0 Question: An icecube with a large air bubble in it is floating in water. When it melts, does the water level go down, stay the same or rise?

A1: stay the same.

A2: It will go down.

Arguments for A1

5 Question: Does ice have lower density than water?

A1: yes

A2: yes

7 Question: Does an air bubble in the ice change the amount of water?

A1: No

A2: no

8 Question: when ice melts does it melt into the same volume of water?

A1: no

A2: no

10 Question: will an ice cube that melts change the water level?

A1: no

A2: yes

Arguments for A2

1 Question: Is ice less dense than water?

A1: yes

A2: yes

3 Question: When ice melts, will it melt into a smaller volume of water?

A1: yes

A2: yes

4 Question: Does the ice cube containing an air bubble change the problem's answer?

A1: no

A2: no

6 Question: Do the answers to the above sub-questions lead one to conclude that Sydney's answer to the top-level question is correct?

A1: no

A2: yes