



## Performance-Based Task

Wayside School has 17 student council members. They need tables and chairs for their meeting. There are square tables that seat 4 people and rectangular tables that seat 6 people. How can the tables be arranged to get the most seats possible and use the least space?

### Does this task...

- reflect a real-world task/scenario-based problem?
- require application of mathematical concepts and assess related Common Core content Standards?
- Require students to engage in 2-3 Standards for Mathematical Practice?
- Allow for multiple approaches?
- Require a high level of cognitive demand?

**Assessment:** How will you evaluate student work? Create a task-specific rubric. Apply the Exemplars levels– Novice, Apprentice, Practitioner, Expert – when creating your rubric.

<b>Novice</b>	No strategy is chosen or a strategy is chosen that will not lead to a solution. Little or no evidence of engagement in the task. Neither correct reasoning nor justification for reasoning is present. Little or no communication of an approach is evident with mathematical language. No connections are made. No attempt is made to construct mathematical representations.
<b>Apprentice</b>	A partially correct strategy is chosen. Evidence of previous knowledge. Arguments are made with some mathematical basis. Some formal math language is used, and examples are provided to communicate ideas. Some effort is made to relate to own interests and experiences. An attempt is made to construct mathematical representations to record and communicate problem solving.

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<b>Practitioner</b>	<p>A correct strategy is chosen.          Evidence of applying prior knowledge is present.          Arguments are constructed with adequate mathematical knowledge.          Systematic approach or correct reasoning is present.          Precise math language is used with audience in mind.          Mathematical connections are recognized.          Appropriate mathematical presentations are used.</p>
<b>Expert</b>	<p>An efficient strategy is used.          A correct answer is given.          Evidence is used to justify and support decisions.          Precise math language is used to communicate to an appropriate audience.          Mathematical connections or observations are used to extend the solution.          Abstract or symbolic mathematical representations are constructed to analyze relationships, extend thinking and clarify or interpret phenomenon.</p>

<h2 style="margin: 0;">NCTM Process Standards and the CCSS Mathematical Practices</h2>	
NCTM Process Standards	CCSS Standards for Mathematical Practice
<b>Problem Solving</b>	<ul style="list-style-type: none"> <li>1. Make sense of problems and persevere in solving them.</li> <li>5. Use appropriate tools strategically.</li> </ul>
<b>Reasoning and Proof</b>	<ul style="list-style-type: none"> <li>2. Reason abstractly and quantitatively.</li> <li>3. Critique the reasoning of others.</li> <li>8. Look for and express regularity in repeated reasoning</li> </ul>
<b>Communication</b>	<ul style="list-style-type: none"> <li>3. Construct viable arguments</li> </ul>
<b>Connections</b>	<ul style="list-style-type: none"> <li>6. Attend to precision.</li> <li>7. Look for and make use of structure</li> </ul>
<b>Representations</b>	<ul style="list-style-type: none"> <li>4. Model with mathematics.</li> </ul>