UF CPET Action Plan Template

Date submitted: 7/17/2015

Teacher(s): Melissa Lorent

School(s): Royal Palm Beach High School

Grade(s): 9/10

Subject(s): Biology

Title of Project: Phylogenetic Trees & Cladograms

Goal of Project:
Students will be able to understand how to read and create cladograms and phylogenetic trees.

What will be done with my students:
Students will work to complete “The Great Clade Race”, Design a phylogenetic tree and participate in “What does T-Rex taste like?”

Benefit to my students:
Students will have an easier time reading diagrams and understanding material contained therein.

UF connection:
- “Great Clade Race”, “What does T-Rex taste like?”,
& “Tree of Life” design.
**SINGLE LESSON PLAN**

Teacher: Lorenzo, Melissa  
Content Area/Grade: Biology (9/10)  
Date: 7/16/15

**Unit Name:** Evolution and History of Life

**Unit Goal**  
What unit goal does this daily lesson address?  
Through inquiry and exploration, students will be able to describe the major scientific contributors to the theory of evolution as well as understand how evolution explains the unity and diversity of life.  
DQ1, E1

**Standard(s)/Benchmark(s)**  
What standard(s)/benchmark(s) does this daily lesson address?  
SC.912.L.15.4

**Students will understand that...**  
What should the students understand by the end of today's lesson?  
Phylogenetic trees and cladistic diagrams should be used to demonstrate the evolutionary relationships between organisms over time.  
DQ1, E1

**Essential Questions**  
What essential question(s) does this lesson address?  
How do scientists use cladograms and phylogenetic trees to demonstrate evolutionary relationships between organisms over time?  
DQ3, E14

**Connecting Concepts**  
How will you review yesterday's content and connect today's lesson to it?  
During Clade Race, remind students of vocabulary/concepts  
DQ2, E7 or DQ3, E15

**Organizing Students for Learning**  
How will students be organized today for the lesson's activities?  
Students will be organized in groups of 3-4, randomly assigned

**LEARNING EXPERIENCES, INSTRUCTION, AND RESOURCES**  
What activities or experiences (from your Unit Plan) will students engage in today? (DQ2, E9)

<table>
<thead>
<tr>
<th>Lesson Sequence</th>
<th>Resources &amp; Materials</th>
</tr>
</thead>
</table>
| Activating Prior Knowledge DQ2, E8 | ✓ ABC Brainstorming  
✓ KWL  
✓ Anticipation Guide  
✓ Card Sort  
✓ Think-Pair-Share |
| Explicit Instruction | ✓ Motivational Hook  
✓ Lecture  
✓ Demonstration  
✓ Note-taking Guide  
✓ Jigsaw  
✓ Reciprocal Teaching  
✓ Concept Attainment  
✓ Think-Pair-Share  
✓ Inferential Questions  
✓ Analytic Questions  
✓ Philosophical Chairs |
| Group Processing of New Information DQ2, E10 | ✓ Graphic Organizers  
✓ Picture Notes  
✓ Flow Charts  
✓ Concept Maps  
✓ Mnemonics  
✓ Graffiti  
✓ Lab / Inquiry Activity |
| Elaborative Questioning DQ2, E11 | ✓ Reflective Journals  
✓ Think Logs  
✓ Exit Ticket (Student Learning)  
✓ Quiz  
✓ Journal  
✓ Exit Ticket (for Content)  
✓ Response Cards |
| Demonstrating Understanding DQ2, E12 | ✓ Lab Materials:  
- Tree of Life flashcards |
| Reflection DQ2, E13 | |
| Daily Progress Monitoring Assessment | |

Based on the results from your Daily Progress Monitoring Assessment, what concepts need to be revisited in the next lesson?
UF CPET ACTION PLAN TEMPLATE

Date submitted: 7/17/15

Teacher(s): Deborah Fuchs

School(s): Rogue Palm Beach High School

Grade(s): 9/10

Subject(s): Biology

Title of Project: The Evolution and History of Life

Goal of Project: To introduce the concept of change over time

What will be done with my students:

Students will create a geological time line, label nuts and key vocabulary, time period, etc. Students will re-read the article, graph and write both similarities and differences to share. Students will write an essay comparing life and present to class. Students will create a chart, present and write a paragraph in a personal conclusion and answer the essential questions.

Benefit to my students:

To make understanding the origins of life easier.

