

I. What do we want to learn from this lesson? (*Research Lesson Goals for Teachers*)

Do the students understand how to measure to the nearest inch and ½ inch? Do the students understand that 2 halves equal a whole?

II. The overarching Lesson Study goals are:

Students will use self-created materials to measure different objects to the nearest inch and half-inch, allowing them to feel more confident about using a ruler. Students will transfer understanding of fractions and be able to apply it to measurement

Steps of Research Lesson	Students	Teacher	Evidence of student learning/engagement	Observer’s Comments: Things to think about for next time
<p>Building a context for the lesson <i>(Connecting to meaningful things or previous lesson)</i> The Lesson is introduced by reading Inch by Inch by Leo Lionni (Math Meeting area). The students will use Inch Worm pattern to help them learn how to make a ruler so they may measure their licorice.</p>	<p>Doing: Students listen to story.</p>	<p>Doing: Reading story.</p>	<p>Students will discuss the questions asked about Inch by Inch.</p>	
	<p>Possible Questions or Misconceptions:</p>	<p>Possible Responses/ Questions to Pose: How does Inch Worm measure? Why was inchworm able to measure the different birds? What does the worm do when the nightingale asks him to measure her song? Can you measure a song? How can you measure a song?</p>		
<p>Laying the framework for the learning experience (<i>Launching the activity</i>) Students will be interacting with the teacher, exploring how to measure pieces of licorice. They will not have a regular ruler. They will be guided towards the idea that they can make their own ruler. Students receive licorice. Students measure their licorice with Inch Worm patterns.</p>	<p>Doing: Students will be reviewing how Inch Worm measured in the story. Students will be given Inch Worm Patterns.</p>	<p>Doing: Teacher will be reviewing what the students have previously learned about measurement</p>	<p>Students will be asking questions about Inch Worm patterns. Students will be thinking of ways they will measure their licorice.</p>	
	<p>Possible Questions or Misconceptions: Why can’t we use our regular ruler? Why can’t we have more than one Inch Worm pattern?</p>	<p>Possible Responses/ Questions to Pose: How are you going to measure your licorice pieces?</p>		

<p>Engaging students with concepts <i>(Exploring, investigating, problem solving)</i> The students will receive a Student Report Form to record their results. They will receive one piece of licorice at a time. The sizes will be 1” (to confirm that the Inch Worm is one inch), 3”, 6”, 6 ½” and 7 ½”</p>	<p>Doing: Students work in groups of two and measure their pieces of licorice. Students will be given one piece of licorice at a time. After students work together to measure their first piece, the class comes together to record their results on the classroom recording form (Each group should have already written their results on their own form).</p>	<p>Doing: Walk around and encourage students to think of ways to measure their licorice. When they get to the longer pieces they will not have enough Inch worms to measure. Encourage students to think of a way that they can use their Inch worms to create something that will allow them to measure longer pieces of licorice.</p>	<p>Students will be measuring and recording. When they get to the pieces that are too long for Inch Worm patterns, they will be thinking of ways that they can measure the longer pieces.</p>	
<p>Sharing ideas/solutions <i>(Whole group, small group, written)</i> Students continue to work in their groups. They have measured the smaller pieces of licorice. They now will be working on their rulers so that they can measure longer pieces of licorice. When a piece of licorice is in between inch marks, students will work to understand how to measure to the nearest ½ inch.</p>	<p>Doing: Students will begin creating their rulers. Students continue to measure their longer pieces of licorice. After each piece is measured, come together as a class to check answers.</p>	<p>Doing: Guide students while they make sure that their rulers are marked appropriately. When the students begin measuring pieces that are between inch marks, guide them to discover ½ of an inch and how two ½ inchworms make a whole.</p>	<p>Students will be making their rulers so that they may measure the longer pieces of licorice.</p>	
<p>Closure/Summarizing <i>(Tying ideas together – summarize what math/strategies were learned)</i> Discussion of what the students learned.</p>	<p>Doing: Listening and sharing what they learned. Comparing results.</p>	<p>Doing: Asking questions: What did we learn about Measurement? Counting by ½’s? How many ½’s make a whole?</p>	<p>Students are talking about what they have learned.</p>	
	<p>Possible Questions or Misconceptions: Why can’t we use our regular ruler? Why can’t we have more than one Inch Worm pattern?</p>	<p>Possible Responses to student questions and/or strategies: Show students “your” ruler that you created when you weren’t sure how you were going to measure longer pieces of licorice. Is there a faster, more accurate way to measure? How long is the licorice?</p>		
		<p>Possible Questions or Misconceptions: What happens when my licorice is in between inch marks?</p>		
		<p>Possible Responses/ Questions to Pose: What are some things we can measure with our new rulers?</p>		