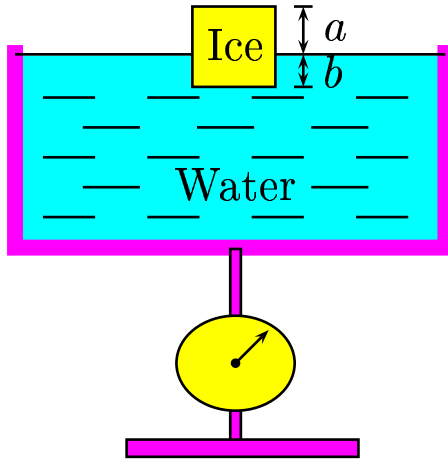


An ice cube is floating on the water as shown in the sketch. The height within the water is b and above the water is a .



Define the following set of symbols.

W_a^{ice} = Weight of the ice above the water.

W_b^{ice} = Weight of the ice below the water.

V_a = Volume of the ice above the water.

V_b = Volume of the ice below the water.

W_a^{water} = Weight of water in volume V_a .

W_b^{water} = Weight of water in volume V_b .

The equilibrium condition can be expressed as which of the following?

- A) $W_b^{water} = W_a^{ice}$.
- B) $W_b^{water} = W_a^{ice} + W_b^{ice}$.
- C) $W_a^{water} + W_b^{water} = W_a^{ice} + W_b^{ice}$.

Archimedes' principle implies
Answer **B**