



TURBIDITY IN WATER TEST KIT

CODE 7519

QUANTITY	CONTENTS	CODE
60 mL	Standard Turbidity Reagent	7520-H
2	Turbidity Columns	0835
1	Brush, Test Tube	0513
1	Pipet, 0.5 mL, plastic, w/cap	0369
1	Rod, plastic, stirring	1114

To order refill reagents or test kit components, use the specified code number.

WARNING! This set contains chemicals that may be harmful if misused. Read cautions on individual containers carefully. Not to be used by children except under adult supervision

PROCEDURE

This test is performed by comparing the turbidity of a measured amount of the sample with an identical amount of turbidity-free water containing a measured amount of standardized turbidity reagent. The readings are made by looking down through the column of liquid at a black dot. If turbidity is present, it will interfere with the passage of light through the column of liquid. Small amounts of turbidity will cause a "blurring" of the black dot in the bottom of the tube. Large amounts of turbidity may provide sufficient "cloudiness" so that it is not possible to see the black dot when looking down through the column. Any color that may be present in the sample should be disregarded. This determination is concerned only with the haziness or cloudy nature of the sample.

1. Fill one Turbidity Column (0835) to the 50 mL line with the sample water. If the black dot on the bottom of the tube is not visible when looking down through the column of liquid, pour out a sufficient amount of the test sample so that the tube is filled to the 25 mL line.
2. Fill the second Turbidity Column (0835) with an amount of turbidity-free water that is equal to the amount of sample being measured. Distilled water is preferred; however, clear tap water may be used. This is the "clear water" tube.
3. Place the two tubes side by side and note the difference in clarity. If the black dot is equally clear in both tubes, the turbidity is zero. If the black dot in the sample tube is less clear, proceed to Step 4.
4. Shake the Standard Turbidity Reagent (7520) vigorously. Add 0.5 mL to the "clear water" tube. Use the stirring rod (1114) to stir contents of both tubes to equally distribute turbid particles. Check for amount of turbidity by looking down through the solution at the black dot. If the turbidity of the sample water is greater than that of the "clear water", continue to add Standard Turbidity Reagent in 0.5 mL increments to the "clear water" tube, mixing after each addition until the turbidity equals that of the sample. Record total amount of Standard Turbidity Reagent added.
5. Each 0.5 mL addition to the 50 mL size sample is equal to 5 Jackson Turbidity Units (JTUs). If a 25 mL sample size is used, each 0.5 mL addition of the Standard Turbidity Reagent is equal to 10 Jackson Turbidity Units (JTUs). See the table below. Rinse both tubes carefully after each determination.

TURBIDITY TEST RESULTS

Number of Measured Additions	Amount in mL	50 mL Graduation	25 mL Graduation
1	0.5	5 JTU	10 JTU
2	1.0	10 JTU	20 JTU
3	1.5	15 JTU	30 JTU
4	2.0	20 JTU	40 JTU
5	2.5	25 JTU	50 JTU
6	3.0	30 JTU	60 JTU
7	3.5	35 JTU	70 JTU
8	4.0	40 JTU	80 JTU
9	4.5	45 JTU	90 JTU
10	5.0	50 JTU	100 JTU
15	7.5	75 JTU	150 JTU
20	10.0	100 JTU	200 JTU

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Turbidity*

LaMotte Test Kit (7519)

**These are teacher written directions.*

1. Rinse each test tube with distilled water and empty into hazardous water container.
2. Shake the sample bottle. Fill the tube labeled **SAMPLE** to the 50 mL line with **your collected water sample**.
3. Fill the second tube labeled **CLEAR** to the 50 mL line with **distilled water**.
4. Place the two tubes side by side and look down at the black dots on the bottom of the tubes. Does one dot look fuzzier than the other? If they are equally sharp, the turbidity is zero. If the black dot in the sample is not as clear, proceed to step 5. ***Remember, you are comparing the sharpness of the dots, not the color of the water.***
5. **Shake the Standard Turbidity Reagent** and add 0.5 mL to the **CLEAR water tube** (not the **water sample tube**). Stir contents of both tubes with stirring rod to equally distribute turbid particles. Wipe off rod with paper towel after stirring contents of each tube to avoid cross contamination of the tubes.
6. Check for amount of turbidity by looking down in the **CLEAR water tube** at the dot. Continue to add reagent by 0.5 mL amounts to the **CLEAR water tube**, mixing after each addition until the turbidity equals that of the sample water tube (that is, until the black dots in both tubes are equally fuzzy or sharp).
7. Record amount of Standard Turbidity Reagent used on data sheet. Each 0.5 mL of reagent added to the 50 mL sample is equal to 5 Jackson Turbidity Units (JTU's). ***Remember to multiply the number of droppers added by 5 to obtain your score.*** For samples falling between droppers full (such as between 1 and 2 droppers), you would assign a score of 7.5 (1.5 x 5).
8. Empty both tubes of water into hazardous water bucket and rinse tubes with distilled water.
9. Wash your hands.

Turbidity Data Sheet

Step #1: Fill out all the information below.

School: _____
 Teacher: _____
 Names of Monitors: _____
 Stream Name: _____
 Test Location: _____

Weather: _____
 Air Temperature: _____
 Test Kit: (Hach, LaMotte or other) _____
 Date: _____
 Time: _____

Step #2: Record at least 3 replicate sample values in the chart below. Values should be similar, re-test any samples with values at least 10 JTU units different from other replicates. **Remember: 1 dropper (or 0.5 ml) = 5 JTUs.**

Replicate #1	Replicate #2	Replicate #3	Replicate #4
_____ JTUs	_____ JTUs	_____ JTUs	_____ JTUs

Step #3: Record the **average** of your 3 replicate samples in the box below. Record any comments or observations.

Test Result (record the average)	_____ JTUs	Comments: _____ _____ _____
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Step #4: Record two turbidity test results from previously **Step #5:** Record comments from your comparison. Recorded data for your site below.

Test Results Date: _____	_____ JTUs	Comments: _____ _____ _____
Test Results Date: _____	_____ JTUs	

Step #6: Have the recorder sign once each step is complete.

Test Completed _____

Date: _____

Data Reviewed _____

Date: _____

Data Transferred to Master Data Sheet _____

Date: _____

Optimal Turbidity Values: Since salmon rely greatly on their visual abilities, the lower the turbidity the better. Less than 20 JTU's are optimal. Salmon will avoid water with high silt loads, which cloud the water, and will cease to move through water where visibility is extremely low. High turbidity can delay salmon migration.

Turbidity measures water clarity



Stream Bottom (put X in box of most prevalent, check others present)

Silt/Mud

Sand

Boulders (over 10")

Gravel (.1-2")

Cobbles (2-10")

Solid Bedrock