

Lesson Plan Template

Grade: Middle School	Subject: Life Science- Evolution		
Materials: Internet	Technology Needed: Computers or Tablets		
Instructional Strategies: <ul style="list-style-type: none"> <input type="checkbox"/> Direct instruction <input type="checkbox"/> Guided practice <input type="checkbox"/> Socratic Seminar <input type="checkbox"/> Learning Centers <input type="checkbox"/> Lecture <input checked="" type="checkbox"/> Technology integration <input type="checkbox"/> Other (list) 	Guided Practices and Concrete Application: <ul style="list-style-type: none"> <input type="checkbox"/> Large group activity <input type="checkbox"/> Independent activity <input checked="" type="checkbox"/> Pairing/collaboration <input checked="" type="checkbox"/> Simulations/Scenarios <input type="checkbox"/> Other (list) Explain:		
Standard(s) <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr> <td style="width: 10%; text-align: center; vertical-align: middle;">MS-LS4-2</td> <td>Apply scientific ideas to construct an explanation for the anatomical similarities and differences among modern organisms and between modern and fossil organisms to infer evolutionary relationships.</td> </tr> </table>	MS-LS4-2	Apply scientific ideas to construct an explanation for the anatomical similarities and differences among modern organisms and between modern and fossil organisms to infer evolutionary relationships.	Differentiation <p>Below Proficiency: Students will be able to complete the 3 phylogenetic tree activities with the help of their lab partner</p> <p>Above Proficiency: Students will understand and complete the 3 phylogenetic tree activities and move onto the next level in the game with the extra time they have.</p> <p>Approaching/Emerging Proficiency: Students will be able to complete and understand the 3 phylogenetic tree activities.</p> <p>Modalities/Learning Preferences:</p>
MS-LS4-2	Apply scientific ideas to construct an explanation for the anatomical similarities and differences among modern organisms and between modern and fossil organisms to infer evolutionary relationships.		
Objective(s) <p>Students will be able to apply scientific ideas to construct an explanation for the anatomical similarities and differences among modern organisms and between modern fossil organisms by creating a phylogenetic tree to infer evolutionary relationships.</p> <p>Bloom's Taxonomy Cognitive Level: Apply and Analyze</p>	<p>Behavior Expectations- (systems, strategies, procedures specific to the lesson, rules and expectations, etc.)</p> <p>I will be monitoring students to make sure they are on task on their devices. They will be expected to be respectful of the technology they are using and stay focused on the activity (not switching to other websites).</p>		
Classroom Management- (grouping(s), movement/transitions, etc.) <p>We will be starting as a large group, then transitioning to lab stations and each student will need to get a tablet for our activity. When the activity is over, students will need to safely put the tablets back before class is dismissed.</p>			
Minutes	Procedures		
	Set-up/Prep: Some kind of computer or tablet needs to be available for each student		
	Engage: (opening activity/ anticipatory Set – access prior learning / stimulate interest /generate questions, etc.) <p>(I am using this lesson as a "Part One" and my other Phylogenetic Tree lesson as "Part Two". This way students get a chance to practice correctly making small phylogenetic trees and seeing how they connect to evolution before creating their own)</p> <p>I will talk about family trees and ask a student to think about their own families. I will either use my own family tree or have student volunteer draw theirs on the white board. Then I will compare the family tree to the tree of life.</p>		
	Explain: (concepts, procedures, vocabulary, etc.) <p>We will discuss how evolution explains the diversity of life and how we can trace and understand the connectiveness of all life. We will talk about how we can visualize and organize this through phylogenetic trees. I will introduce the online lab they will be doing.</p>		

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	<p>I will also have "KEY WORDS" on the white board with definitions and examples for students to refer to if necessary. There are a couple words students will come across in the game that we will likely have not covered such as autotroph, heterotroph, and amniote.</p>
	<p>Explore: (independent, concrete practice/application with relevant learning task -connections from content to real-life experiences, reflective questions- probing or clarifying questions)</p> <p>https://www.pbs.org/wgbh/nova/labs/lab/evolution/</p> <p>Students will split into lab groups and each have their own tablet/computer to play the first game titled: Training Trees. There are three phylogenetic trees for them to complete. Each level gets a little harder. The game provides directions, hints, and additional information about the species they will be sorting. Although each student will be playing the game individually, the students will be encouraged to collaborate and ask each other for help. As students play the game, I will have them draw and label their completed trees in their lab notebook.</p> <p>To end the activity, students will fill out a short assessment question and turn it in as an exit slip.</p>
	<p>Review (wrap up and transition to next activity):</p> <p>In the last 7 minutes of class we will pack up the laptops, we will discuss as a class our findings, and I will briefly explain that tomorrow we will be creating and solving a big phylogenetic tree. Students will submit exit (assessment!) slip and leave.</p>
<p>Formative Assessment: (linked to objectives) Progress monitoring throughout lesson- clarifying questions, check-in strategies, etc.</p> <p>I will be monitoring students' progress while walking around classroom and asking questions. Also the work they do will be copied into their lab notebooks.</p> <p>Consideration for Back-up Plan:</p> <p>If students run out of time, they can also screen shot their results and either print them off, or draw them later.</p>	<p>Summative Assessment (linked back to objectives) End of lesson:</p> <p>Exit slip</p> <p>If applicable- overall unit, chapter, concept, etc.:</p> <p>Summative test at the end of the unit.</p>
<p>Reflection (What went well? What did the students learn? How do you know? What changes would you make?):</p>	