


Ozobot Lesson Plan

5th	Topic: Tiny House STEM Challenge	
<p>Standard: MGSE5.G.1 Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., x-axis and x-coordinate, y-axis and y-coordinate).</p> <p>MGSE5.NF.5 Interpret multiplication as scaling (resizing), by: a. Comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication.</p> <p>Essential Question: Can you design a tiny house to accommodate a person in a wheelchair?</p>		
<p>Vocabulary: Exceptionality Scaling Tiny House</p>		<p>Materials: Ozobots Ozobot Journal (below) Tiny House STEM Challenge Slides Graph paper I-pads or laptops for ozoblockly website</p>
<p>Instruction:</p> <ol style="list-style-type: none"> 1. Explain STEM Challenge to students using Tiny House slides. Make sure to watch example video embedded in slides. (Steps & criteria included in slides) 2. Ask students to cut out journal prompts and glue into STEM journal. 3. Group students and allow students to work. Monitor students as needed. 4. Once students have completed planning and creating their design, students should use www.ozoblockly.com to program an Ozobot to move around their design. 5. Student should complete STEM journal upon challenge completion. 		
<p>Summarizer/Assessment: Teacher observation; success of design Student reflection in STEM journal</p>		<p>Teacher Notes This challenge is difficult for students to complete. This project is best completed over time with ample time to improve design.</p>

Tiny House STEM Challenge

TASK: You have been hired by Joe and Linda Smith to design and build their tiny house.

CRITERIA:

1. Square footage of home between 100-400 square feet
2. Model needs a scale
3. Five different spaces within the home
4. Area of each space labeled
5. Maximize square footage of the tiny home so no space is wasted
6. Accommodate the tiny house for a person in a wheelchair

ASK/ENGAGE: What is the problem you are being asked to solve?

IMAGINE/BRAINSTORM: What are some possible solutions?
Brainstorm below.

PLAN/DESIGN: Share your ideas with your group and collaborate to decide on a final design plan. All team members must include all information in their STEM journal.

CREATE/TEST: How well did your team use each of the 4 C's: Communication, Creativity, Collaboration, and Critical Thinking?

EVALUATE/IMPROVE: How well did your PLAN work? Do you meet the criteria and constraints? How can you improve it? How can you make it better?