Boats

In water, the direction along the stream is called **downstream**. And, the direction against the stream is called **upstream**.

If the speed of a boat in still water is *u* km/hr and the speed of the stream is *v* km/hr, then:

Speed downstream = (*u* + *v*) km/hr.

Speed upstream = (*u* - *v*) km/hr.

If the speed downstream is ***a*** km/hr and the speed upstream is ***b*** km/hr, then:

$$\text{Speed in still water} = \frac{1}{2}(a + b) \text{ km/hr.}$$

$$\text{Rate of stream} = \frac{1}{2}(a - b) \text{ km/hr.}$$