Temperature Procedure

The water temperature of a stream influences water quality. Many of the chemical, physical, and biological aspects of a stream are directly affected by temperature. Oxygen holding capacity, metabolic rates of stream organisms, and their sensitivity to pollution are all influenced by temperature. Fish and other stream organisms require specific temperature ranges to survive.

	Warm (20°C - 25°C) (68°F - 77°F)	Cool (13°C - 20°C) (55.4°F - 68°F)	Cold (Below 13°C) (Below 55.4°F)
Fish species	Bass, shiners, bluegills, bullheads, carp, catfish, suckers, peamouth, squawfish, crappie	Coho, chinook, cutthroat, lamprey, sturgeon, shad, dace, shiners, stickleback, walleye, sculpins	Steelhead, pink, chum, coho, sockeye, chinook, cutthroat, kokanee, rainbow trout, brown trout, brook trout, dolly varden, arctic grayling, smelt, chiselmouth, sculpins
Macroinvertebrates	Dragonflies, damselflies, true flies, some caddisflies	Mayflies, caddisflies, stoneflies, beetles	Mayflies, caddisflies, stoneflies

Temperature can be affected by several factors. Streams that lack vegetation along their banks tend to have warmer water temperatures. Streams that carry a heavy silt load will also experience an increase in temperature. Stream velocity also can influence temperature because slow-moving water tends to be warmer than fast-moving water.

Temperature Measurement

Measure both air and water temperature using the thermometer found in the kit. Each thermometer is labeled with an identification number. Record the number on the data sheet.

Air temperature at the site is measured by hanging the thermometer from a tree or shrub in the **shade**. Once the temperature has stabilized (at least 4 minutes), record it on the data sheet.

Water temperature is measure by placing the thermometer in the water (at least **two minutes**). Try to make sure the thermometer is suspended in the water and not touching the bottom or side of the streambed. Record it on the data sheet.

Do not forget the thermometer! Make sure to put the thermometer back in the kit before you leave. In warmer seasons, please try to protect the thermometer by not leaving the Stream Steward Kit in a hot car, as the thermometer fluid can be separated by excess heat, potentially rendering the thermometer unusable.