

Waterfront Puzzle Data Sheet

GROUP STARTING STATION Tidal Change & Water Quality Substrates Quadrat Study Seining
GROUP NUMBER (circle) 1 2 3 4

GROUP MEMBERS			
DATE		WEATHER	
TIDE	<input type="checkbox"/> High <input type="checkbox"/> Low <input type="checkbox"/> Mid	TIDAL FLOW	<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing <input type="checkbox"/> Slack

STATION 1: Tidal Change & Water Quality

Measure: What is the time and distance of our tidal change? Complete the chart.

<i>TIDAL CHANGE</i>			
MARKER LOCATION	DISTANCE FROM PREVIOUS MARKER	TIME of MARKER SET	ELAPSED TIME BETWEEN MARKERS
First Marker	0 feet 0 inches		0 hrs 0 min 0 secs
Second Marker			
Third Marker			
Fourth Marker			
Fifth Marker			

Compute: What is the rate of tidal change in feet per second? That is, how fast is the tide changing?

Answer: _____ ft/sec

Test: What is our water quality? Complete the chart.

<i>WATER QUALITY</i>								
TEST	GROUP 1		GROUP 2		GROUP 3		GROUP 4	
	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom
Dissolved O2								
pH								
Salinity								
Temperature								
Nitrate								
Time								

* If possible, change locations of water quality tests for each group.

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STATION 2: Substrates

Estimate: What is the percentage of each substrate type? Complete the chart.

SEDIMENT COMPOSITION					
LOCATION	% Silt	% Sand	% Small Gravel	% Large Gravel	% Cobble
<i>Sediment Guide</i>	<i>.002mm-.06mm</i>	<i>.06mm-2mm</i>	<i>2mm-30mm</i>	<i>30mm-64mm</i>	<i>≥64mm</i>
Upper Beach					
Wrack Line					
Mid-Beach					
Shoreline					

**Ensure each group chooses a different location. Consider tide.*

Measure: At what depth does the substrate change? Complete the chart.

SUBSTRATE CHANGES				
LOCATION	DEPTH & TYPE OF CHANGE 1	DEPTH & TYPE OF CHANGE 2	DEPTH & TYPE OF CHANGE 3	DEPTH WHEN WATER APPEARS
Upper Beach				
Wrack Line				
Mid-Beach				
Shoreline				

**Depending on location, there may be more or fewer substrate changes. Water may or may not appear.*

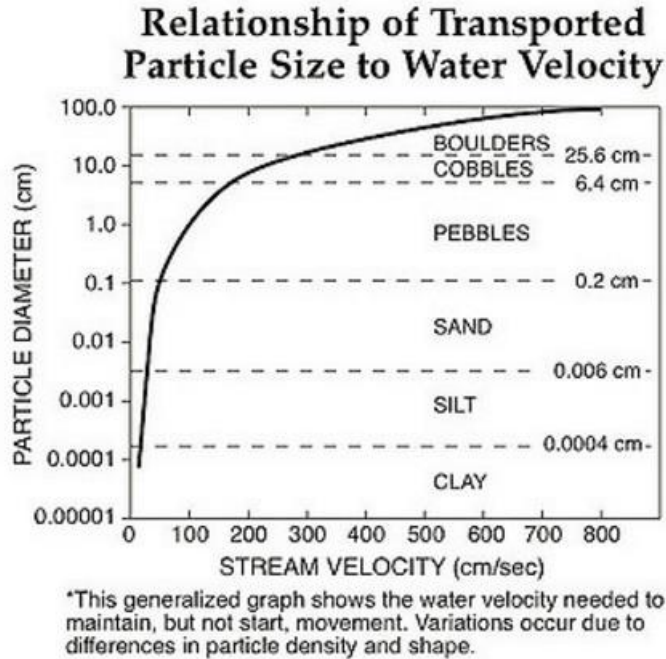
Sample: What substrates did you find? Tape your samples to the chart.

SEDIMENT SAMPLES			
SAND	SILT	SMALL GRAVEL	LARGE GRAVEL

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Read a Chart: Take a look Chart P - *Relationship of Transported Particle Size to Water Velocity Chart*.

CHART P



Correlate: How does the information in the chart relate to your sediment findings and substrate types?

What role does proximity to shoreline play in the substrate composition?

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STATION 3: Quadrat Study

Record: What types and how many organisms live on the beach? Complete the chart.

What is your Transect Line Starting Point: Wrack Line Shoreline

QUADRAT FINDINGS			
DISTANCE FROM START POINT	ORANISM	QUANTITY	SKETCH or DESCRIPTION

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STATION 4: Seining

Record: What types and how many organisms live in shallow water near the shoreline? Complete the chart.

<i>SEINE CATCH</i>		
ORANISM	QUANTITY	SKETCH or DESCRIPTION