

If a solid object such as small brick is submerged in water, it will displace a quantity of water equal to its volume. This fact can be used as a method for measuring volumes.

Suppose that a small brick is put into an aquarium which is the shape of a rectangular solid 1 foot wide, 3 feet long, and 2 feet high. Before the small brick is put into it, the water is 1 foot high. After the small brick is completely submerged, the water is 1 foot 3 inches high. The displaced water is the amount in a rectangular solid 1 foot wide, 3 feet long and 3 inches high.

With the tools of arithmetic, calculate the volume of this displaced water. This will be the volume of the small brick.

\*\*\*\*\* Please show all your work and provide an explanation for your solution \*\*\*\*\*