

Teaching Observation: Aim Higher



Observation is a fundamental process in science. It is a skill that many science curricula emphasize. It seems like such a simple skill. As the humorous and often insightful baseball great Yogi Berra noted, “You can observe a lot just by watching.”

But observation skills are not quite so simply mastered. Like anything else, just watching and observing does

little to improve the skill. In order to improve, we must pay explicit attention to observation. But we rarely pay that explicit attention to how and why we observe in science. In this issue, we explore what it means to observe and how to teach skills that will lead to more thoughtful observations.

One of the first steps in learning to observe is to be slow and careful. It helps to start with things that are familiar. In “A Walk in the ‘Tall, Tall Grass’” (p. 28) a teacher helps her young students notice something that surrounds them: grass. This attention to detail leads students to appreciate and understand their surroundings. It connects to art and language arts as well. Observations, for these kindergartners, have a purpose! In “A Lemon of a Lesson” (p. 25) students begin to hone their skills at observation through making careful observations of lemons. Think your description is good? Try to find your neighbor’s lemon using only the student’s observation.

Observations can also be taught along with record keeping. If observations are not communicated or recorded, then their value is minimal. In “Close, Closer, Closest” (p. 40) students take sequential looks at something familiar, a shirt sleeve, and make more and more detailed observations. Recording their observations is critical. This process of systematically looking at different levels, which could be used with any number of objects, get students to notice patterns and differences as well as appreciate that objects at a small scale can look very different than they do with an unaided eye.

Another important understanding about observations is that they depend on context. An observation of color, for example, may differ depending on the conditions of ambient light. “Considering Context” (p. 22) makes the

point that observations should include the context of an object, not just the object. Paying more attention to context and its effect on the observation can help students broaden students’ understanding of both the object and of observation as a skill. Students may also note another contextual feature of observations: the observation may depend on the observer!

Making observations is indispensable in one of the primary features of science: detecting patterns in nature. “The Point of it All” (p. 32)

takes a topic, the shape of weather vanes, that at first glance appears to be trivial but develops into a rich experience about weather and investigation skills. Students determine patterns of movement in different weather vanes and compare their observations to predictions.

Science educator Rosalind Driver once described a person walking into a science lab and noticing a lot of wires and apparatus. They have made “correct” observations, but the observations are trivial. We need to aim higher in our attempts to teach observation skills. We need to focus on the why and how and context of observations. Then we need to make sense of the observations. We hope this issue gives you both the background and concrete ideas to lead students to new levels.

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Coming Next Month

The March issue of *Science and Children* is looking at force and motion. Here’s a sneak peek at some of the articles:

- Simple Machines in the Community
- Kid-designed Roller Coasters

Plus, the annual NSTA/Children’s Book Council Outstanding Science Trade Books List!