

# NATURE'S MYSTERIES

## Lesson Plan

### What's a Hypothesis?

Lesson Plan for *Poland's Crooked Forest*

Grade 3

#### Objective

To help students understand how scientists create and test hypotheses by identifying and evaluating two possible explanations for the curved trunks in Poland's Crooked Forest.

#### Things Needed

- *Poland's Crooked Forest* book

#### Before the Activity

Read *Poland's Crooked Forest* out loud to students, or have students read it on their own.

#### Activity

Scientists are always looking for new information to help them answer questions about the world. For example, *Poland's Crooked Forest* tells how scientists tried to answer the following question: "What caused the trees in the forest to bend?"

To answer a question, scientists start by gathering information. They often make observations. For example, scientists studied the size and direction of the bends in the trunks, as well as the age of the trees when the bending likely happened. Scientists use the information they collect to form a hypothesis. Open the book to the glossary on page 23 and choose a volunteer to read this word's definition: "a proposed idea that is based on little evidence and needs to be studied more."

Explain that a hypothesis is a guess. To see if it's true, scientists collect more information. If the new information makes sense with the hypothesis, then it shows the hypothesis might be right. If not, scientists must go back and change their hypothesis. They look for another idea that *would* match this new information. Scientists repeat this process many times to help find the best explanation.



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Today, students will explore two hypotheses for why the trees in Poland's Crooked Forest are bent. Discuss the following questions as a class:

- According to page 10, what did scientists observe about the trees in Poland? (Answer: Something damaged the trees' trunks when they were around ten years old. The trees may have been cut or pushed down.)
- According to Chapter 2 ("An Unsolved Mystery"), what hypothesis did some people create based on this information? (Answer: Snow may have pushed the young trees down [p. 12–13].)
- How would this hypothesis explain the bends? (Answer: The trees could have grown straight again after the snow melted [p. 14].)
- What details or information seem to support this hypothesis? (Answers: Young trees have thin trunks that bend easily [p. 12]. Poland often gets heavy snow in winter and spring [p. 13].)
- What is one problem with this hypothesis? (Answer: Snow would fall on all trees in the forest, so scientists would expect all trees to be crooked, but only some trees are curved [p. 14].)
- What hypothesis does Chapter 3 ("Unusual Shapes") describe? (Answer: People may have weighed down the trunks on purpose [p. 16].)
- What details or information seem to support this hypothesis? (Answers: People sometimes bend trees to create curved wood they can use for building [p. 16]. People could have been making boats for the nearby Baltic Sea [p. 18].)
- How would this hypothesis explain the bends? (Answer: World War II destroyed the town near the forest, so people couldn't harvest the wood or keep bending it, which meant the trees could grow straight again [p. 21].)

### **Evaluation**

Could students identify and evaluate each hypothesis described in the book?

### **Standards**

This lesson plan may be used to address the Common Core State Standards' reading standards for informational texts, grade 3 (RI 3.3, 3.4).



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