

What are Currents?

A current is a flow of water through a body of water. Tides affect currents, so the currents change direction about every 6 hours. A current going towards the ocean is an "ebb," and a current coming from the ocean is a "flood." "Slack water" is when there is little movement and happens when the current changes direction.

Why do we measure current?

Currents affect boats, wildlife, and water chemistry. It is important to measure currents because the perceived direction of the surface water movements can be deceiving as they can be driven by winds. We measure current speed by tossing an orange into the water and timing how long it takes to travel a certain distance.

Roles:

Person 1: Throws the orange

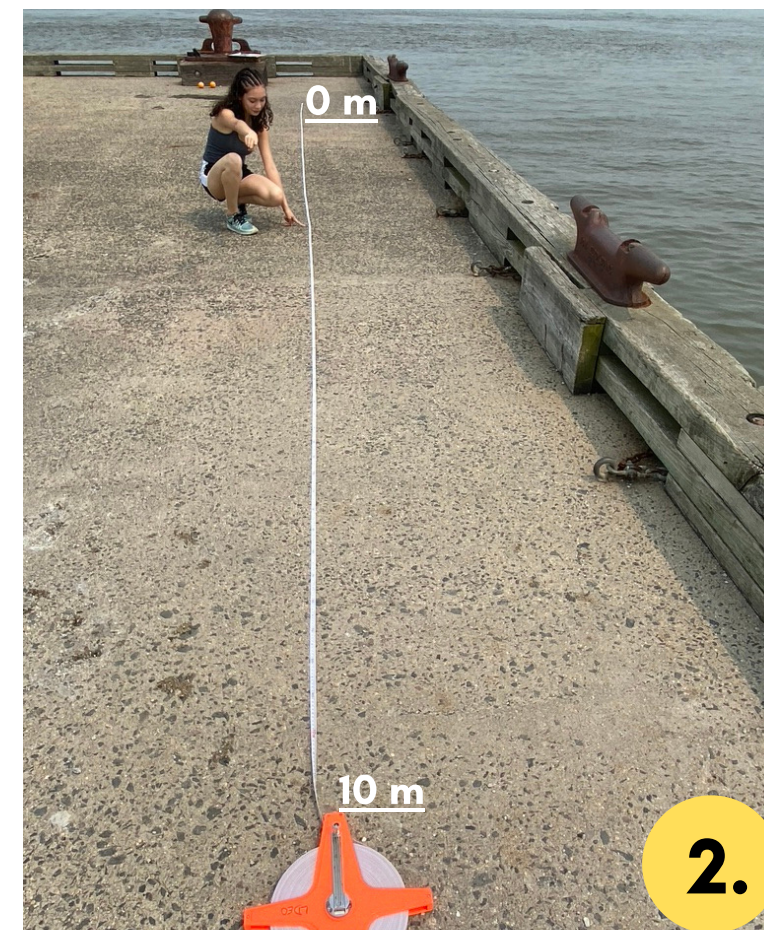
Person 2: Marks where the orange surfaces the water on the tape measure

Person 3: Starts and stops the stopwatch and stays aligned with the orange

Person 4 and 5: Stands at the beginning and the end of the measuring tape. Uses a clipboard as a blinder, and shouts STOP when the orange enters their view.



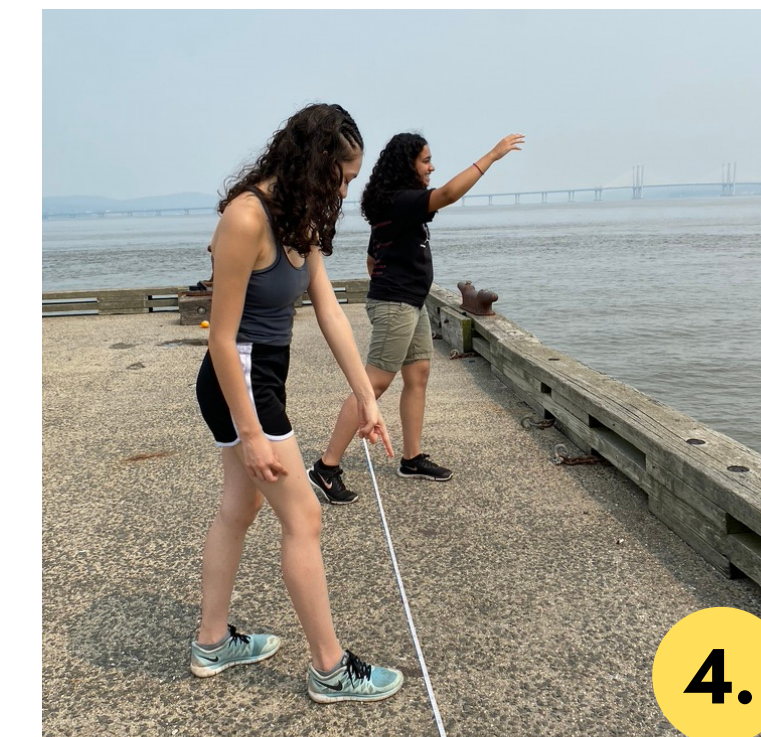
Step 1: Measure 10m using a tape measure. Person 1 will throw the orange from the middle (5m).



