Observations and Inferences

PURPOSE: to distinguish between an observation and an inference

MATERIALS: plastic discs, worksheet

BACKGROUND: The scientific method often demands that the investigator offer an explanation for events even though the actual parts involved are unobservable. In this activity, you will be making careful observations of a situation you cannot directly observe and then make inferences in order to propose an explanation for the observations. Observations are done using the senses. Inferences are conclusions based on those observations.

PROCEDURE:

1. Each lab group take one disc from the cart. Note its number on the worksheet.
2. Observe the steel ball as it rolls inside the disc.
3. On the worksheet, draw what you think the arrangement of the partitions look like.
4. Test your guess by observing the disc further. Make changes to your drawing if necessary.
5. Return the disc to the cart. Repeat the steps 1-4.
6. Do as many of the different discs as time allows.

QUESTIONS:

1. What were your observations in this activity?

2. What were your inferences in this activity?

3. What is the difference between an observation and an inference?

4. Give one example of a situation involving both observations and inferences.
Chapter 1 - Scientifi c Method