Lesson 2.3
Reading About Dissolving
Lesson Overview

In this lesson, students read the book *Solving Dissolving*, a fictional text about a brother and sister who make lemonade. Before reading, students discuss what they have learned so far about dissolving, and they revisit and add to the Models chart. The teacher models making inferences with the first few pages of the text. As students read the book with partners, they make inferences about the text, using the images as well as the text to help them understand what they are reading. After reading the book, students record two observations made in the text as well as inferences that they made while reading. Students discuss the models used in the text and how they contribute to an overall understanding of the text. This discussion deepens students’ understanding of the concept of solubility. The purpose of this lesson is to augment and strengthen students’ facility with making inferences based on text and experience as well as their understanding of dissolving and solubility.

**Anchor Phenomenon:** A salad dressing has sediments and layers.

**Investigative Phenomenon:** Sugar disappears when mixed with water; cinnamon does not.

**Students learn:**

- If a substance is soluble, it means that it can dissolve in water or that the substance’s molecules are attracted to water.

- If a substance is not soluble, it means that it cannot dissolve in water or that the substance’s molecules are not attracted to water.

- Readers use the images as well as the text in order to make inferences about what they read.
Reading: Solving Dissolving

Students read *Solving Dissolving* and use the images and captions in the book to make observations and inferences.

Instructional! Guide

1. **Partner Reading Guidelines.** Remind students that the Partner Reading Guidelines are posted for their reference.

2. **Remind students to make inferences while reading.** Suggest that students pause after each section of the book and discuss with their partners any inferences they made while reading. Remind students to use the illustrations as well as the text to make inferences.

3. **Partners read and make inferences.** Have partners continue reading from page 8 through the end of the book, pausing to discuss their inferences.

Teacher Support

**Background**

*Science Note: Observations, Inferences, and Explanations*

Making inferences is an important part of science. In order to answer their questions about the world, scientists almost always need to make a logical leap beyond what they can directly observe. Scientists’ inferences are based on their observations, established scientific knowledge, and logical reasoning. We use our senses to make observations. A possible explanation about an observation is an inference. In *Solving Dissolving*, Diego makes explanations, which are inferences about the nanoscale based on evidence from his observations as well as from scientists and scientific models. By distinguishing observations from inferences, students are exposed to the fact that often what they read as explanations in science text are inferences about scientific phenomena that are too small, too far away, or too abstract to be seen but that are based on evidence.

**Rationale**

*Literacy Note: Gradual Release of Responsibility*

In this lesson, the teacher models making an inference with the first part of the text. The inference should be fairly clear to students because of their recent experiences in the classroom with dissolving. By giving this inference as an example, the teacher reminds students of the strategy of making inferences and helps them see how they can use this
strategy with the text. Making inferences while reading is left deliberately open-ended; partners should talk with each other about the inferences they can make as they read the text so they can gain practice with this cognitive strategy. You may need to prompt students to pause while reading to think about each section of the book and try to draw their own conclusions.
Observations and Inferences in *Solving Dissolving*

1. In the book *Solving Dissolving*, Maya makes a lot of observations of the mixtures she and her brother Diego make. In the table below, record three observations that she makes. Be sure to record (in the first column) the page number for each observation from the book.

2. Record an inference you can make based on each observation. Remember to use what you know, along with the diagrams and text in the book, to help you make inferences. An example has been done for you.

<table>
<thead>
<tr>
<th>Page</th>
<th>Maya's observation</th>
<th>My inference</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>The sugar disappeared when mixed with water.</td>
<td>The sugar molecules were attracted to the water molecules, so the sugar dissolved in the water.</td>
</tr>
</tbody>
</table>
Reading: Solving Dissolving

Students read *Solving Dissolving* and use the images and captions in the book to make observations and inferences.

Instructional Guide

1. Partner Reading Guidelines. Remind students that the Partner Reading Guidelines are posted for their reference.

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3. Partners read and make inferences. Have partners continue reading from page 8 through the end of the book, pausing to discuss their inferences.

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Making inferences is an important part of science. In order to answer their questions about the world, scientists almost always need to make a logical leap beyond what they can directly observe. Scientists’ inferences are based on their observations, established scientific knowledge, and logical reasoning. We use our senses to make observations. A possible explanation about an observation is an inference. In *Solving Dissolving*, Diego makes explanations, which are inferences about the nanoscale based on evidence from his observations as well as from scientists and scientific models. By distinguishing observations from inferences, students are exposed to the fact that often what they read as explanations in science text are inferences about scientific phenomena that are too small, too far away, or too abstract to be seen but that are based on evidence.

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strategy with the text. Making inferences while reading is left deliberately open-ended; partners should talk with each other about the inferences they can make as they read the text so they can gain practice with this cognitive strategy. You may need to prompt students to pause while reading to think about each section of the book and try to draw their own conclusions.
Observaciones e inferencias en *Resolviendo la disolución*

1. En el libro *Resolviendo la disolución*, Maya hace muchas observaciones de las mezclas que hacen ella y su hermano Diego. En la tabla debajo, apunta tres observaciones que hace ella. Asegúrate de apuntar (en la primera columna) el número de página para cada observación del libro.

2. Apunta una inferencia que puedas hacer con base en cada observación. Recuerda usar lo que sabes, junto con los diagramas y el texto del libro, para ayudarte a hacer inferencias. Hemos hecho un ejemplo para ti.

<table>
<thead>
<tr>
<th>Página</th>
<th>Observación que hace Maya</th>
<th>Mi inferencia</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>El azúcar desapareció cuando se mezcló con agua.</td>
<td>Las moléculas de azúcar fueron atraídas a las moléculas de agua, así que el azúcar se disolvió en el agua.</td>
</tr>
</tbody>
</table>