



## STREAM PATTERNS

## TURBIDITY

## HUI 4 DATA SHEET

STUDENT NAMES: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_ WEATHER CONDITIONS: \_\_\_\_\_

OUR HYPOTHESIS: \_\_\_\_\_

Turbidity is a measure of how clear the water is. Water is turbid when clay, silt or other particles are suspended in the water. This makes the water cloudy or dirty.

**Procedure:**

1. Go to the middle of the stream to collect water.
2. Face into the current and collect a water sample about halfway down from the surface, scooping into the current and away from your body.
3. Stir the sample for about 15 seconds (to suspend all of the particles in the water).
4. Slowly pour the water into the turbidity tube until the black and white markings in the bottom of the tube just disappear from sight.
5. Record the height of water in the tube (in cm.).
6. Use the conversion chart to get the turbidity value (NTU) and record those numbers below.

What **variables** does your group need to control when you compare the turbidity at the two sites? Why?

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**Results**

Urban Stream 	Turbidity (cm. of water in tube) and NTU (from conversion chart)	Description of Water
Test 1		
Test 2		
Test 3		



 Forest Stream	Turbidity	Description of Water
Test 1		
Test 2		
Test 3		

**Observations:** Use the **observation sheet** to record any conditions you see upstream that could cause turbidity at either site.

### TURBIDITY CONVERSION CHART

Centimeters	Approximate NTUs (transparency values)
6.4 – 7.0	240
7.1 – 8.2	185
8.3 – 9.5	150
9.6 – 10.8	120
10.9 – 12.0	100
12.1 – 14.0	90
14.1 – 16.5	65
16.6 – 19.1	50
19.2 – 21.6	40
21.7 – 24.1	35
24.2 – 26.7	30
26.8 – 29.2	27
29.3 – 31.8	24
31.9 – 34.3	21
34.4 – 36.8	19
36.9 – 39.4	17
39.5 – 41.9	15
42.0 – 44.5	14
44.6 – 47.0	13
47.1 – 49.5	12
49.6 – 52.1	11
52.2 – 54.6	10
>54.7	<10

In Hawai'i, the following NTUs values are considered good for streams:

- During *kau wela* (hot, dry season) the turbidity should not exceed 5.5 NTU 10% of the time, or 10 NTU 2% of the time.
- During *ho'oilo* (wet season) the turbidity should not exceed 15.0 NTU 10% of the time, or 25.0 NTU 2% of the time.

(Source: AECOS, International.

<http://www.aecos.com/CPIE/Turbidity.html>)

(Chart adapted from: University of Wisconsin Extension. 2006. Water Action Volunteers – Volunteer Stream Monitoring Factsheet Series. Retrieved on 4/10/07 from: <http://clean-water.uwex.edu/wav/monitoring/WAV2006PDFs/turbidity2.pdf>)