

# What to Sample

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*Stream Side Science* provides the means for sampling five different measurements of the water itself and an array of physical and biological components of the stream and riparian area. There are many possibilities for investigating even further. Based on your goals, you may want to include all or just some of these measurements. The questions below will help you decide what to sample.

## How much time do you have?

If your field time is short you can limit the scope of your sampling to only a few **parameters**, such as temperature and dissolved oxygen. Your areas of interest or concern will largely determine which parameters to include.

## Do you want to explore aquatic life?

Exploring the **macroinvertebrates** in the stream is exciting for students of all ages, and is an excellent activity for younger students. Macroinvertebrates are an interesting way to introduce the concept of “food chains” and offer great opportunities to study animal behavior.

## Do you want to investigate human influences?

You may choose to monitor the effects of a particular land use in your watershed. Refer to the “Further Discussion questions” in each section for help identifying and sampling land use impacts.

## Do you want to investigate natural influences?

- Research the geology and vegetation around your stream and watershed. Your region may have naturally high levels of certain minerals which affect water quality. Soil types and vegetation affect the physical nature of your stream.
- Your students can look at the variability in water quality that exists within a single site. Compare samples from **riffles**, **eddies**, **backwaters**, shaded areas or exposed areas. You may also find interesting differences above and below a beaver dam.



Much of the soil in Southern and Western Utah is highly alkaline. These soils can cause higher pH in water. Streams that run through these regions may also experience natural bank erosion because of the loose soil and sparse vegetation. How do you think this affects bank structure and turbidity levels?

## Do you want to investigate the relationship between different water quality parameters?

Sample several different parameters and determine if or how they relate to each other. For example, turbidity often increases with stream flow while phosphate concentrations may decrease. Sample flow, turbidity and phosphate several times over an extended time period and graph the data together to help illustrate relationships.