

Temperature – air, soil, water (T_a , T_s , T_w)

The temperature probe measures the vibration of molecules of a substance. The sensing element is located inside the tip of the stainless steel rod.

Materials List

- 1: Xplorer Datalogger (PS-2000)
- 1: Temperature Sensor (PS-2125)

Additional items for:

Soil - soft towel

Water - distilled water and soft towel







Site Selection

- Sensor range is from -35°C to $+135^{\circ}\text{C}$, with $\pm 0.5^{\circ}\text{C}$ accuracy.
- Note environmental variables such as light penetration (sunny, shady, or dappled), groundcover (grass, dirt, or concrete), airflow, and reflective heat sources.
- Take air temperature readings approximately 1 meter above the ground.

Sample Preparation

- ➔ DO NOT place the sensor in a flame or on a hot surface.
- *For soil samples*, use a stick or pen/pencil (**not** the temperature sensor) to make a hole.
- *For water samples*, do not allow the blue handle (grip) to be submerged.

Measurement & Recording

1. Press  to turn on the datalogger and attach the temperature sensor.
2. Grip the sensor by the handle (blue) and allow 30-60 seconds for the readings to stabilize.
3. Record the time of day, site notes, and temperature reading in degrees Celsius ($^{\circ}\text{C}$).
4. Press  to start logging data; wait 15 seconds; press  to stop logging data.
5. Press  to turn off the datalogger.

Clean-up & Completion

1. Unplug the sensor from the datalogger.
2. Wipe or rinse and dry the sensor and cord, as necessary.
3. Replace items in the original storage bag(s).