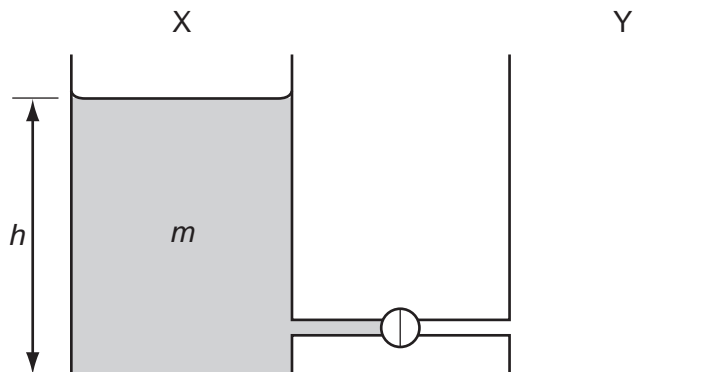


**15** The diagram shows two identical vessels X and Y connected by a short pipe with a tap.



Initially, X is filled with water of mass  $m$  to a depth  $h$ , and Y is empty.

When the tap is opened, water flows from X to Y until the depths of water in both vessels are equal.

How much potential energy is lost by the water during this process? ( $g$  = acceleration of free fall)

- A** 0                      **B**  $\frac{mgh}{4}$                       **C**  $\frac{mgh}{2}$                       **D**  $mgh$

**Space for working**