

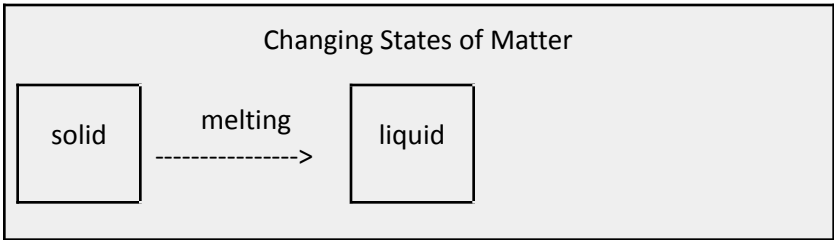
Unit 3: Connecting Places, Connecting People

WEEK 2 Lesson 2

Science and Engineering: Physical Science

Matter and Its Interactions: Reversible and Irreversible Changes (Melting)

S & E Big Ideas	Matter changes states when we cool it or heat it. Some changes of matter are reversible, some are not.
S & E Guiding Questions	How can water change? Can a solid be changed to a liquid?
Content Objectives	I can analyze the results of an experiment to turn a solid into a liquid. (Science 2-PS1-4.) I can explain that some solids melt when exposed to heat. (Science 2-PS1-4.) I can find patterns and connections in my data to answer the question, "How can water change?" (2-PS1-4, Practice 4)
Language Objective	I can listen and add to my classmates' ideas about what makes a solid turn into a liquid. (SL.1.2.b)
Vocabulary	melt: to turn matter that is solid into a liquid
Materials and Preparation	<ul style="list-style-type: none">• Science and Engineering packets• Melting Ice Data chart, from Lesson 1• chart paper and marker Post the chart paper horizontally and write the title, Changing States of Matter.
Opening 1 minute	<i>Yesterday each group's Recorder wrote the data you gathered during your experiment on our Melting Ice Data chart. Today we will look at all the data to help us better understand how solid matter can change into liquid matter.</i>
Discussion 17 minutes	Refer to the Melting Ice Data chart. <i>Let's take a look at our class data. What do you notice?</i> Begin by harvesting only what children notice (as in Thinking and Feedback). Pay close attention to what they notice, and make notes to

	<p>support children’s thinking during the discussion. <i>Now let’s think about what we can learn from this investigation.</i></p> <p>During the discussion, build in several opportunities for a Think, Pair, Share routine, perhaps having children change partners. Encourage children to refer to observational sketches in their packets to recall and explain their thinking.</p> <p>Possible questions for discussion include:</p> <ul style="list-style-type: none"> ● <i>What does this chart tell us about how to get ice to melt quickly?</i> ● <i>What were you thinking when you made the decision to place the ice cube where you did?</i> ● <i>What do you think makes ice melt?</i> [Confirm that among various other factors, it is <u>heat</u> that makes ice melt from a solid to a liquid.] ● <i>Where did the heat in your investigation come from?</i> ● <i>Can you think of other heat sources that could help melt ice?</i> <p>Conclude by naming themes in children’s discoveries and processes and articulating lingering questions.</p>
<p>Closing 3 minutes</p>	<p><i>Today we learned that heat can change a solid into a liquid by melting.</i></p> <p>Draw the following diagram on the Changing States of Matter chart. Leave space to add another square for gas in upcoming lessons.</p> <div style="text-align: center; border: 1px solid black; padding: 10px; width: fit-content; margin: 0 auto;"> <p>Changing States of Matter</p>  </div> <p><i>Next week we will continue to investigate changes in state of matter.</i></p>
<p>Standards and Practices</p>	<p>SL.1.2.b Build on others' talk in conversations by linking their comments to the remarks of others.</p> <p>2-PS1-1. Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.</p>
<p>Ongoing assessment</p>	<p>Reflect on the class discussion. How do children listen to and build on each other’s ideas? How do they reference the text (data) to support their ideas? What questions do they ask? What misconceptions remain?</p>