

Objective: Students will use a buoy and measuring tape to calculate the speed of the current of a river or stream.

Accompanying Classroom Worksheet: W-W-04

Considerations:

1. This protocol is only meant to be performed on rivers and larger streams.
2. Pick a site for execution where the flow of water is relatively unobstructed.
3. If you wish, repeat the protocol after significant meteorological events (rainstorm, drought, etc.), and study how these affect the flow of water at your site.

Materials

- ___ Worksheet W-W-04
- ___ measuring tape
- ___ stopwatch
- ___ throw-rope
- ___ buoy (sealable gallon milk jugs and plastic containers for laundry detergent work well as they are buoyant and have handles)

Instructions

1. Measure out a 25 meter distance along the bank. Mark each end clearly. Shorter lengths (such as 10 meters) are also acceptable if warranted by situations at the site such as bends in the river or obstructions of the bank.
2. Tie the throw rope **securely** to the buoy.
3. Throw the buoy upstream of the first marker. Attempt to place the buoy in the middle of the current, and in a location without obstructions from rocks or strainers.
4. Start the stopwatch when the buoy passes the first marker, and stop it when the buoy passes the second marker.
5. Retrieve the buoy.
6. Calculate the speed of the current in meters per second (m/s) by dividing the distance travelled (25 meters) by the time it took for the buoy to traverse that distance.