

## Lesson Plan Template

<b>Grade:</b> Preschool (4-5-year old's)		<b>Subject:</b> Cognition: Scientific Reasoning	
<b>Materials:</b> Baking Soda, Water, Green Food Coloring, Vinegar, Plastic Bowls, Spoons, Spray bottle		<b>Technology Needed:</b> None	
<b>Instructional Strategies:</b> <input type="checkbox"/> Direct instruction <input type="checkbox"/> Peer teaching/collaboration/cooperative learning <input type="checkbox"/> Guided practice <input type="checkbox"/> Visuals/Graphic organizers <input type="checkbox"/> Socratic Seminar <input type="checkbox"/> PBL <input type="checkbox"/> Learning Centers <input type="checkbox"/> Discussion/Debate <input type="checkbox"/> Lecture <input type="checkbox"/> Modeling <input type="checkbox"/> Technology integration <input type="checkbox"/> Other (list)		<b>Guided Practices and Concrete Application:</b> <input type="checkbox"/> Large group activity <input type="checkbox"/> Hands-on <input type="checkbox"/> Independent activity <input type="checkbox"/> Technology integration <input type="checkbox"/> Pairing/collaboration <input type="checkbox"/> Imitation/Repeat/Mimic <input type="checkbox"/> Simulations/Scenarios <input type="checkbox"/> Other (list) Explain:	
<b>Standard(s)</b> Goal P-SCI 4. Child asks a question, gathers information, and makes predictions Goal P-SCI 5. Child plans and conducts investigations and experiments.		<b>Differentiation</b> <b>Below Proficiency:</b> <ul style="list-style-type: none"> <li>○ Students who are below proficiency will have guided instruction from teacher. Just really reminding them the step. Getting their brains to predict.</li> </ul> <b>Above Proficiency:</b> <ul style="list-style-type: none"> <li>○ Students who are above proficiency will be paired with a below proficiency and help guide them. Students can also be allowed to experiment more by predicting and seeing what happens when they add more vinegar or more baking soda.</li> </ul> <b>Approaching/Emerging Proficiency:</b> <ul style="list-style-type: none"> <li>○ Students who are emerging proficiency will make predictions and observations based on the experiment.</li> </ul> <b>Modalities/Learning Preferences:</b> <ul style="list-style-type: none"> <li>○ Visual: The physical aspect of the experiment. Watching what happens.</li> <li>○ Auditory: Teacher explaining what we are doing. Peers making predictions.</li> <li>○ Kinesthetic/Tactile: Hands-on experiment. Students get to manipulate the eggs.</li> </ul>	
<b>Objective(s)</b> Asks simple questions. Uses adults as primary resources to gather information about questions. With adult support and modeling, makes simple predictions. With adult support, engages in simple investigations and Experiments. <b>Bloom's Taxonomy Cognitive Level:</b> <ul style="list-style-type: none"> <li>○ Application: Experimenting with baking soda/water, food coloring and vinegar.</li> <li>○ Knowledge: Observing what is happening as mixing ingredients.</li> <li>○ Understanding: Predicting what is going to happen</li> </ul>			
<b>Classroom Management- (grouping(s), movement/transitions, etc.)</b> <ul style="list-style-type: none"> <li>○ Students will be grouped according to their tables spots already created by supervising teacher.</li> <li>○ Students will transition from carpet area to table spots by listening to teacher by calling a letter and if that letter is in their name they will go sit at their spot.</li> </ul>		<b>Behavior Expectations- (systems, strategies, procedures specific to the lesson, rules and expectations, etc.)</b> <ul style="list-style-type: none"> <li>○ Students will be required to follow the directions during experiments and actively make predictions and observations.</li> <li>○ If students are not following the directions, they will get three warnings. Once they reach the third warning their eggs will be taken away and they will have to watch their neighbors egg.</li> </ul>	
<b>Minutes</b>	<b>Procedures</b>		
5	<b>Set-up/Prep:</b> <ul style="list-style-type: none"> <li>○ Have baking soda measured out – 1 C. for each table</li> <li>○ Have cup of water prepared for each table</li> <li>○ Have food coloring and vinegar ready</li> </ul>		
5	<b>Engage: (opening activity/ anticipatory Set – access prior learning / stimulate interest /generate questions, etc.)</b> <ul style="list-style-type: none"> <li>○ Engage students by talking about Dr. Seuss and how it is his birthday</li> <li>○ Read "Green Eggs and Ham" Story</li> <li>○ After reading the story ask students <i>Do you think you would like green eggs and ham?</i></li> <li>○ Should we try making some green eggs today!</li> </ul>		
5	<b>Explain: (concepts, procedures, vocabulary, etc.)</b> <ul style="list-style-type: none"> <li>○ Today we are going to be scientists and scientists do experiments.</li> <li>○ Today we are going to be scientists and do an experiment and we are going to make green eggs</li> <li>○ We have baking soda, water, and vinegar to make green eggs</li> <li>○ Vocabulary: Prediction, Observation, Experiment</li> </ul>		

