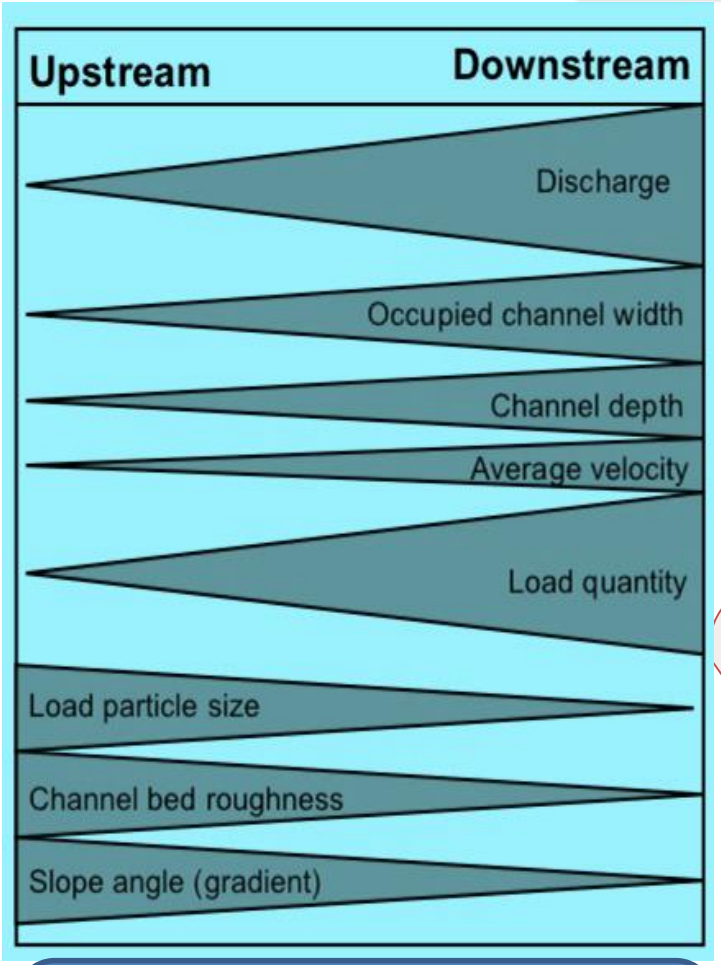
GCSE Physical Geography Fieldwork Knowledge Organiser

Question Investigated:

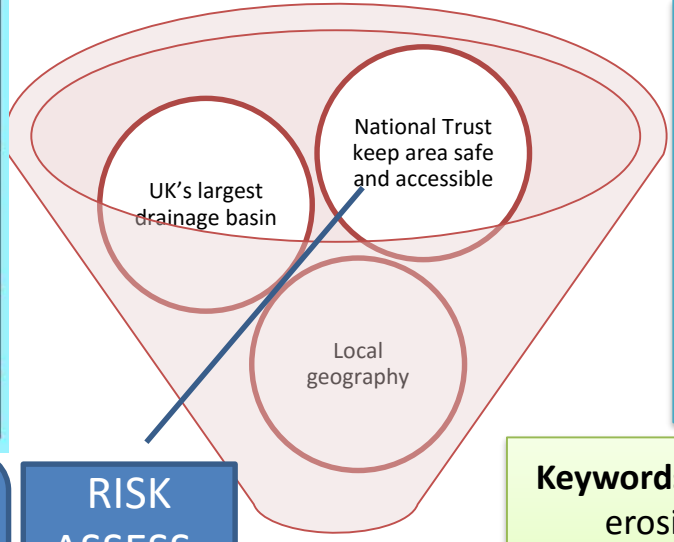
How well does the stream in Carding Mill Valley match the Bradshaw Model?



Bradshaw Model = theoretical model that shows how a river's characteristics change as it goes downstream.

If the triangle **increases** in size it means that variable increases the further you go down the stream e.g. the amount of water (discharge) in the stream increases as you move down the stream.

If the triangle **shrinks** this means the opposite e.g. the size of particles in the stream gets smaller the further down the stream you go because of erosion like attrition.



Evaluation

- Increased understanding of river features/processes?
- Appropriate methods and equipment? Expertise?
- Accurate, valid and reliable conclusions from methods?
- Where could we investigate next to extend the project?

