Lesson 1.2
What If Rain Boots Were Made of Paper?
Reading: What If Rain Boots Were Made of Paper?

Students partner read *What If Rain Boots Were Made of Paper?* and adjust their predictions as they read.

Instructional Guide

1. **Introduce the Partner Reading Guidelines.** Let students know that they will read the book with a partner. Refer to the poster on the wall and read through the guidelines with the class. Let students know that they can refer to the guidelines as they read.

   - I would like you and your partner to pause briefly every two or three pages to share what you predict, or what you think you may learn next.

   - You should also adjust your predictions, as needed, as you learn more about the book.

   Explain that students will have a chance to share their predictions with the class after they read.

2. **Have partners read.** Remind students to stop a few times throughout the book to check their predictions, to think about what they have learned so far, and to share any new predictions with a partner. Also remind students that as they go along and learn more about something, it’s okay to adjust their predictions.

3. **On-the-Fly Assessment: Making Predictions While Reading.** Circulate and listen to students’ predictions. Check to see how students are making and evaluating their predictions.

4. **Gather the class’ attention.** Ask partners to turn to page 3 and follow along in their own books. Explain that you will call on students to share the reading with you as you go along.

5. **Read aloud pages 3–6.** Reread the text aloud as students follow along. Provide them with opportunities to participate in the reading.

6. **Stop at the bottom of page 6.**
Why is metal a good material for making pans? What other things are made of metal?

Collect a few student responses.

7. Read aloud pages 7–12. Continue to provide opportunities for students to participate in the reading. After reading page 12, ask students why is it important to think about materials when designing or making something. Collect a few student responses.

8. Read through the end of the text.

Do you think it is important for engineers to know the properties of the materials they choose when they design things? Why or why not?

[Yes, the properties of materials make those materials good for some uses and not good for others.]

If you were going to design something, what would you design? What materials would you use? Why?

Prompt students to share how the structure, in terms of shape and stability, of the materials they choose, would help their design function in the way they desire.

9. See the "Going Further: Designing and Sharing Ideas for Solutions" activity in the Teacher Support tab. This note provides guidance for conducting an activity in which students communicate designs for a problem’s solution through sketches or drawings.
Embedded Formative Assessment

On-the-Fly Assessment 1: Making Predictions While Reading

Look for: Students will have many opportunities to learn about and use the reading comprehension strategy of predicting. During this partner reading activity, you may want to note whether students are able to use what they already know, along with clues in the text, to make predictions about what they will learn. You might also check in as they are reading to see if students are adjusting their predictions as they go along and the evidence they are using to support their predictions.

Now what? If students are struggling with making predictions or if they are not citing evidence for their predictions, you may provide sentence frames for them:

- I predict ___________ because ___________.
- I am changing my prediction of ___________ because ___________.

As they read other books in this unit, students will have many other opportunities to practice applying the strategy of making predictions.

Teacher Support

Rationale

Literacy Note: Partner Reading
Throughout this unit, we suggest that students read the books with a partner. This allows students time to apply and practice the reading strategies they’re learning, keeps them focused on the task at hand, and provides opportunities for them to assist each other with reading. Of course, you can use any effective reading procedures you’ve already established with your class. Before reading this first book in the unit, you may need to provide instruction on how to read with a partner—by using either the Partner Reading Guidelines provided or guidelines of your own. Establishing procedures takes time at first, but will pay off in terms of student learning and management of the lessons. Over time, students gain practice working together and will need fewer reminders about reading together effectively.

Rationale

Literacy Note: Rereading
For each book in the unit, you will reread part of the text together with students after they have read the whole book with partners. Invite students to take on some of the reading with you and to read familiar words and phrases along with you from their own copies of the book. You’ll model both using comprehension strategies and text features to read and understand text. Engaging in this rereading prepares students to focus on key ideas and details as they begin to read more independently.
Instructional Suggestion

Literacy Note: Vocabulary Development
English learners and other students may experience difficulty in understanding and using multiple meaning words, particularly when one of those words has a scientific meaning. Students may know the common meaning of the word, but not the scientific one. Let students know that some words have two or more meanings. Provide a few example words and ask students to use these words to construct sentences orally. Then have students see how many different meanings they can identify. Explain that the context often provides clues to the word’s meaning. Have students use the Multiple Meaning Words activities (optional activities in the Investigation Notebook) before or after they read each book in the unit. These activities ask students to use context and to figure out the meaning of multiple meaning words used in each book.

