APPENDIX D-1

LESSON PLAN FORM

Intern: \_\_Jocelyn Miller\_\_ Date: \_\_\_10/02/14\_\_\_\_ Group Size: \_\_\_24\_\_\_

Estimated time for Lesson: \_\_\_2.5 hours\_\_ Mentor teacher approval: \_\_\_\_\_\_\_\_\_\_\_\_

Content Area: \_\_\_\_7th Grade Life Science\_\_\_

Topic: \_\_\_\_Natural History Project\_\_\_\_\_\_\_\_

**L.A. Content Standard & Benchmark:**

[CCSS.ELA-LITERACY.RST.6-8.1](http://www.corestandards.org/ELA-Literacy/RST/6-8/1/)  
Cite specific textual evidence to support analysis of science and technical texts.

[CCSS.ELA-LITERACY.RST.6-8.2](http://www.corestandards.org/ELA-Literacy/RST/6-8/2/)  
Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.

[CCSS.ELA-LITERACY.RST.6-8.3](http://www.corestandards.org/ELA-Literacy/RST/6-8/3/)  
Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.

[CCSS.ELA-LITERACY.RST.6-8.8](http://www.corestandards.org/ELA-Literacy/RST/6-8/8/)  
Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.

* 6. Compare the life cycles of a variety of organisms, including non-flowering and flowering plants, reptiles, birds, amphibians, and mammals (LS-M-A3)
* 11. Construct, use, and interpret appropriate graphical representations to collect, record,
* and report data (e.g., tables, charts, circle graphs, bar and line graphs, diagrams, scatter plots, symbols) (SI-M-A4)
* 19. Communicate ideas in a variety of ways (e.g., symbols, illustrations, graphs, charts,

spreadsheets, concept maps, oral and written reports, equations) (SI-M-A7)

* 28. Recognize that investigations generally begin with a review of the work of others (SIM-B2)
* 26. Describe and compare the levels of organization of living things within an ecosystem

(LS-M-C3)

* 27. Identify the various relationships among plants and animals (e.g., mutualistic, parasitic, producer/consumer) (LS-M-C4)
* 28. Differentiate between ecosystem components of habitat and niche (LS-M-C4)
* 30. Differentiate between structural and behavioral adaptations in a variety of organisms

(LS-M-D1)

* 31. Describe and evaluate the impact of introducing nonnative species into an ecosystem (LS-M-D1)
* Encourage students to investigate their world
* Show students the vast amount of crazy organisms alive in the world today that they could study as scientists

**Objective(s):**

* SWBAT:
  + Use multiple sources to accurately identify the complete classification of a given organism, correctly naming at least 5 of the 7 taxa associated with the organism.
  + Follow a template to include all pertinent information about an organism, with fewer than two factual errors outside of classification
  + Incorporate at least one appropriate citation, not counting Wikipedia
* Students will be able to produce a complete and informative fact sheet about their organism, including its complete classification, biome, distribution, habitat, size, niche, and an interesting fact.

**Methods of Assessing Learning:**

* The fact sheet will be graded using a rubric
* Continued understanding will be assessed during class discussions about biomes, ecosystems, and food webs, plus graded lab notebooks for assessment of application of content knowledge during laboratory activities

**Materials:**

* Natural History Project Instructions & Rubric
* Animal Natural History Project Template and Example
* Plant Natural History Project Template and Example
* Animal List cut-outs
* Plant List cut-outs
* computers with internet access

**Management Considerations:**

Students will spend up to 2 class periods in the library or computer lab conducting their research. Prior arrangements should be made to reserve 24 computers for each class for two days.

**Accommodations for different ability levels and learning styles:**

**Justification:**

* Middle school is when children start to become aware of the world outside of their personal lives
* It is beneficial to have experience conducting research at an early age to learn how to structure your research and your writing

**Procedures/Activities:**

**Engage**

* + 1. Tell the students that since they’ve finished Classification and are about to begin a unit on biomes and ecosystems, they are going to be doing a natural history research project on a cool plant or animal.
    2. Present an example of an Animal project and a Plant project, explaining how to use the template.
    3. Emphasize the levels of classification, and distinguish between the sections for biome, geographic range, and habitat.
    4. Tell the students they can choose if they want to research a plant or an animal, but will draw their organism randomly from a hat. Explain that some of the organisms from the plant hat will have a note to see the teacher – these plants are difficult to research beyond the Genus level. Students may wish to redraw.
    5. Explain that some plants are carnivorous and will require an additional section on the project. Students will be allowed to redraw if they do not wish to do the extra work.
    6. Students will have 2 – 3 weeks to complete the project, including at least 2 class periods in the library or computer lab to do their research.

**Explore**

* + - 1. Students will complete their projects independently, but may ask their peers, the teacher, or the librarian for assistance and advice

**Explain**

* + - * 1. Teacher may elect to ask for volunteers to present their research by bringing in a large picture of their animal and telling the class a few things about it (i.e. classification, biome, interesting fact).
        2. Presentations may be during project time so students can see their peers’ work, or on the day that projects are due.