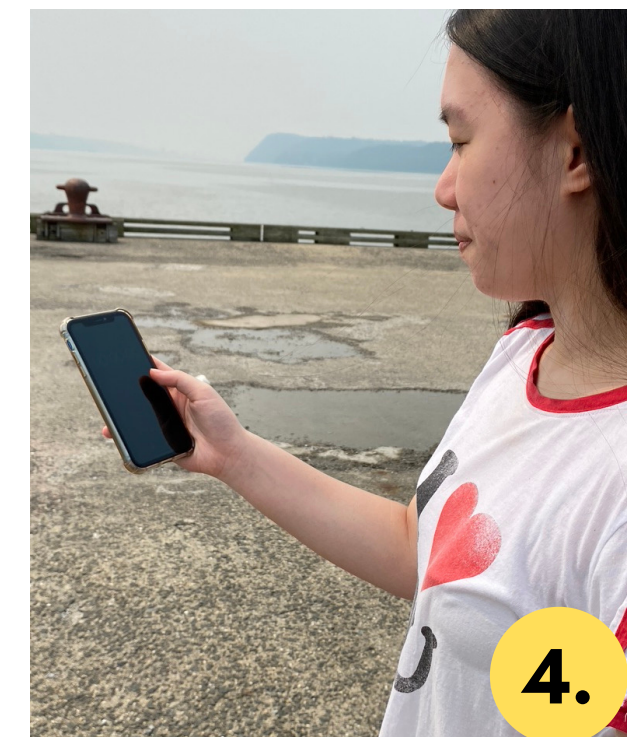
Step 2: Person 4 stands at 0m & Person 5 at the 10m mark. They are responsible for yelling "STOP" when the orange comes into view.



Step 3: Person 1 throws the orange as far and straight as possible from the middle (5m)



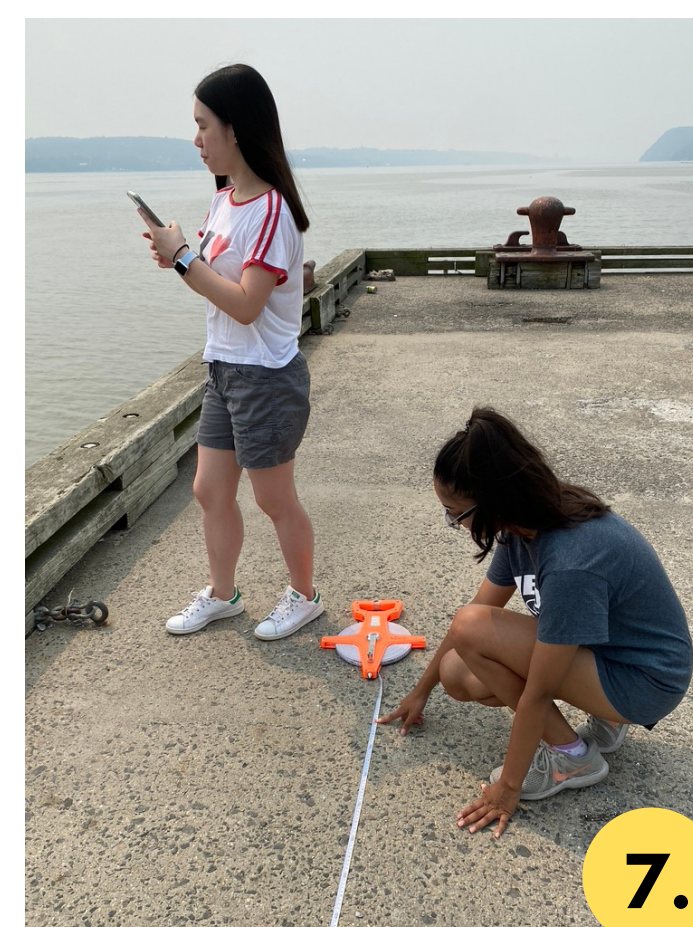
Step 4: When you throw the orange, it will dip down into the water and then surface. When the orange surfaces, Person 2 marks where the orange is on the tape measure while Person 3 starts the stopwatch



Step 5: Person 3 walks with the orange while Person 4/5 wait for the orange to reach either them at the 0m or 10m mark depending on which direction the orange is going.



Step 6: Once the orange reaches the 0 or 10 meter mark, Person 4/5 yells "STOP" to Person 3 to stop the time*

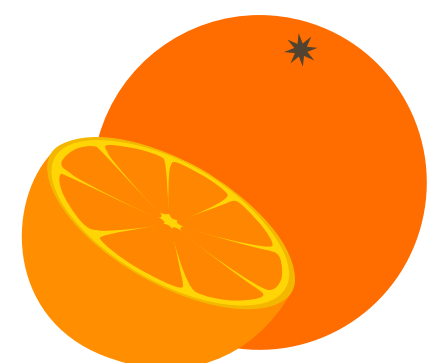


Step 7: Determine the distance between the start and stop (between Person 2 and Person 4/5).



Step 8: Convert the distance to cm and the time to seconds. Divide the cm by the seconds to find the speed of the current in cm/sec.

*Tip - Person 4/5 should hold a clipboard to the side of their face in the direction that the orange is approaching from to block out their view. Once the orange comes into view, they yell STOP!



Note - Oranges are the best objects to use because they are **BRIGHT**, **BUOYANT**, & **BIODEGRADABLE** (the 3 Bs!)