

Salinity Procedure



Note: Before use, make sure water is mixed well

1. Take *Instant Ocean* hydrometer and flip it so that its opening is facing the surface of the water.

2. Dip the hydrometer vertically into the water.

3. Let the inside of the instrument fill with water. Flip the instrument right side up and take the hydrometer from the bucket with the water still inside.

4. Tap the front of the hydrometer with your stirrer so that all the little bubbles come out (the arrow will start to move back and forth).

5. Put the hydrometer on something solid so that the water stays still.

6. Record the specific gravity of the water.

7. Record the temperature of the water

8. Use the table on the next page to see what the salinity is for the temperature (across the top) and the specific gravity (down the right side).

9. On each chart, put an "X" on the number that you found for salinity.



kg grams per thousand on a bracket of specific gravity and temperature (at 4°C)

		Temperature of Water P °C															
		15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1.0	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
0.5	1.005	1.005	1.005	1.005	1.005	1.005	1.005	1.005	1.005	1.005	1.005	1.005	1.005	1.005	1.005	1.005	1.005
1.0	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010
1.5	1.015	1.015	1.015	1.015	1.015	1.015	1.015	1.015	1.015	1.015	1.015	1.015	1.015	1.015	1.015	1.015	1.015
2.0	1.020	1.020	1.020	1.020	1.020	1.020	1.020	1.020	1.020	1.020	1.020	1.020	1.020	1.020	1.020	1.020	1.020
2.5	1.025	1.025	1.025	1.025	1.025	1.025	1.025	1.025	1.025	1.025	1.025	1.025	1.025	1.025	1.025	1.025	1.025
3.0	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030
3.5	1.035	1.035	1.035	1.035	1.035	1.035	1.035	1.035	1.035	1.035	1.035	1.035	1.035	1.035	1.035	1.035	1.035
4.0	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040
4.5	1.045	1.045	1.045	1.045	1.045	1.045	1.045	1.045	1.045	1.045	1.045	1.045	1.045	1.045	1.045	1.045	1.045
5.0	1.050	1.050	1.050	1.050	1.050	1.050	1.050	1.050	1.050	1.050	1.050	1.050	1.050	1.050	1.050	1.050	1.050
5.5	1.055	1.055	1.055	1.055	1.055	1.055	1.055	1.055	1.055	1.055	1.055	1.055	1.055	1.055	1.055	1.055	1.055
6.0	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060	1.060
6.5	1.065	1.065	1.065	1.065	1.065	1.065	1.065	1.065	1.065	1.065	1.065	1.065	1.065	1.065	1.065	1.065	1.065
7.0	1.070	1.070	1.070	1.070	1.070	1.070	1.070	1.070	1.070	1.070	1.070	1.070	1.070	1.070	1.070	1.070	1.070
7.5	1.075	1.075	1.075	1.075	1.075	1.075	1.075	1.075	1.075	1.075	1.075	1.075	1.075	1.075	1.075	1.075	1.075
8.0	1.080	1.080	1.080	1.080	1.080	1.080	1.080	1.080	1.080	1.080	1.080	1.080	1.080	1.080	1.080	1.080	1.080
8.5	1.085	1.085	1.085	1.085	1.085	1.085	1.085	1.085	1.085	1.085	1.085	1.085	1.085	1.085	1.085	1.085	1.085
9.0	1.090	1.090	1.090	1.090	1.090	1.090	1.090	1.090	1.090	1.090	1.090	1.090	1.090	1.090	1.090	1.090	1.090
9.5	1.095	1.095	1.095	1.095	1.095	1.095	1.095	1.095	1.095	1.095	1.095	1.095	1.095	1.095	1.095	1.095	1.095
10.0	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100
10.5	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105
11.0	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110

