PEER Life Science Water’s the Matter Measuring Temperature Notes Outline

**Introduction**

* Water temperature can help determine which organism can \_\_\_\_\_\_\_ in a given watershed or aquatic habitat.

**Lesson**

* Temperature is a property that affects the suitability of water for a particular use.
* Temperature is a measurement of the of a substance.
* Temperature is an (non-living) factor that affects organisms in the environment.
* All organisms have temperature preferences or a , which is a set of environmental conditions within which an organism can best survive and reproduce.
* Fish, like bass and trout, depend on water for both their and for their food. Bass require warm/cold rivers while trout require warm/cold streams or lakes.
* Some organisms, known as , can survive temperatures that reach the boiling point.
* Water temperature affects the amount of that can be dissolved, the temperature of within the water, the rate of by plants in the water, and the health of organisms in the water.
* Temperature can be measured with either a simple or digital and is usually expressed in degrees of or .
* The equation to convert Fahrenheit to Celsius is
* Water temperature and dissolved oxygen are related to each other, which means that as temperature increases, the amount of dissolved oxygen increases/decreases.
* If the temperature of water increases, the dissolved oxygen level will increase/decrease, which will cause some organisms to no longer be able to survive.
* Animals, like fish and amphibians, will have the same temperature within their body as the temperature of the water surrounding them. These types of organisms are commonly called “ - ”, but are scientifically called poikilothermic or .
* As water temperature rises, the metabolism and activity of aquatic life also \_\_\_\_\_\_\_. This rate drops above at temperatures over about °F.
* As a general rule, fish that live in colder water tend to be smaller/larger.
* For aquatic plants, generally as the water temperatures increase, the plants tend to produce more/less oxygen, grow faster/slower, and die at a faster/slower.
* Fish and other organisms that are exposed to altered environmental conditions are referred to as being and may not be as healthy or live as long.
* The temperature of a body of water can change due to air temperature, sunlight, or the amount of solids suspended in water, and \_\_\_\_\_\_\_ pollution.
* Sunlight, or , is a form of thermal energy that can be transferred to the water’s surface as heat to increase the temperature of the water.
* is the measure of the relative clarity of a liquid and a measurement of the amount of suspended solids in a water. The suspended particles will head from solar radiation more efficiently and increase/decrease the temperature of the water.
* is the degradation of water quality by any process that changes the ambient or natural water temperature.
* Water can also be warmed when a river is dammed because dams the current of rivers and allow the water to be exposed to the sun more/less than if it were free flowing.
* are direct connections between rivers and cooler groundwater. They can serve to dilute and increase/decrease the amount of dissolved oxygen in the water supply by filtering out bacteria.