**How fast is the river flowing?**

**Velocity**

Velocity is the measurement of how fast the water in a river is moving. It is measured in metres per second and can be calculated using the equation below:

**Velocity (m/s) = Distance (metres) ÷ Time (seconds)**

We will calculate the velocity along the river at site A using the stick method:

1. Decide a distance
2. Place stick in the river
3. Time how long it takes the stick to go the decided distance

Record 3 measurements of the distance and time in the table below and then, using the above equation, calculate the velocity of the river for site A.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Distance (m) | Time (s) | Velocity (m/s) |
| 1 |  |  |  |
| 2 |  |  |  |
| 3 |  |  |  |

**How does the river change from side to side?**

**Instructions**

1. Using the tape measure, measure the width of the river from bank to bank.  
     
   *Ensure the tape measure remains above the water and is pulled tight throughout to maintain accuracy.*
2. Following the river width measurement, as a group, agree upon sensible intervals (spaces between) for measurements.
3. Use the metre ruler to measure the depth at your first interval and record the depth measurement in the data table below.   
     
   *Ensure the ruler reaches the bottom of the river to accord accurate depth (m) measurements.*
4. Repeat step 3 ten times, measuring and recording all width intervals of the river in the **river cross section table**.
5. Use your data table to plot the intervals on the **cross section grid** (see below).
6. Don’t forget to give your graph a title and label the X and Y-axis.
7. Use a ruler and pencil to join up the points in the cross section grid.
8. Colour the cross section grid (brown for the river bed- below the points), (blue for water - above the points).

|  |  |  |
| --- | --- | --- |
| **River Cross Section** | | |
| **Interval no.** | **Distance across river** | **Depth (cm/m)** |
| 1. |  |  |
| 2. |  |  |
| 3. |  |  |
| 4. |  |  |
| 5. |  |  |
| 6. |  |  |
| 7. |  |  |
| 8. |  |  |
| 9. |  |  |
| 10. |  |  |

**River cross-section graph**



**How does the sediment change from side to side?**

**Instructions:**

1. Stand in the river and pick up a sample of five pebbles at 50cm intervals.
2. Take the five sediment samples to the side of the river bank.
3. Using your ruler, measure the length and width of each of the five sediment samples.
4. Record your results on the tables below.
5. Using a calculator work out the mean average length and width of the sediment size for each site.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Sample | Sample 1 | Sample 2 | Sample 3 | Sample 4 | Sample 5 |
| Sediment length (mm or cm) |  |  |  |  |  |
| Sediment width (mm or cm) |  |  |  |  |  |