

Math & Science Collaborative Lesson Plan



**Northwest Educational
Service District 189**

Together We Can

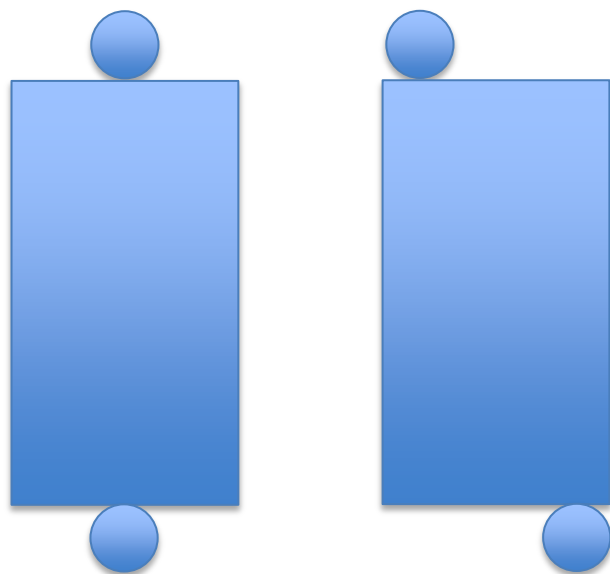
Lesson Title: Surface Area of Cylinders

<p>Unit Learning Target (Standard/Performance Expectation(s)) 6.4.E Determine the surface area and volume of rectangular prisms using appropriate formulas and explain why the formulas work. 7.3.A <i>Determine the surface area and volume of cylinders using the appropriate formulas and explain why the formulas work. CCSSM 7.G.4</i></p>		
<p>Building Block or Lesson Learning Target: Draw nets for a cylinder and explain how to calculate surface area.</p>	<p>Student Success Criteria: Students can draw, identify, and find area of the surface nets that fold into a cylinder.</p>	
<p>Previous Lesson Learning Target: Determine, apply and explain how to calculate area of circles and rectangles.</p>		
<p>Target Introduction/ Thinking Question * What might the net for a cylindrically shaped candy look like?</p>		
<p>Lesson Progression (Flow) with Talk-Structures (Student Discourse) Show students a cylindrically shaped candy. Ask about the attributes/name of shape. Ask what the package/wrapper would look like if opened and laid out flat to make a net. Give student groups a roll of candy. Have students unwrap the outside wrapper and lay out the net. Will either have to carefully cut off the circular ends and attach or draw them on. Ask what the net should look like. Have students glue wrapper onto paper and write about the parts (circular base and rectangle) Hand out copy of a net of a cylinder Students cut out the net and construct. Do not tape so students can fold and unfold while constructing their thoughts. Discuss how circumference is actually the base of the rectangle Write circumference along base of rectangle Discuss that height of cylinder is height of rectangle Write height on rectangle Tell students that knowing the parts of a cylinder can help them find its surface area Tell students to use what they know about the area of circles and rectangles to create a formula for the Surface area of a cylinder. Students will make a poster to present their formula. Poster must include a title, picture, formula, and explanation of why the formula works. Students present formulas when complete.</p>	<p>Key terms for this lesson nets, cylinder, surface area, radius, circumference, diameter, height, base, lateral area, congruent</p>	<p>Formative Task or Question* <i>Designed to elicit student misconception(s)</i></p>
	<p>Forms of Student Discourse to include: Student to Teacher Student to Student Student to Small Group Small Group to Small Group Student to Large Group</p>	
<p>Lesson Closure Class works together to create a final formula.</p>	<p>Exit Task* Students complete a surface area worksheet.</p>	

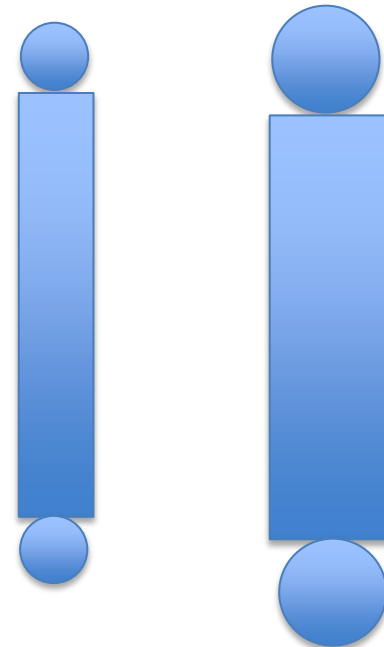
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Do the Math for the Thinking Question



Lesson Anticipated Misconceptions:



Lesson Instructional Adjustment(s) (if needed)

Tied to common misconception(s)

Manipulatives and materials to include and have ready to support the lesson *

candy, net sheet, surface area worksheet, scissors,
glue or tape, poster paper

* Opportunity for formative assessment