

Surface Water Velocity Worksheet

In this activity we will measure the velocity of the surface water manually using two simple methods and compare results. Measuring water velocity or speed is important to characterize fish habitat, water quantity and flood forecasting.

Method 1: Time how long it takes for a floating ball to flow down the stream over a set distance.

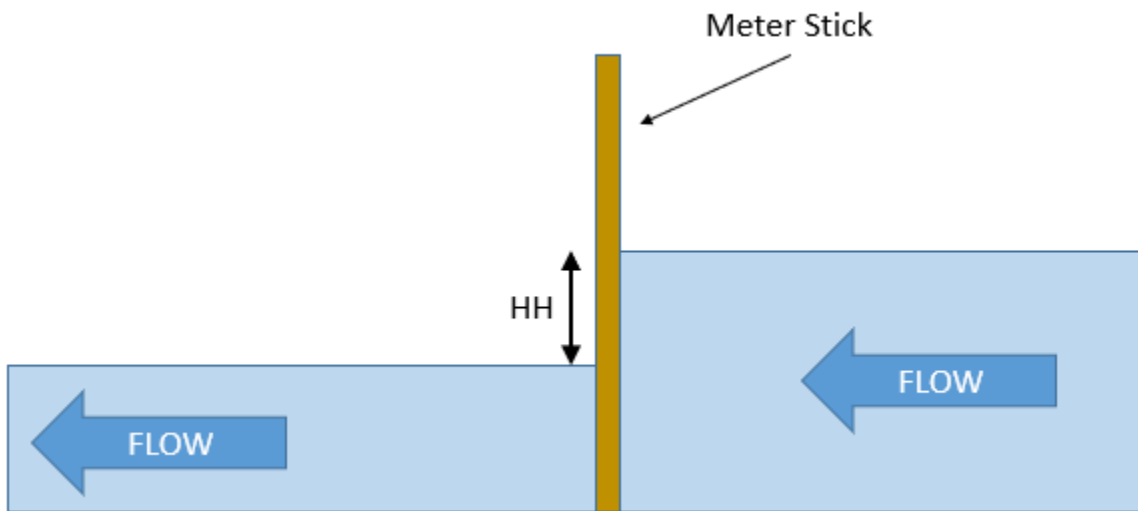
Distance the ball traveled in meters: _____

Time it took the ball to travel the distance in seconds: _____

$$\frac{\text{Distance (m)}}{\text{Time (s)}} = \text{Velocity (m/s)}$$

$$\frac{\text{m}}{\text{s}} = \boxed{\text{_____ m/s}}$$

Method 1: Estimating surface water velocity using a modified relationship with hydraulic head (Rantz, 1982). Hydraulic head (HH) can be measured by placing a metre stick against the flow of water and measuring the difference between the water level on either side of the metre stick (see diagram below).



Velocity can be estimated using the following equation where HH is Hydraulic Head (mm):

$$v = 0.625\sqrt{0.02(HH)}$$

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$$v = \boxed{\text{_____ m/s}}$$