

### Unit 3: Connecting Places, Connecting People

## WEEK 7 Lesson 2

### Science and Engineering: Engineering Design

Designing the Our Town Project Exhibit: Finalizing Display Designs

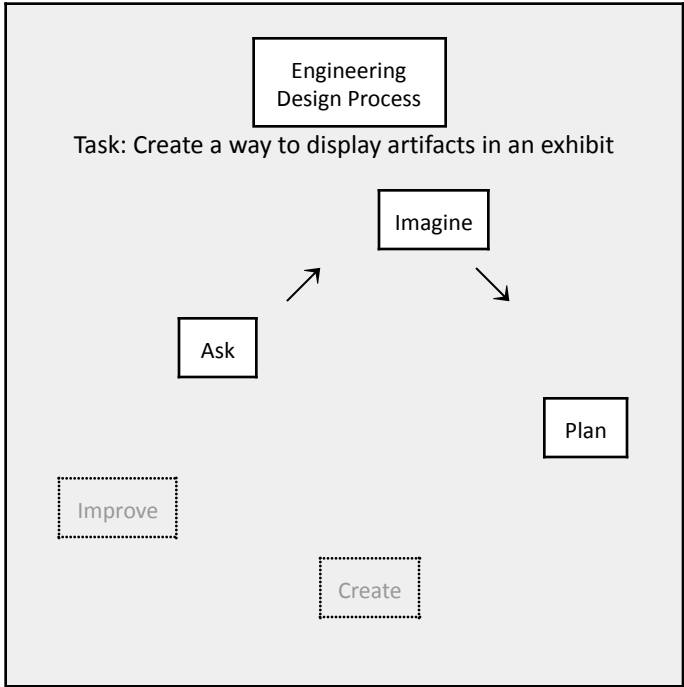
<b>Big Idea</b>	We understand our own identities by thinking about where we are and where we come from.
<b>Guiding Question</b>	How can we help others understand the identity of our place?
<b>Content Objective</b>	I can work with my group to make a plan to create an exhibit to display artifacts. (Practice 6)
<b>Language Objective</b>	I can ask my classmates questions to understand their ideas and answer questions to share my own ideas in order to arrive at a group plan. (SL.2.2.b)
<b>Vocabulary</b>	<b>diagram:</b> a drawing that shows the appearance and structure of something <b>procedure:</b> a genre of writing whose purpose is to give directions to accomplish a goal
<b>Materials and Preparation</b>	<ul style="list-style-type: none"><li>● Engineering Design Process chart, from Week 6</li><li>● Engineering Design Process card, Plan</li><li>● glue stick, for attaching card to chart</li><li>● Design Diagram and Materials sheet, one for each group</li><li>● scrap paper</li><li>● writing tools</li><li>● Our Town Project Planning chart, for reference</li><li>● Museum Exhibits images, from Week 6, for reference</li></ul> <p>On the whiteboard, write out the following directions.</p> <ol style="list-style-type: none"><li>1. Decide who will record the group's design.</li><li>2. Talk about your design ideas. Ask each other questions.</li><li>3. Agree on a design.</li><li>4. Draw a diagram and label it.</li></ol>

- 5. Write down why this is a good design for the artifacts being displayed.
- 6. Make a list of materials.

**Opening**  
5 minutes

*We've been working on designing displays for our exhibit. Today we will engage in another step of the Engineering Design Process: Plan.*

Attach the Plan card to the chart, as follows. Draw arrows from Ask to Imagine to Plan.



*Today you'll continue to work with your design team. Your group will work together on one sheet.*

Show the Design Diagram and Materials sheet.

*I've written directions on the board; let's talk through them.*  
Refer to the board.

1. *Decide who will record the group's design.*  
*The group might have one person be the recorder, or you might decide to each write or draw different parts.*
2. *Talk about your design ideas. Ask each other questions.*  
*Think about the particular kind of artifact your group is thinking about displaying. Tell your teammates what you think will work or not work about different ideas, and why.*  
*It might be helpful to draw your idea on scrap paper so others can see it before you start drawing the final design on*

	<p style="text-align: center;"><i>this Design Diagram and Materials sheet.</i></p> <p><i>3. Agree on a design.</i> <i>Make sure everyone in the group feels good about the design you are deciding on!</i></p> <p><i>4. Draw a diagram, and label it.</i> [Indicate the corresponding space on the sheet.] <i>Label your diagram so that you and anyone else could understand it, as carefully as you do in a procedure.</i></p> <p><i>5. Write down why this is a good design for the artifacts you are displaying.</i> [Indicate the corresponding space on the sheet.]</p> <p><i>6. Make a list of materials.</i> [Indicate the corresponding space on the sheet.]</p> <p><i>It's important for all the members of your group to have a chance to contribute ideas. When you don't understand someone else's idea, ask them a question. That way you can all get to a design you agree on and feel good about.</i></p>
<p><b>Investigation</b> 20 minutes</p>	<p>Distribute a Design Diagram and Materials sheet to each group.</p> <p>As groups work, circulate to observe and offer support as needed. Help groups negotiate ideas so that all children participate and see their ideas included. Children may assign a recorder or take turns drawing and writing. Encourage children to use classroom resources for writing.</p> <p>As children identify materials, encourage them to consider observable properties of materials. Help them recall their experiences with materials during the chair building investigations in Unit 1.</p>
<p><b>Closing</b> 5 minutes</p>	<p>Bring the group back together, and share observations about the work happening in different groups. Suggest ways children might support or be inspired by each other. If time permits, a child from each group might share one aspect of the group's design.</p> <p>Collect the Design Diagram and Materials sheets from each group, and use these to gather needed materials.</p>
<p><b>Standards and Practices</b></p>	<p><b>SL.2.2.b</b> Ask and answer questions about what a speaker says in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue.</p> <p><b>2-PS1-1.</b> Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.</p>



