

# Dissolved Oxygen

Time - 3 minutes

Persons - 1

Materials -

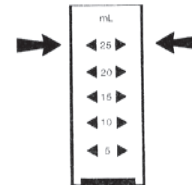
- Chemetrics DO Sampling Kits

*Note: Sunlight can damage the ampoules in your DO kit.*

*Keep them shaded at all times*

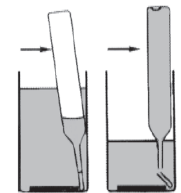
## Step 1

1. Pre-rinse collection bottle with stream water.
2. Fill the sample cup to the 25 ml mark with your sample.



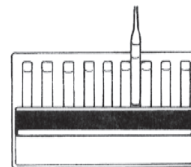
## Step 2

1. Place the glass ampoule in the sample cup.
2. Snap the tip by pressing the ampoule against the side of the cup.
3. The ampoule will fill, leaving a small bubble that will help you mix the contents of the ampoule.



## Step 3

1. Mix the contents of the ampoule by turning it up and down several times, allowing the bubble to travel from end to end each time.
2. Wipe all liquid from the outside of the ampoule.



## Step 4

1. Wait 2 minutes for color development.

## Step 5

1. With the sun or another light source shining on the comparator (rack of colored tubes) from directly above, place the dissolved oxygen ampoule between the color standards for viewing. It is important that the ampoule be compared by placing it on both sides of the color standard tube before deciding that it is darker, lighter or equal to the color standard.
2. Record the concentration of the best color match.

### In Utah:

The minimum concentration for coldwater fish is 6.5 mg/l.

The minimum concentration for warmwater fish is 5.5 mg/l.

# Temperature

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Time – 2 minutes  
Persons – 1  
Materials –  
• Thermometer

## Step 1

1. Dip the thermometer into a moving part of the stream or river.
2. Wait for the temperature to stop changing (at least 1 minute).

## Step 2

1. Read the temperature and record on the student worksheet.

Converting Fahrenheit to Celsius:  $^{\circ}\text{C} = (5/9) \times (^{\circ}\text{F} - 32)$

Converting Celsius to Fahrenheit:  $^{\circ}\text{F} = [(9/5) \times ^{\circ}\text{C}] + 32$

### **In Utah:**

The maximum temperature allowed for warm water fisheries and aquatic wildlife is 27° C (81° F).

The maximum temperature allowed for cold water fisheries and aquatic wildlife is 20° C (68° F).