Hydrology

GCSE

Your Group No:

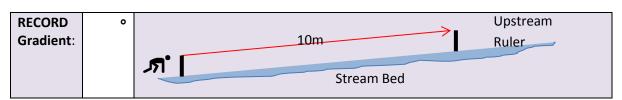




GUIDANCE; SURFACE VELOCITY (speed): Your team will be given a 10m stretch of river. Starting at the upstream end stretch your tape 10m downstream and mark both ends and the middle with a bag = 0m = Start "Catcher" collects float 10m = Finish Tape One student puts the float = Timer stands 5m in 1m upstream of 0m and calls here to the Timer to start the stopwatch when the float "Spotters" position themselves wherever the float might get passes 0m. stuck and use a metre rule to free the float if needed.

RECORD	1 st		2 nd		3 rd		4 th		5 th	
Surface Velocity	run									
How many seconds does it		S		S		S		S		S
take the float to be carried										
10m downstream?										

GUIDANCE for measuring the angle of the Long Profile **GRADIENT** (slope of river downstream) Because the river BED is very uneven we are going to measure the slope of the SURFACE of the water over 10m. So we stand a metre rule vertically on a rock or toe of a welly where the water is JUST skimming the surface at BOTH ENDS of our 10m stretch. Crouching downstream of the downstream ruler we line up the two sighting points of the trigger clinometer with the TOPS of the two metre rules. Hold it steady ~ squeeze the trigger ~ then let the trigger go to trap the protractor in position and read off the angle where the arrow says "READ HERE".



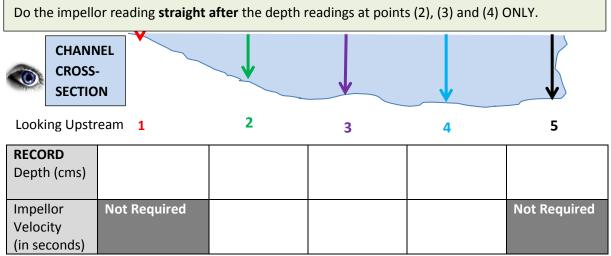
GUIDANCE for measuring CHANNEL WIDTH; At the half-way mark (5m) on your 10m stretch measure the width ACROSS the river from the EDGE OF THE WATER on one side to the EDGE OF THE WATER on the other side.

RECORD WIDTH

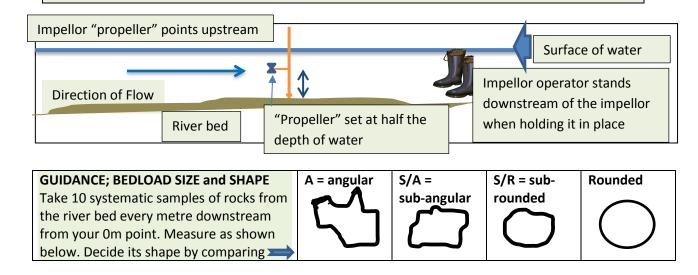
m

GUIDANCE; In the same place you measured the width measure the DEPTH and VELOCITY (using the impellor) at the 5 points shown in the Channel Cross-section diagram below.

So measure at both edges (1) and (5), the middle (3) and at (2) and (4).



GUIDANCE; IMPELLOR AVERAGE VELOCITY - At points (2), (3) and (4) set the "propeller" on its stand at ½ the depth at each point. Record the time in seconds (in the table) for the "propeller" to travel the length of the threaded spindle. One student operates the impellor and another times it.



RECORD BEDLOAD SIZE and SHAPE	How to measure	1m	2m	3m	4m	5m	6m	7m	8m	9m	10m
A AXIS= Length	В										
B AXIS = Width											
C AXIS = Thickness	(1)										
Shape; A/SA/SR/R	A C										