Systematic Sampling
4 sites chosen equal distance apart
All in UPPER COURSE

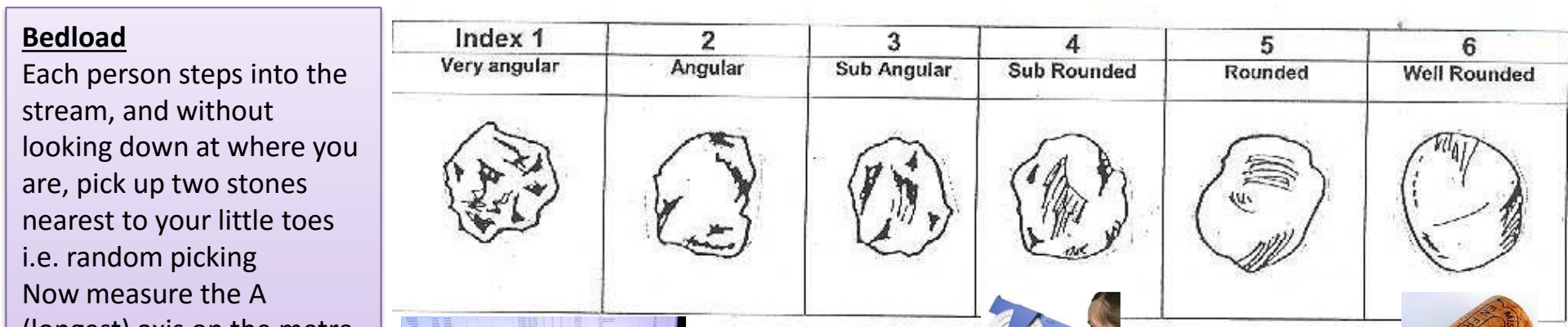
RISK ASSESS-MENT!!!

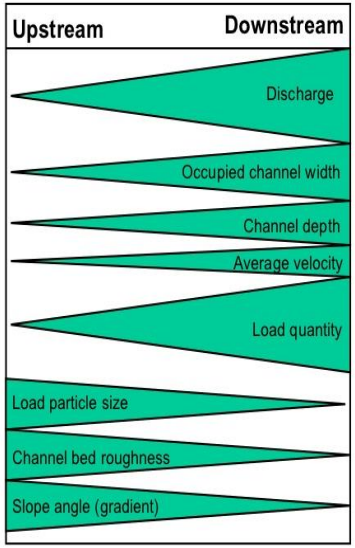
Why CMV?

Keywords Upper, middle lower, Bradshaw, erosion (HA, Ab, Att), deposition, transportation, weathering, geomorphic, bank, bed, drainage basin, bedload, width, depth, velocity, discharge, valley, gravity

Bedload

Each person steps into the stream, and without looking down at where you are, pick up two stones nearest to your little toes i.e. random picking
Now measure the A (longest) axis on the metre stick or ruler and then look on the chart to give an index score of **1**(sharp **edges**) to **6** (worn down, smooth **edges**)





Conclusions (MEETS / DIFFERS vs Bradshaw)

Width – INCREASED BY 0.65m
Depth – INCREASED by 25cm
Velocity – INCREASED by 15 seconds
Bedload – INCREASED from 4 to 3
Slope angle – DECREASED from -8° to -5°

Stream gradient

1. Two people hold the ranging poles 10 metres apart so the tips are just touching the water surface.
2. Put the clinometer with its centre bump next to where the red and white sections meet on the pole. Look over the clinometer sights so that you can ”fire” at the same place on the other pole.. Wait for the wheel to stop moving before trapping it with the trigger.
3. From where you can see zero on the dial, how many lines above or below the zero are there? These are the number of degrees of the slope of the stream

Stream velocity (speed)

We are going to time floats (corks) over 10m between the two ranging poles.

Person **1** starts a float at the left bank by the top pole.
Person **2** (with a stopwatch) says “ready, go”
3 stands in the water and shouts “stop” when it passes the second ranging pole and catches the float.
4 records the time. Round it up or down to whole seconds.
5 follows along the bank to gently move the float on if it gets stuck in a whirlpool or behind a stone.