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10-15	<p><b>Explore: (independent, concrete practice/application with relevant learning task -connections from content to real-life experiences, reflective questions- probing or clarifying questions)</b></p> <p>Today I brought water &amp; baking soda with me. I want us to put on our thinking hats and think about what might happen if we mix baking soda and water together?</p> <ul style="list-style-type: none"> <li>○ Those are great predictions you guys are making! Let's see what happens when we mix them together!</li> </ul> <p>What are you guys seeing? What is happening?</p> <ul style="list-style-type: none"> <li>○ Those are great observations, we made a dough like mixture.</li> </ul> <p>So now that we have our dough like mixture how do you think we are going to turn it green?</p> <ul style="list-style-type: none"> <li>○ Great observations we are going to use green food coloring!</li> </ul> <p>Hand out the mixture so each child has their own egg</p> <p>What shape is an egg? I want you guys to form your mixture into an egg</p> <p>What does the mixture feel like? Do you think we could eat these eggs?</p> <p>I brought one more ingredient with me and that vinegar...</p> <p>Let's put our thinking hats back on and I want use to think about what is going to happen if we add vinegar to our green eggs?</p> <ul style="list-style-type: none"> <li>○ Those are some great observations again! Let's see what will happen when we pour some vinegar on our eggs.</li> </ul> <p>What did you guys see? What happened when we poured vinegar on our eggs?</p> <ul style="list-style-type: none"> <li>○ It fizzed/it got bubbly</li> </ul> <p>Our eggs began to fizz when we added vinegar this is because the baking soda and vinegar together create a reaction that produces carbon monoxide bubbles.</p> <p>What else happened to our egg after it was done fizzing?</p> <ul style="list-style-type: none"> <li>○ They go really runny!</li> </ul> <p>They did get runny that's because we added more liquid and there's not enough baking soda to keep in in the form of an egg.</p>	
2	<p><b>Review (wrap up and transition to next activity):</b></p> <p>Since we don't like green eggs and ham like dr. success, we are going to throw them away and go to the bathroom and wash our hands. Once you are done washing your hands, I want you to go sit on a number on the rug.</p>	
	<p><b>Formative Assessment: (linked to objectives)</b>  <b>Progress monitoring throughout lesson- clarifying questions, check-in strategies, etc.</b></p> <p>Observation &amp; Reflective Questioning</p> <p><b>Consideration for Back-up Plan:</b></p>	<p><b>Summative Assessment (linked back to objectives)</b>  <b>End of lesson:</b></p> <p>Observation</p> <p><b>If applicable- overall unit, chapter, concept, etc.:</b></p>
	<p><b>Reflection (What went well? What did the students learn? How do you know? What changes would you make?):</b></p> <ul style="list-style-type: none"> <li>○ This lesson went very well. The students were engaged and loved doing this experiment.</li> <li>○ One thing that I thought went well on this lesson was really allowing them to predict. Allowing them to see our ingredients and discover what the order of the ingredients were supposed to be. Students really took effort to make predictions and observations based on what they already knew.</li> <li>○ One thing that I could have expanded more on was the students predictions. When they create a prediction, I could ask them "hmm why do you think that might happen?" because they may have had pervious experiences like this.</li> <li>○ Another thing that I will make as a change is explaining the why. Like why scientist do experiment and why we are doing this experiment. Making that connection.</li> <li>○ Another thing that I could add to this lesson as well is to have student grab a piece of paper and while they are waiting at the rug have them draw their experiment.</li> <li>○ The students were super engaged in this lesson and were interested in the whole experiment. I though this lesson went well and tied really good with this class.</li> </ul>	