Temperature (°C)	Salinity (ppt)	Density (kg/m³)	Make a hypothesis and in the water place a steel ball. What are...
15	25	1.025	
15	30	1.030	
15	35	1.035	
15	40	1.040	
15	45	1.045	
15	50	1.050	
15	55	1.055	
15	60	1.060	
15	65	1.065	
15	70	1.070	
15	75	1.075	
15	80	1.080	
15	85	1.085	
15	90	1.090	
15	95	1.095	
15	100	1.100	
15	105	1.105	
15	110	1.110	
15	115	1.115	
15	120	1.120	
15	125	1.125	
15	130	1.130	
15	135	1.135	
15	140	1.140	
15	145	1.145	
15	150	1.150	
15	155	1.155	
15	160	1.160	
15	165	1.165	
15	170	1.170	
15	175	1.175	
15	180	1.180	
15	185	1.185	
15	190	1.190	
15	195	1.195	
15	200	1.200	
15	205	1.205	
15	210	1.210	
15	215	1.215	
15	220	1.220	
15	225	1.225	
15	230	1.230	
15	235	1.235	
15	240	1.240	
15	245	1.245	
15	250	1.250	
15	255	1.255	
15	260	1.260	
15	265	1.265	
15	270	1.270	
15	275	1.275	
15	280	1.280	
15	285	1.285	
15	290	1.290	
15	295	1.295	
15	300	1.300	
15	305	1.305	
15	310	1.310	
15	315	1.315	
15	320	1.320	
15	325	1.325	
15	330	1.330	
15	335	1.335	
15	340	1.340	
15	345	1.345	
15	350	1.350	
15	355	1.355	
15	360	1.360	
15	365	1.365	
15	370	1.370	
15	375	1.375	
15	380	1.380	
15	385	1.385	
15	390	1.390	
15	395	1.395	
15	400	1.400	
15	405	1.405	
15	410	1.410	
15	415	1.415	
15	420	1.420	
15	425	1.425	
15	430	1.430	
15	435	1.435	
15	440	1.440	
15	445	1.445	
15	450	1.450	
15	455	1.455	
15	460	1.460	
15	465	1.465	
15	470	1.470	
15	475	1.475	
15	480	1.480	
15	485	1.485	
15	490	1.490	
15	495	1.495	
15	500	1.500	
15	505	1.505	
15	510	1.510	
15	515	1.515	
15	520	1.520	
15	525	1.525	
15	530	1.530	
15	535	1.535	
15	540	1.540	
15	545	1.545	
15	550	1.550	
15	555	1.555	
15	560	1.560	
15	565	1.565	
15	570	1.570	
15	575	1.575	
15	580	1.580	
15	585	1.585	
15	590	1.590	
15	595	1.595	
15	600	1.600	
15	605	1.605	
15	610	1.610	
15	615	1.615	
15	620	1.620	
15	625	1.625	
15	630	1.630	
15	635	1.635	
15	640	1.640	
15	645	1.645	
15	650	1.650	
15	655	1.655	
15	660	1.660	
15	665	1.665	
15	670	1.670	
15	675	1.675	
15	680	1.680	
15	685	1.685	
15	690	1.690	
15	695	1.695	
15	700	1.700	
15	705	1.705	
15	710	1.710	
15	715	1.715	
15	720	1.720	
15	725	1.725	
15	730	1.730	
15	735	1.735	
15	740	1.740	
15	745	1.745	
15	750	1.750	
15	755	1.755	
15	760	1.760	
15	765	1.765	
15	770	1.770	
15	775	1.775	
15	780	1.780	
15	785	1.785	
15	790	1.790	
15	795	1.795	
15	800	1.800	
15	805	1.805	
15	810	1.810	
15	815	1.815	
15	820	1.820	
15	825	1.825	
15	830	1.830	
15	835	1.835	
15	840	1.840	
15	845	1.845	
15	850	1.850	
15	855	1.855	
15	860	1.860	
15	865	1.865	
15	870		

Dissolved Oxygen Procedure



1. Record the temperature of the bay water on your data sheet.

2. Fill the small glass bottle (with black top) with water by flipping the bottle and dipping it into water straight down to prevent water bubbles from entering sample.

3. Drop two dissolved oxygen tablets into the bottle

4. Dip the bottle in the bucket once again, and screw the cap back on the bottle.

5. Shake the bottle for 5 minutes, until the tablets have dissolved in the water.

6. Compare the color change of the sample to the dissolved oxygen color chart.

7. On each chart, put an "X" on the number that you found for the dissolved oxygen in parts per million (0, 4, or 8 mg/L).

8. **DO NOT EMPTY** contents of bottle on the beach. Put sample back into the kit.



pH

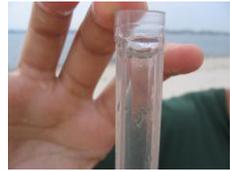
Procedure



1. Fill a test tube to the 10mL line with seawater.



2. Add one pH tablet to the test tube.



3. Cap the tube and shake the tube until the tablet has disintegrated.



4. Match the color sample with a color on the pH color chart. The pH number will be somewhere between 1-14.



5. On your worksheet, place an X in the fish color chart to the right of the pH number you found. Make sure you mark the x on each of the five fish color charts.



6. **DO NOT EMPTY** contents of the test tube on the beach. Put the sample back into the kit.



Turbidity

Procedure



Note: Make sure pitcher is clean, and kept away from sandy area

1. Stir sample of water to make sure the sediment did not settle at the bottom.



2. With the tubing clamp (at the bottom of the tube) closed and the black end of the turbidity tube firmly on the ground, fill the turbidity tube from the open end with the water sample using the pitcher provided.



3. Look through the open end of the tube to make sure you cannot see black-and-white pattern.



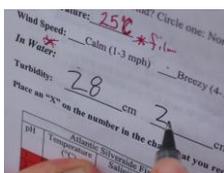
4. While looking into the open end of the tube, release the tubing clamp and slowly drain off the water.



5. As soon as the black-and-white pattern of the secchi disk can be seen, tighten the clamp to stop the flow of water.



6. Record the level of water remaining in the tube, (on your data sheet) indicated by the centimeter scale on the side, which also shows the corresponding nephelometric turbidity units (NTU).



Looking at Plankton

Procedure



1. Lift plastic container of the plankton net and pour its contents into a glass jar.



2. Pour the water from the jar into the microscope.



3. Place cap on microscope.



4. Look through round lens on the cap or on the side to discover little tiny organisms.



Air Temperature, Wind Meter and Compass

Procedure



Hold thermometer in air for 1 minute. Make sure your hand does not touch the thermometer, itself, and record the temperature (Celsius)



Hold the wind meter in air in a way so that you may see the numbers. Make sure you do not block the holes on the bottom. The tiny white ball will jump up and down. Record the number it stops at.