Grade: 4th	**Subject: Science**
Materials: Strawbees, science notebooks, paper, pencil	**Technology Needed:**
Instructional Strategies: ☐ Direct instruction ☐ Guided practice ☐ Socratic Seminar ☐ Learning Centers ☐ Lecture ☐ Technology integration ☐ Other (list) ☐ Peer teaching/collaboration/ cooperative learning ☐ Visuals/Graphic organizers ☐ PBL ☐ Discussion/Debate ☐ Modeling	**Guided Practices and Concrete Application:** ☐ Large group activity ☐ Independent activity ☐ Pairing/collaboration ☐ Simulations/Scenarios ☐ Other (list) Explain: ☐ Hands-on ☐ Technology integration ☐ Imitation/Repeat/Mimic
Standard(s) **EL.ETS1.01 Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time or cost.**	**Differentiation** **Below Proficiency: The prompting card allows for complete creativity for understanding at any level. All level learners are mixed into groups to balance levels.** **Above Proficiency: The prompting card allows for complete creativity for understanding at any level. All level learners are mixed into groups to balance levels.** **Approaching/Emerging Proficiency: The prompting card allows for complete creativity for understanding at any level. All level learners are mixed into groups to balance levels.** **Modalities/Learning Preferences:** **Auditory, visual tactile**
Objective(s) **TSW define the problem presented on their card.** **TSW construct a solution to their problem, design a model on paper, plan the steps and then create their solution.** **TSW make a prediction and test their hypothesis.** **Bloom's Taxonomy Cognitive Level:**	
Classroom Management- (grouping(s), movement/transitions, etc.) Groups: previous science groups Movement: dismiss group table by table, voices 0-1 Transitions: claps or chimes, exit slip	**Behavior Expectations- (systems, strategies, procedures specific to the lesson, rules and expectations, etc.)** **Proper care/use of Strawbees** **Strategy/Procedure: 1. Find the problem 2. Imagine 3. Plan 4. create**

Minutes	Procedures
1 min	**Set-up/Prep: Have Strawbees available to model pieces**

5 min	**Engage: (opening activity/ anticipatory Set – access prior learning / stimulate interest /generate questions, etc.)** **Read card. What steps can I use to find a solution for this situation?**
3 min	**Explain: (concepts, procedures, vocabulary, etc.)** **Review steps and information in science notebook.** **Today we will get into groups, the same as your science groups with Mrs. Dietrich). I am going to give each group a card that contains a situation. I want your groups to write down each step so finding the problem, imagining, planning and then creating your solution. We only have about 30 minutes so stay focused!** **Dismiss groups by tables. Bring notebook and paper/pencil** **Direct students into small groups; give them 2 min to read and find their problem.** **The students will write their question (problem) by step #1** **Step 2: students will brainstorm or imagine different solutions for the problem in discussion** **Step 3: the students decide on one solution and begin to write the steps to build the solution (draw it)** **Step 4: the students will build their solution; problem solving and adjusting as they go (changing directions from step 3)**
30 min	**Explore: (independent, concreate practice/application with relevant learning task -connections from content to real-life experiences, reflective questions- probing or clarifying questions)** **The students get hands on application by solving their group's problem in step-by-step form.** **Connections from content to real life by being presented with a hypothetical situation and solving it.** **Probing/clarifying questions: How would you build that? What ideas do you have? Will this solve your problem?**
5 min	**Review (wrap up and transition to next activity):** **Fill out slip and hand it to me. "What worked? What didn't? What would you change? (consider time, materials, design, etc.)**

Formative Assessment: (linked to objectives) **Progress monitoring throughout lesson- clarifying questions, check-** **in strategies, etc.** **Float around asking clarifying or probing questions to groups to ensure understanding.** **Add thumbs up/down assessment to check in to see how its going.** **Consideration for Back-up Plan:** **Consider building/planning spaghetti and marshmallow building**	**Summative Assessment (linked back to objectives)** **End of lesson:** **Review exit slips with Mrs. Dietrich to determine grading scale.** **If applicable- overall unit, chapter, concept, etc.:**

Reflection (What went well? What did the students learn? How do you know? What changes would you make?):

My science lesson went wonderfully today! The students were so eager to have hands on creative time since they have been planning and planning during their science class with Mrs. Dietrich. The students learned how to efficiently plan within their groups to form a solution to their specific situation. They learned time management skills from the limited time I had allowed. I know that they learned this because they had answered questions from my exit slip "what worked? What didn't? what would you change?" This feedback allowed me to see if the members in the group worked well, if there should have been more time required for planning, and if the students would have wanted more time, materials or a different group. The changes I would make for next time would be to extend this lesson into a two-day lesson. This would give the students more time to effectively plan and write out their steps for building their solution. I would keep the restriction on materials allowed (Strawbees and connectors) in order to fulfill the standard. Otherwise, it went wonderfully!