**Expand**

Display final projects around the classroom and in the hallway.

Unit on Biomes and Ecosystems will begin before projects are submitted

**Evaluate**

Fact sheets will be graded with a rubric.

APPENDIX D-2

Lesson Plan Format

\_\_\_\_\_Jocelyn Miller\_\_\_\_\_\_\_\_\_\_ \_\_\_\_10/02/14\_\_\_\_\_\_\_\_ \_\_\_\_\_7\_\_\_\_

Student Teacher Date Grade Level

\_\_\_24\_\_\_\_ \_\_\_\_\_\_2.5 hours\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Group Size Estimated Time for Lesson Mentor Teacher’s Signature

Lesson Title: \_\_\_Natural History Project\_\_\_\_

**GLE’s/Benchmarks:**

* 6. Compare the life cycles of a variety of organisms, including non-flowering and flowering plants, reptiles, birds, amphibians, and mammals (LS-M-A3)
* 11. Construct, use, and interpret appropriate graphical representations to collect, record,
* and report data (e.g., tables, charts, circle graphs, bar and line graphs, diagrams, scatter plots, symbols) (SI-M-A4)
* 19. Communicate ideas in a variety of ways (e.g., symbols, illustrations, graphs, charts,

spreadsheets, concept maps, oral and written reports, equations) (SI-M-A7)

* 28. Recognize that investigations generally begin with a review of the work of others (SIM-B2)
* 26. Describe and compare the levels of organization of living things within an ecosystem

(LS-M-C3)

* 27. Identify the various relationships among plants and animals (e.g., mutualistic, parasitic, producer/consumer) (LS-M-C4)
* 28. Differentiate between ecosystem components of habitat and niche (LS-M-C4)
* 30. Differentiate between structural and behavioral adaptations in a variety of organisms

(LS-M-D1)

* 31. Describe and evaluate the impact of introducing nonnative species into an ecosystem (LS-M-D1)
* Encourage students to investigate their world
* Show students the vast amount of crazy organisms alive in the world today that they could study as scientists

**Objectives: (TLW:)**

* SWBAT:
  + Use multiple sources to accurately identify the complete classification of a given organism, correctly naming at least 5 of the 7 taxa associated with the organism.
  + Follow a template to include all pertinent information about an organism, with fewer than two factual errors outside of classification
  + Incorporate at least one appropriate citation, not counting Wikipedia
* SWBAT produce a complete and informative fact sheet about their organism, including its complete classification, biome, distribution, habitat, size, niche, and an interesting fact.

**Teacher Materials/Resources:**

* Natural History Project Instructions & Rubric
* Animal Natural History Project Template and Example
* Plant Natural History Project Template and Example
* Animal List cut-outs
* Plant List cut-outs
* computers with internet access

**Student Materials/Resources:**

* NHP Instructions and Rubric
* ANHP or PNHP Template and Example
* Assigned organism’s common name
* Computer with internet access

**Technology Integration:**

Students will complete their research online.

**Lesson Procedure and Activities:**

1. **Introduction:**

**Engage**

1. Tell the students that since they’ve finished Classification and are about to begin a unit on biomes and ecosystems, they are going to be doing a natural history research project on a cool plant or animal.
2. Present an example of an Animal project and a Plant project, explaining how to use the template.
3. Emphasize the levels of classification, and distinguish between the sections for biome, geographic range, and habitat.
4. Tell the students they can choose if they want to research a plant or an animal, but will draw their organism randomly from a hat. Explain that some of the organisms from the plant hat will have a note to see the teacher – these plants are difficult to research beyond the Genus level. Students may wish to redraw.
5. Explain that some plants are carnivorous and will require an additional section on the project. Students will be allowed to redraw if they do not wish to do the extra work.
6. Students will have 2 – 3 weeks to complete the project, including at least 2 class periods in the library or computer lab to do their research.
7. **Activities:**

**Explore**

* + 1. Students will complete their projects independently, but may ask their peers, the teacher, or the librarian for assistance and advice

**Explain**

* + 1. Teacher may elect to ask for volunteers to present their research by bringing in a large picture of their animal and telling the class a few things about it (i.e. classification, biome, interesting fact).
    2. Presentations may be during project time so students can see their peers’ work, or on the day that projects are due.

**Expand**

* + 1. Display final projects around the classroom and in the hallway.
    2. Unit on Biomes and Ecosystems will begin before projects are submitted

1. **Closure:**

**Evaluate**

* + 1. Fact sheets will be graded with a rubric.

**Accommodations/Modifications:**

**Assessment/Evaluation:**

* The fact sheet will be graded using a rubric
* Continued understanding will be assessed during class discussions about biomes, ecosystems, and food webs, plus graded lab notebooks for assessment of application of content knowledge during laboratory activities