

ACTIVITY

observation activities

overview

Close and skillful observation of nature will encourage your students to gain a better understanding and appreciation of the world around them, and to become stewards of the planet. Observation is essential to scientific thinking: observation leads to asking questions which in turn leads to scientific investigation and research. The following activities are designed to help them develop observation skills.

1. Observation Journal

Encourage students to record observations of nature in journals, both in writing and by creating drawings with labels that record everything they see. Invite them to include conjectures and other thoughts. All science journal entries should include the date, the location, the time of day, and the weather if applicable. Your assessment of students' journals should focus on their descriptions. Check to see if they:

- include information about texture, color, shape, patterns
- counted anything
- estimated sizes, or measured sizes
- supported any assumptions they made with facts
- added words to drawings, describing what they saw in words as well as pictures

Notice evidence of students bringing prior knowledge to play in their descriptions. Use student journals to model good examples. Encourage students to learn the important components of a good journal entry by giving them opportunities for constructive peer review. As they develop these skills, they will learn that they need to record more rather than less. What kind of information did they omit when they started?

You may want to suggest that students keep double-entry journals: ask them to record their observations on one page and their interpretations on the opposite page. Encourage frequent journal entries: provide time in class and on field trips for recording, and build journal keeping into homework assignments.

2. Do You See What I See?

Display photographs (cut out from *Natural History Magazine*, *National Geographic*, or other sources), postcards of paintings, illustrations of, or actual objects from nature in your classroom. (Encourage students to get involved—start a class collection.) Begin by asking students to observe these closely. Invite students to choose one image or object for detailed observations and to describe in their journals everything they see. Remind students of the importance of describing the subject under review in broad strokes while also including as many details as they notice. Ask

them to work in pairs and describe the image in sufficient detail to allow their partner to identify it using their description. Or students may present their descriptions to their partners and challenge them to draw the image or object using only the description. If students are looking at photos, ask them:

- Where is the animal?
- What do you see?
- What might it eat?
- Where might it find shelter?
- How or where might it find a partner?
- Where might it find water?
- What other organisms might be important to it? (e.g., a tree would be important for a bird)
- If this scene were to come alive, what do you think would happen next? What clues tell you this?

Gather the class together to discuss their experiences. Remember to ask students to support their assumptions and statements using evidence from the photographs. Develop collaboratively a list of tips for observation and description techniques.

3. Animal Observations

On a trip to a zoo, a farm, a park, a dog run, a nature reserve, or a local pet store, ask students to record careful observations of an animal. Or ask them to observe a pet. In words and annotated pictures, they can note:

- the size and shape of the animal's body
- observations about the animal's body surface, including color, and how that might relate to its environment
- what it eats
- how it moves
- how it relates to other animals
- how it relates to anything else in its environment

Back in the classroom students should compare notes. Create a class list of useful observations based on student work and, where possible, guide students to relate structure to function. Extend the activity by asking students to find out more about their animal through Internet or book research. Or repeat the activity and ask students to note anything new they observe on the second visit.

Classroom animals or plants are another way to develop close observational skills. Allocate a place in the classroom for living

organisms. Allow students some time each day to take about five minutes to record their observations—this might be free time after finishing a class assignment or at the beginning or end of class sessions. Schedule some time every week to allow the whole class to discuss their observations and conjectures.

4. Observing Outdoors

Working in pairs, ask students to observe cracks in the pavement. (Try to find an overgrown spot.) Ask students to record observations about plants and other organisms that they see. What kind of interactions do they notice? Record as much as possible.

Look up! There are many things to observe in the sky, including clouds, leaves blowing in the wind, birds overhead, the position of the sun—or even the early moon in winter—and treetops. Record as much as possible. Again, ask students to record any interactions with the environment that they notice.

Tiny clues can lead to big ideas. Ask students to look for the smallest evidence of life—fallen feathers, bites or holes in leaves. Ask them to record suggestions about how the evidence got there, and what might have been involved. Keep a classroom list of all the clues that students find in their observations.