To understand the geological time line through a hand on and visual activity that shows when we are today.

UF connection:

- Geological Time Line Activity
**SINGLE LESSON PLAN**

**Teacher:** Dr. Fuchs  
**Content Area/Grade:** Biology 9-10  
**Date:** 7/10/15

### Unit Name
Evolution and History of Life

### Unit Goal
What unit goal does this daily lesson address?

- Through inquiry and exploration, students will be able to describe the major scientific contributors to the theory of evolution as well as understand how evolution explains the unit. (DQ1, E1)

### Standard(s)/Benchmark(s)
What standard(s)/benchmark(s) does this daily lesson address?

- **SC. 912.2.15.8** Describe the scientific explanation of the origin of life on Earth.
- **SC. 912.2.14.5** Explain the evidence supporting the theory of life from the origin of life.

### Essential Questions
What essential question(s) does this lesson address?

- What evidence supports the scientific explanations for the origin of life on earth?
- What conditions existed for the development of life on earth?

### Connecting Concepts
How will you review yesterday’s content and connect today’s lesson to it?

- Review Vocabulary from last class.

### Learning Experiences, Instruction, and Resources
What activities or experiences (from your Unit Plan) will students engage in today? (DQ2, E9)

#### Lesson Sequence

<table>
<thead>
<tr>
<th>Activating Prior Knowledge</th>
<th>Create a Prehistoric Time Line</th>
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<tbody>
<tr>
<td>Explicit Instruction</td>
<td>PPT origins of life on earth</td>
</tr>
<tr>
<td>Group Processing of New Information</td>
<td>Article jigsaw reading on a for first grade material</td>
</tr>
<tr>
<td>Elaborative Questioning</td>
<td>Students create 5 theory level questions and 1 open question group</td>
</tr>
<tr>
<td>Demonstrating Understanding</td>
<td>T-chart company report with evidence with presentation</td>
</tr>
<tr>
<td>Reflection</td>
<td>One paragraph summary of our personal conclusions supported from presentation</td>
</tr>
<tr>
<td>Daily Progress Monitoring</td>
<td>Answer Essential Questions</td>
</tr>
</tbody>
</table>

#### Resources & Materials

- Computer
- LCD Projector
- KWL
- Paper
- Pencils
- Whiteboards
- Markers
- Butcher Paper
- Response Cards
- Notecards
- Lab/Inquiry Activity
- Video Clip(s)
- Website(s):

#### Lab Materials:

- **Homework:**
  - DQ3, E14
  - Any work not finished
UF CPET ACTION PLAN TEMPLATE

Date submitted: 7/17/2015

Teacher(s): Angela Coker

School(s): Royal Palm Beach High School

Grade(s): 10

Subject(s): Biology

Title of Project: Hominid Evolution

Goal of Project: Students will understand the progression of hominid evolution leading up to Homo Sapiens.

What will be done with my students:

Students will use provided information and conclusions drawn from comparative anatomy activity to create a accurate phylogenetic tree.

Benefit to my students: Clarify misconceptions about human evolution.

UF connection: Comparative hominid stations  
Building phylogenetic trees
## SINGLE LESSON PLAN

**Teacher:** Colker, Angela  
**Content Area/Grade:** Biology (10/11)  
**Date:**

### Unit Name:
**Evolution and History of Life**

### Unit Goal
**What unit goal does this daily lesson address?**

Through inquiry and exploration, students will be able to describe the major scientific contributions to the theory of evolution as well as understand how evolution explains the unity and diversity of life.

**Standard(s)/Benchmark(s):**

- SC.912.L.15.10. Identify basic trends in human evolution from early ancestors to modern humans, including brain size, jaw size, language, and manufacture of tools.

**Domain 2, E.44**

### Students will understand that...
**What should the students understand by the end of today’s lesson?**

Evolutionary changes have occurred in hominids.

**Essential Questions:**

What examples exist of evolutionary changes in hominids? Give examples.

