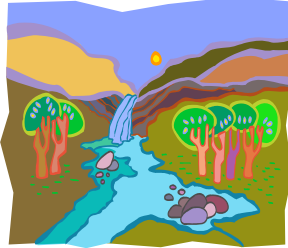


Earth Science Data Collection

Grade: Fifth



Location(s):

A stream. This activity works well in fall and spring for data comparisons.

Activity Length:

60+ minutes

Materials:

- Meter sticks/broom handles
- Tape measures and clip sets
- String, yarn, or flagging
- Stakes/capped rebar
- Hammer
- Spray paint
- Calipers or metal rulers
- Pebble Count sheet
- Stream profile data sheet
- Stream profile graphing sheet
- Waders/rubber boots
- Oranges, other floating items
- Garbage bag (for any trash)
- Volunteers to help with activity

Preparation:

Set the field trip boundaries and mark/flag them. Mark any hazards.

Activity:

- Show students boundaries and warn them of any possible hazards.
- Set the stage
 - Think about the Grand Canyon/highway 299 Canyons on the way to Redding following the water
 - Water helps shape the earth/land
 - What does this streambed look like now? What did it look like?
 - Will it change?
- Do activity and Collect Data
 - Measurements (Stream Profile)
 - Discuss profile with students and how it might change over time (revisit in spring).
 - Do measurements of entire stream channel from bank full/ floodplain to bank full/floodplain
 - Include information to calculate stream width and average depth back in the classroom
 - Place two stakes at either side of the stream. Run a string from one stake to the other. Measurements should be taken at even intervals (6" etc.) along the string.
 - Measure from bottom of ground to surface of the water at 20 points across the stream
 - Pebble Count/Substrate Sampling/Classification (determine grain size)
 - Do simultaneously with profile measurements
 - Useful information on Pebble Counts (Pages 21-23):
 - ftp://ftp-fc.sc.egov.usda.gov/OR/Technical_Notes/Biology/Biology12.pdf
 - *Optional:* Flow Rate Race (Drop this portion if short on time)
 - Float Race
 - Students choose objects to float and record time for object to get from point a to point b
 - Record distance and speed (50ft)

Compiled by FRJUSD teachers and Spring Rivers Foundation.



Name _____

Survey Date ____/____/____

Stream Profile Data Sheet

Measurement	Depth (inches or centimeters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	



Name _____

Survey Date ____/____/____

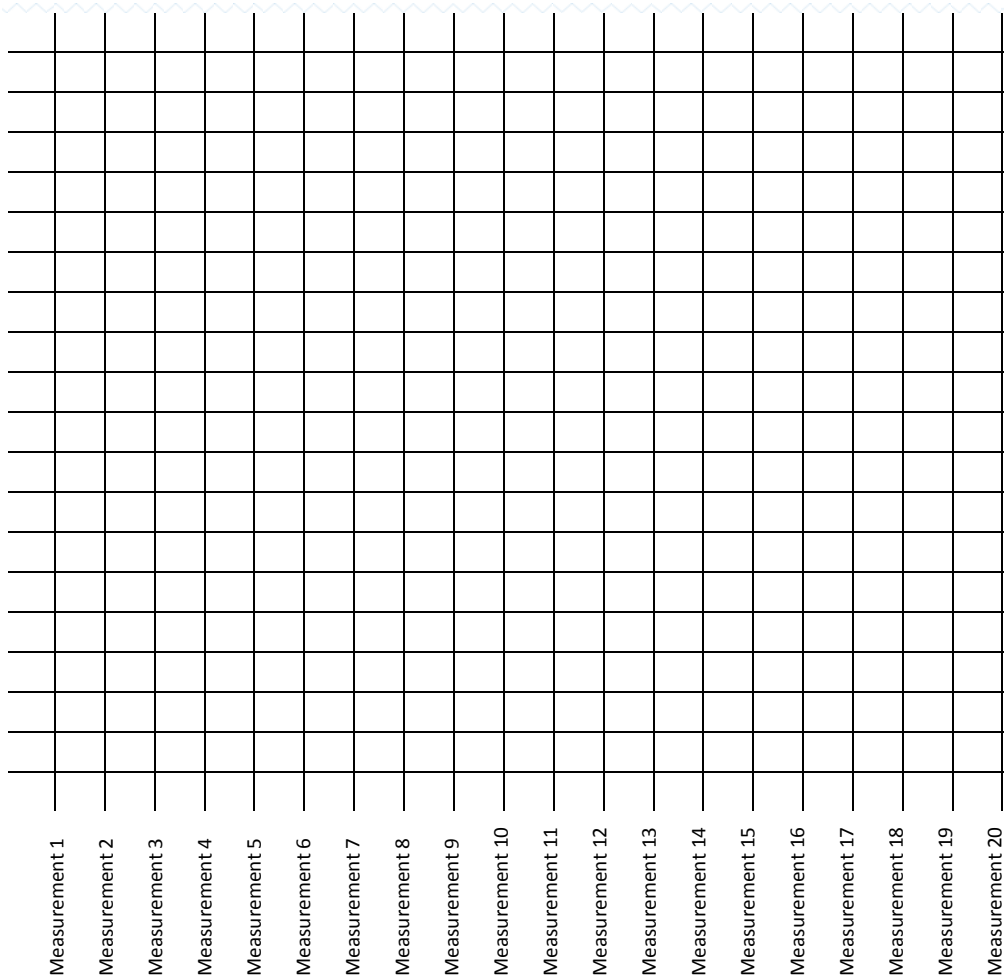
Stream Profile Graph

Left
Bank

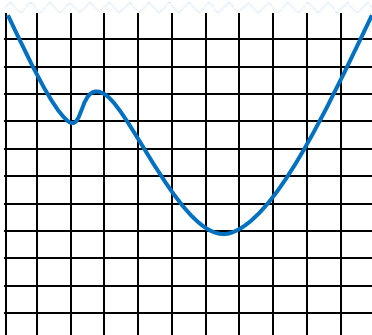
Right
Bank

Water Surface - 0

Depth below the water's surface (label increments in inches or millimeters). Label starting from the top (water surface = 0).



Graph Example:



Name _____

Survey Date ____/____/____

PEBBLE COUNT

Particle	Size		Particle Count	Total #	Item %	Location
	Inches	Millimeters				
Sand <small>(Sand, Silt, and Clay)</small>	< .08	< 2				
Gravel	.08 - 2.5	2 - 64				
Cobblestone	2.5 - 10.1	64 - 256				
Boulders	10.1 - 160	256 - 4096				
Bedrock	> 160	> 4096				
Totals:						

