Where is the Sock?

Companion Text: I Lost My Sock, by Lin Jakary & Ryan Olson
Subject Area & Grade Level: Mathematics, 3rd Grade
Materials: Any kind of opaque containers, such as brown paper lunch bags, one for each student

Objectives

After this lesson, students will be able to:

- Use fractions to describe simple probabilities
- Compare fractions in order to describe the degree of likelihood of different outcomes

Activity

Read the story all the way through without stopping. Then, have each student come up with a list of six outrageous places that the boy's sock could be that were not already suggested in the story, and write them down in the boxes at the top of the attached worksheet. Tell students that, for the purposes of this activity, you should assume the sock is just as likely to be in each of the six locations. (So, one location should not be "the moon" if another is "under the bed"—make every location silly and fun, but very different from the other locations, so they are all equally unlikely.)

After students select their six locations and write them on the worksheet, have them complete the remainder of the worksheet with a partner or small group. Emphasize that everyone will not have the same answers, since everyone has six different locations.

Reflection

Select students to share their locations and worksheet answers. Ask each presenter to compare two of the fractions they created, and discuss them in terms of likelihood. For example, if a student has a 1/6 probability that the sock is on Planet Earth, and a 4/6 probability that the sock is somewhere cold, the student should be able to say that is it **more likely** that the sock is somewhere cold than on Planet Earth.

Then, write the words "likely," "unlikely," "probably," "probably not," or "chance" on the board. Ask the whole class to consider when they hear these words (your parent's answer to a request, weather forecasts, a sports team's prowess, etc.), and challenge students to make up a sentence or two that uses one of these words. Have students share their answers with the whole class to increase general awareness of the frequent references to probability that students often hear in their everyday lives. Summarize that probability is a measure of how likely something is to occur, and that is always a fraction or decimal between 0 and 1.

Where Is the Sock?

Possible locations:

How many possible locations are there? _____

How many of your possible locations are on planet Earth? _____   So, there is a _____ in _____ chance that the sock is on planet Earth. This is:

     Likely   Neither Likely nor Unlikely   Unlikely

How many of your possible locations are in the boy's house? _____   So, there is a _____ in _____ chance that the sock is in the boy's house. This is:

     Likely   Neither Likely nor Unlikely   Unlikely

How many of your possible locations are somewhere cold? _____   So, there is a _____ in _____ chance that the sock is somewhere cold. This is:

     Likely   Neither Likely nor Unlikely   Unlikely

** Make up your own.** There is a _____ in _____ chance that the sock is

_____. This is:

     Likely   Neither Likely nor Unlikely   Unlikely