Instructional Suggestion

Going Further: Connecting Properties of Materials and Structure and Function
Structure and Function is called out by the Next Generation Science Standards as one of seven powerful ideas that are widely useful across scientific topics and sub-disciplines. When discussing the properties of materials, deepen students’ understanding of how the properties of materials are related to the ways they can be used by connecting to the crosscutting concept of Structure and Function. Making use of the crosscutting concept of Structure and Function involves assessing an object’s structural properties (its shape, color, patterning, hardness, smaller parts, etc.) and how that structure supports its function. For example, point out that rubber is a material that is good for making rain boots because the structure (a property) of rubber means that rubber functions to repel water or keep water out. Rubber, as compared to paper, is a very stable material, which is important to the function of rainboots. Provide several examples from the book What If Rain Boots Were Made of Paper? Then, as students connect what they have learned to their own lives, encourage them to also note what aspects of the object’s structure, in terms of shape and stability, might be essential for it to function as it does. Thinking about materials using a Structure and Function lens provides a way to generate hypotheses and explanations about how an object with particular properties might function or what aspects of the object’s structure might be essential for it to function as it does.

Instructional Suggestion

Going Further: Designing and Sharing Ideas for Solutions
What If Rain Boots Were Made of Paper? ends by posing the questions “What if you were an engineer? What would you design, and what materials would you use?” Students will soon dive into the central design challenge of the unit: designing a better glue for their school. However, the book provides a great launching point for students to engage in a low-stakes activity in their new role as engineers. As students will come to understand through the course of the unit, an important part of engineering is communicating your ideas for a problem’s solution to other people. One way of doing this is by drawing or creating a physical model of your design that you can show to others. Provide students with a simple design challenge. It could be inspired by the text and images in What If Rainboots Were Made of Paper? [e.g., design a hat that will keep you warm in the winter (page 12), a boat that will float on water (page 12), a machine for exercising (page 14), or a way to get around (page 15)]. or it could be something else that you think students would be engaged in. Have students brainstorm ideas in pairs or small groups, and then have them draw their designs. Encourage them to think about the materials they would use and to label these in their drawing, asking questions such as “What would you use for this part of your design? What properties does that material have? Why do you think that materials would help your design function well?” Once students have finished their drawings, ask volunteers to share, or have a gallery walk so students can see each other’s designs. Have the students reflect on how their drawings helped communicate their ideas.
Reading: What If Rain Boots Were Made of Paper?

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**Instructional Guide**

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   - Me gustaría que hicieran una pausa breve cada dos o tres páginas para compartir en parejas lo que predicen, o lo que piensan que aprenderán a continuación.

   - También deberían ajustar sus predicciones, según sea necesario, mientras aprenden más acerca del libro.

   Explain that students will have a chance to share their predictions with the class after they read.

2. **Have partners read.** Remind students to stop a few times throughout the book to check their predictions, to think about what they have learned so far, and to share any new predictions with a partner. Also remind students that as they go along and learn more about something, it’s okay to adjust their predictions.

3. **On-the-Fly Assessment: Making Predictions While Reading.** Circulate and listen to students’ predictions. Check to see how students are making and evaluating their predictions.

4. **Gather the class’ attention.** Ask partners to turn to page 3 and follow along in their own books. Explain that you will call on students to share the reading with you as you go along.

5. **Read aloud pages 3–6.** Reread the text aloud as students follow along. Provide them with opportunities to participate in the reading.

6. **Stop at the bottom of page 6.**
¿Por qué el metal es un buen material para hacer sartenes? ¿Qué otras cosas están hechas de metal?

Collect a few student responses.

7. Read aloud pages 7–12. Continue to provide opportunities for students to participate in the reading. After reading page 12, ask students why is it important to think about materials when designing or making something. Collect a few student responses.

8. Read through the end of the text.

¿Piensan que es importante que los ingenieros conozcan las propiedades de los materiales que eligen cuando diseñan cosas? ¿Por qué sí o por qué no?

[Sí, las propiedades de los materiales hacen que esos materiales sean buenos para algunos usos y no tan buenos para otros].

Si fueran a diseñar algo, ¿qué diseñarían? ¿Qué materiales usarían? ¿Por qué?

Prompt students to share how the structure, in terms of shape and stability, of the materials they choose, would help their design function in the way they desire.

9. See the "Going Further: Designing and Sharing Ideas for Solutions" activity in the Teacher Support tab. This note provides guidance for conducting an activity in which students communicate designs for a problem’s solution through sketches or drawings.
Embedded Formative Assessment

On-the-Fly Assessment 1: Making Predictions While Reading

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