

Objective: Solve river current problems using rational equations.

Concept

**Upstream** means something is moving against the direction the water is moving, so the water is moving toward the object. In this case, **the push of the water will slow the object down**.

 $Object \rightarrow \leftarrow Water$ 

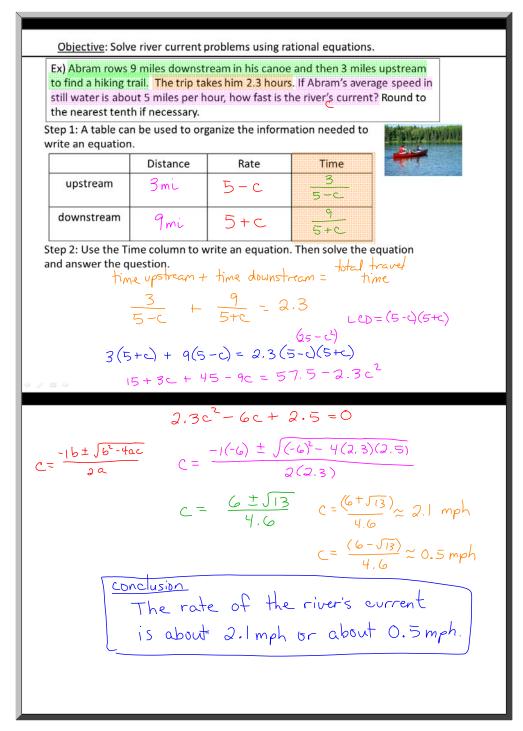
Rate of Object Upstream = Object's Speed - Water's Speed

**Downstream** means something is moving in the same direction the water is moving, or with the water. In this case, **the push of the water will make the object move faster than it can go on its own**.

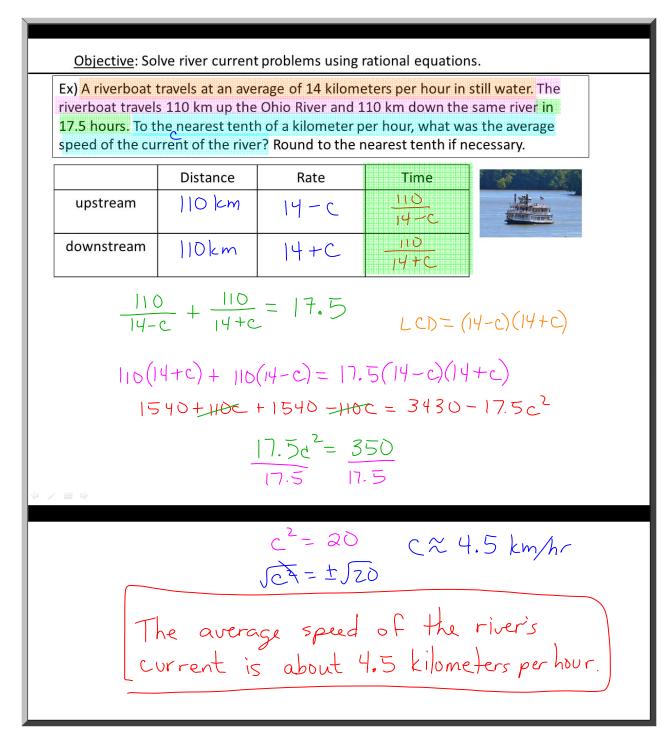
Water  $\rightarrow$  Object  $\rightarrow$ 

Rate of Object Downstream = Object's Speed + Water's Speed

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Captured on Mon Sep 25 2017 09:17:45



Captured on Mon Sep 25 2017 09:26:09

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## Closure

Does an object travel faster when moving upstream or downstream on a river? Explain your reasoning.

An object travels faster when moving downstream because the object is going the same direction as the water, so the push of the water from behind the object will increase its speed.