**Sequence:**

- **Connecting Concepts:**
  - How will you review yesterday’s content and connect today’s lesson to it?
  - **DQ1, E.14**

- **Organizing Students for Learning:**
  - How will students be organized today for the lesson’s activities?
  - **DQ2, E.7 or DQ3, E.15**

### LEARNING EXPERIENCES, INSTRUCTION, AND RESOURCES

**What activities or experiences (from your Unit Plan) will students engage in today? (DQ2, E.9)**

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- **Think-Pair-Share** |
| Explicit Instruction | **Motivational Hook**  
- **Lecture**  
- **Demonstration**  
- **Note-taking Guide** |
| Group Processing of New Information | **Jigsaw**  
- **Reciprocal Teaching**  
- **Concept Attainment**  
- **Think-Pair-Share** |
| Elaborative Questioning | **Inferential Questions**  
- **Analytic Questions**  
- **Philosophical Chairs** |
| Demonstrating Understanding | **Graphic Organizers**  
- **Picture Notes**  
- **Flow Charts**  
- **Concept Maps**  
- **Mnemonics**  
- **Graffiti** |
| Reflection | **Reflective Journals**  
- **Think Logs**  
- **Exit Ticket (Student Learning)** |
| Daily Progress Monitoring & Assessment | **Quiz**  
- **Journal**  
- **Exit Ticket (for Content)**  
- **Response Cards** |

### Homework
- **DQ3, E.16**

- **Based on the results from your Daily Progress Monitoring Assessment, what concepts need to be revisited in the next lesson?**

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Secondary Science Curriculum

— Friday —

UF CPET Action Plan Template

Date submitted: July 17th, 2015

Teacher(s): J. Nadeau

School(s): Royal Palm Beach High School

Grade(s): 10th-12th

Subject(s): Chemistry

Title of Project: Chemical Origin of Life

Goal of Project: To create interest among the students about the chemistry involved in the origins of life.

What will be done with my students:

Students will participate in the production of a geologic time scale highlighting critical chemical processes. Students will review biological/organic compounds, and relate the properties of the elements involved in the compounds to their position on the periodic table. Students will be able to identify representation of a chemical/physical process through a chemical equation involved in the origins.

Benefit to my students: Increase their understanding of chemistry's critical involvement in the origin of life. Students will become exposed to different theories of the origin of life and create a personal opinion based on UF connection.

Composition and supported by scientific evidence.

UF has introduced the "geologic timeline" activity to my chemistry curriculum.
# SINGLE LESSON PLAN

**Teacher:** Nadeau  
**Content Area/Grade:** Chemistry  
**Date:** July 17th, 2015

## Unit Name:
Chemical Origin of Life

## Unit Goal
Through inquiry & scientific reading, students will develop an understanding of the chemistry involved in life.

## Standard(s)/Benchmark(s)
- SC. 912. P81
- SC. 912. P82
- SC. 912. P85
- SC. 912. P87

## Essential Questions
What scientific evidence supports the scientific explanations to the origin of life on Earth?

## Connecting Concepts
Review biology content involving compounds & molecules.

## Organizing Students for Learning
Individual, small group & whole class

## LEARNING EXPERIENCES, INSTRUCTION, AND RESOURCES

### Lesson Sequence

**Activating Prior Knowledge**

- **Knowledge**
  - “geologic time line” focusing on the beginning of time
  - PP presentation of the chemistry involved in the origins of life on Earth
  - Article: Miller- Urey Experiment
  - Jigsaw Activity in small groups

**Explicit Instruction**

- respectful of & engaging atmosphere
  - Jigsaw Activity in small groups

**Group Processing of New Information**

- **QQ2, E10**
  - What Theory of life on Earth do you agree with?

**Elaborative Questioning**

- **QQ2, E11**
  - Create a one-pager based on the article of the theory you most agree with

**Demonstrating Understanding**

- **QQ2, E12**
  - Complete a one paragraph reflection explaining personal conclusions supported with scientific evidence & vocabulary

**Reflection**

- **QQ2, E13**
  - Students will be assessed on their one pager and their accurate inclusions of unit vocabulary

**Daily Progress Monitoring Assessment**

- Quiz 
- Journal 
- Exit Ticket (Student Learning) 
- Reflective Journals 
- Think Logs 
- Exit Ticket (for Content) 
- Response Cards

### Resources & Materials

- Computer 
- LCD Projector 
- Paper 
- Pencils 
- Whiteboards 
- Markers 
- Butcher Paper 
- Response Cards 
- Post-it Notes 
- Video Clip(s): 
- Lab / Inquiry Activity: 
- Lab Materials: poster-sized paper

Based on the results from your Daily Progress Monitoring Assessment, what concepts need to be revisited in the next lesson?