



## Making and Recording Observations

**Making and recording observations** entails using one’s senses or other tools to create written documentation (such as measurements or drawings) of what one notices about a phenomenon. Recording observations allows students to remember and refer back to those observations. These recorded observations can then serve as evidence for students’ scientific explanations and predictions about a phenomenon. Observations may be qualitative (descriptions of what is observed) or quantitative (measurements counted or recorded in a numerical format). The type of record depends on the scientific field and purpose of the observation.

While humans often make inferences in the process of observing, an observation is different from an inference. An **inference** is an explanation a person makes about a phenomenon based on an observation. For example, “the grass is brown,” is an observation that leads to the inference, “the grass died.”

### Why should my students make and record observations?

These are scientific practices that:

- Enable students to remember what they have observed. (Students often do not recognize that they will forget what they observed if it is not recorded).
- Require students to notice the details of a phenomenon.
- Enable students to provide evidence for their own scientific explanations and predictions.
- Engage students in the practices of scientists.

### How can I help my students make and record observations?

Some possible strategies include:

- Explaining what scientific observations are and how students will use them as evidence in explanations and predictions.
- Teaching students the characteristics of high-quality observations. *See the table below.*
- Providing students with the proper tools (ex. hand lenses, rulers, space for drawings and lines for writing, and colored pencils).
- Generating a list of words that students can use when making their observations.
- Designating a regular time each day for students to make and record their observations.
  - Students need repeated opportunities to hone this scientific practice.
- Modeling how to make an observation for students.
- Sharing examples of strong student observations with the class.

### Characteristics of High-Quality Recorded Observations

<b>Clear</b>	Observations should be neat and specific so that you or another person can understand what is written or drawn (for example, “the mustard plant” rather than “the plant”).
<b>Complete</b>	Observations should describe all parts of the phenomenon of interest.
<b>Accurate</b>	Observations should include only what is actually seen. Drawings should include authentic colors, sizes, and shapes.
<b>Labeled/Scientific vocabulary</b>	Drawn observations should have labels to identify the items. Written observations should use appropriate scientific language.
<b>Objective</b>	An observation should not state an opinion. Another person should be able to look at the object of interest and make the same observation. An objective statement is “the mustard seed is one millimeter across.” A less objective statement is “the seed is really small.”