

Lesson Plan Template

Date: 4/9/18

Grade: Kindergarten		Subject: Science – The Three Little Pigs STEAM Challenge**	
Materials: Three Little Pigs storybook Mini marshmallows (many bags – for building) & regular marshmallows (for eating and to use as the three pigs) Toothpicks Paper plates Brainstorm Sheets (blank sheets of paper) Blow Dryer (to act as the Big Bad Wolf – Optional) My example of a house out of toothpicks and marshmallows		Technology Needed: Computer & active board 3 Little Pigs video	
Instructional Strategies: <input type="checkbox"/> Direct instruction <input type="checkbox"/> Peer teaching/collaboration/cooperative learning <input checked="" type="checkbox"/> Guided practice <input checked="" 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 checked="" type="checkbox"/> Technology integration <input checked="" type="checkbox"/> Modeling <input type="checkbox"/> Other (list)		Guided Practices and Concrete Application: <input type="checkbox"/> Large group activity <input checked="" type="checkbox"/> Hands-on <input checked="" 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:	
Standard(s) K-2-ETS1-2 Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.		Differentiation Below Proficiency: I will make one of each shape for these students and place it near them to use as reference when building their shapes. Above Proficiency: I will challenge these students to give their houses a second story. Approaching/Emerging Proficiency: These students will be able to successfully design and create a house for the three little pigs. Modalities/Learning Preferences: <ul style="list-style-type: none"> • Visual: viewing the story & seeing me model how to make the shapes, seeing my example of a house • Auditory: listening to the story & instructions • Tactile/Kinesthetic: creating the houses out of toothpicks and marshmallows 	
Objective(s) Students will be able to design and construct a house for the three little pigs, using toothpicks and mini marshmallows. Bloom's Taxonomy Cognitive Level: Design & construct – creating			
Classroom Management- (grouping(s), movement/transitions, etc.) Students will begin at the carpet for the story and the introduction to the challenge. They will then move to their seats to work on building their houses.		Behavior Expectations- (systems, strategies, procedures specific to the lesson, rules and expectations, etc.) All students will be expected to participate in the STEAM challenge. Students will use voices at level 1 while working on their houses. Students are not allowed to eat the mini marshmallows, but may eat the large marshmallow at the very end (it will be given to the students when they are finished building their houses).	
Minutes	Procedures		
0 min	Set-up/Prep: <ul style="list-style-type: none"> • I will have mini marshmallows, toothpicks, and paper plates purchased. • I will have the active board set up and ready to view the video of the story. 		
5-10 min	Engage: (opening activity/ anticipatory Set – access prior learning / stimulate interest /generate questions, etc.) <ul style="list-style-type: none"> • I will have the students gather at the carpet, and show them the following video about the story of the Three Little Pigs: https://www.youtube.com/watch?v=HtHjB6rRmQc (if the video does not work, I will have the book available as backup). • After watching/reading the story, I will ask the students why the third little pig's house couldn't be blown down by the Big Bad Wolf, like the first two were. • I will then introduce the challenge to the students: "Today we are going to become engineers like the Three Little Pigs when they built their houses. Our challenge is going to be building strong houses the Big Bad Wolf cannot blow down." 		
5-10 min	Explain: (concepts, procedures, vocabulary, etc.) <ul style="list-style-type: none"> • Vocabulary – Engineer, construct, triangle, square, rectangle • I will discuss the importance of building a strong house, and connect it to the story. I will ask the students why it would be important to have a strong house in real life, and write their answers on the board. (Examples: storms, intruders like the big bad wolf, so the house is safe to live in, etc.) • With the students still at carpet, I will further discuss the challenge: 		

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	<ul style="list-style-type: none"> • “You will all be building a house using toothpicks and mini marshmallows, but you can decide how you want to build your house. You need to make it big enough for three pigs to stay in (three of the big marshmallows). One important thing we need to remember while we are building, is that these marshmallows are engineering marshmallows, they are not for eating. At the very end, you will get one big marshmallow you can eat if you’d like, but you cannot eat the three little pigs, or their house.” • Another important thing we need to think about while we are designing, is how we want our houses to be strong enough so the Big Bad Wolf cannot blow them over, no matter how hard he huffs and puffs. We are going to test your houses when everyone is finished, using our big bad wolf blower (hold up hair dryer). • Now I want to show you how you can make different shapes using the toothpicks and mini marshmallows. We are going to practice making a triangle, a square, and a rectangle. First, can you guess which shape is going to be the sturdiest, or the strongest?” (The triangle is the strongest because it is the smallest – build one and wiggle it to show them how it doesn’t move much. Do the same with the square and rectangle shapes as well). (This is the “I do” portion) • After showing the students how to build each shape, I will let them go back to their seats and pass out the brainstorming paper. I will allow 5 minutes to brainstorm an idea for their house and draw it on the paper. • When the five minutes are up, I will pass out the rest of the materials so they can practice making the shapes on their own. I will gather every students’ attention, and we will practice building the shapes together (we do). I will have each student hold their shape up so I can see it once they have finished making it. • Finally, students will be able to begin constructing their houses after they have brainstormed and learned how to build each shape.
<p>20-25 min</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> <ul style="list-style-type: none"> • Students will work on constructing their houses for the three little pigs using their brainstorm sheets, the mini marshmallows, and toothpicks. • When students have finished their houses, they can come to me to get 4 large marshmallows – three will be their little pigs, and one will be to eat. They can draw a face on their little pig using a marker. • If a student finishes early, they can grab a book and read silently around the room.
<p>10 min</p>	<p>Review (wrap up and transition to next activity):</p> <ul style="list-style-type: none"> • To end the lesson, we will test their houses’ strength by using the Big Bad Wolf Blow Dryer when all of the students are finished creating. Were the houses able to stay in one place? Why did they or didn’t they work? What changes could the student make? I will have a couple of the students share their ideas as to how they could make their house stronger, or what they did to make their house successful. • Students will clean up their own area and put their house on the back table to dry.
<p>Formative Assessment: (linked to objectives, during learning)</p> <ul style="list-style-type: none"> • Progress monitoring throughout lesson (how can you document your student’s learning?) • Did the student understand that using different shapes made their house stronger or weaker? • Checking to see each student is able to make the shapes by having them hold their shapes up • Brainstorm sheet • House made by each student 	<p>Summative Assessment (linked back to objectives, END of learning)</p> <p>Students’ understanding of creating a sketch, drawing, or model to understand the function of an object will be assessed using a rubric. For the final project of this unit, the students will revisit their original design plan on their brainstorm sheet, and makes changes to it so the Big Bad Wolf cannot blow it down.</p>
<p>Reflection (What went well? What did the students learn? How do you know? What changes would you make?):</p>	

** I got this lesson idea from my Kindergarten cooperating teacher, Mrs. Shari Wetzel, though I am not sure where she got the idea from. I taught this lesson to her kindergarten class at Lincoln Elementary School in the spring of 2017, though I have since revised it.