that inhabit the area?

Possible Alternate Subject Integrations:
Earth Science, Geography

Teacher Notes: