



hypothesis:

a good guess about something that
has not yet been proven to be true

Mars Rover Model Celebration – Lesson Plan

Introduction:

One of the new vocabulary words for this unit is hypothesis. A **hypothesis** is a good guess about something that has not yet been proven to be true. Scientists use research to help us learn new facts or test new ideas about something.

Let's look at a picture that will help us understand the meaning of the word hypothesis. The girl in this picture has just received a present but hasn't opened it yet. Before she makes a guess about what the gift is, she examines different aspects of the gift. She considers the size of the box, how much it weighs, and what she hears when she shakes the box. Because the box is small and cannot be very heavy, if the girl were to guess that an elephant or a bicycle was inside the box, this would NOT be a good hypothesis because it is not a good guess. If the girl were to guess that there was a bottle of perfume or a cell phone in the box, this would be a good guess or a good hypothesis.

Example:

Hypothesis is a word often used by scientists. Scientists will research a subject, to learn what people already know about it. Then, they will try to learn something new by making a hypothesis and designing an experiment to see whether that hypothesis is true.

For example, scientists know how plants grow on the Earth. However, they do not know whether plants will grow the same way in space where there is no gravity. One scientist has made the hypothesis that the cells of plants grown in space will not have the same shape as those of plants grown on Earth. He is working with NASA to send a plant to outer space and allow it grow in zero gravity. When the plant returns to Earth he will look at samples of this plant and compare it to the structures of the cells of an identical plant that was grown on Earth.

Reflection:

Think about the following sentences. Tell me your hypothesis. Start your sentence with "My HYPOTHESIS is..."

- You observe a man on his knees looking at the grass in front of his house. (Hypothesis: the man is weeding; the man is looking for something he lost in the grass.)
- You see an unfamiliar person sitting at the teacher's desk in your classroom. (Hypothesis: this person might be a substitute teacher; this person might be an invited visitor.)
- A man is grimacing and holding his hand over one ear. (Hypothesis: he may have heard something very loud; he may have an earache.)
- A driver has pulled over to the side of the road and is speaking to a police officer. (Hypothesis: the person may be asking directions; the person may be getting a traffic ticket.)

Make it personal:

Think about what you already know about Mars. Then, make a guess about something you think may be true about Mars but you don't know for sure. I will pick on some of you to share your ideas and we will discuss whether or not your guess would be a hypothesis or not. *(Let the students think for a moment and ask for volunteers. Go through each statement and have students evaluate it to see if it is a hypothesis. Have them review the definition on the other side of the card if necessary.)*