

Think Like a Citizen Scientist Pt. 1

Sample Experiments

Use this sheet as a resource for Activity: Observe to Learn About Your Environment. It includes examples of experiments girls could design for the activity, with an initial observation, questions to ask, and an experiment they could conduct to learn more about the subject they chose to study.

Sample Experiment One: Water

Observation: On your troop's observation walk, you find a stream.

You ask yourself: What direction is the water flowing? Is there a section where the water slows down? What creatures or plants can you see in the water or near the water?

Your experiment:

1. Create a map of the part of the stream you're researching.
2. Divide the map into smaller sections and form teams to observe the stream in each section of the area.
3. Collect data by describing what else you see on closer observation. Draw pictures and write field notes. If you're interested in water purity, you might look into easy way to measure the pH level.
4. Verify the observations and use other sources, like the internet or a field guide, to identify what you're seeing. Look to see if you can find the stream on a map.
5. Use what we learn to try to answer or better understand a question.

Sample Experiment Two: Rocks

Observation: Looking around, you see rocks of all different shapes, colors, and sizes.

You ask yourself: What kind of rocks are these? How are the rocks different? Are different kinds of rocks located in different places?

Your experiment:

1. Create a map of the area you're researching.
2. Divide the map into smaller sections and form teams to observe the rocks in each section of the area.
3. Collect data, like the number of rocks. Draw pictures and write field notes that describe the colors, texture, etc.
4. Verify the observations and use other sources, like the internet or a field guide, to identify the rocks.
5. Use what we learn to try to answer or better understand a question.

Sample Experiment Three: Birds

Observation: You hear birds in the trees, you see bird nests or birds flying, etc.

You ask yourself: Why are the birds attracted to a specific area or species of tree? Are the birds in the process of migrating? What can you observe about the birds' behavior – are they cawing, building nests, flying, etc.?

Your experiment:

1. Go bird watching to observe the behaviors of birds.
2. Use binoculars to look for signs of birds in the area.
3. Listen for bird calls.
4. Collect data, like the number of birds you see or the number of bird calls you hear. Draw pictures and write field notes that describe the birds you see and sounds you hear.
5. Verify the observations and use other sources, like the internet or a field guide, to identify the birds and explain their behaviors.
6. Use what we learn to try to answer or better understand a question.