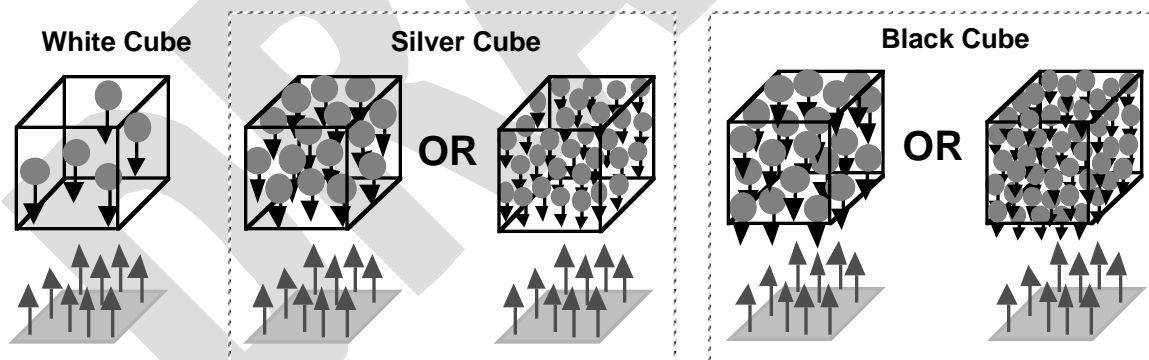


In thinking about the white, silver, and black cubes, here s what I concluded:

- ¥ the black material is the densest because it was always the heaviest for its size; the white material was the least dense because it was always lightest for its size.
 - ¥ the white cube floated because it had fewer particles pressing down on the water than the water had to push up against it (see Figure 5); the black and silver cubes sank because they had more particles pressing down on the water than the water had to push up against them.
- This could be from more particles of the same size as the white cube or more particles of a different size. Figure 5 shows how I picture this relationship.
- ¥ the white material has the fewest number of particles or the lightest particles in a cubic centimeter (cm^3) of space; the black material has the most number of particles or the heaviest particles in a cm^3 of space.

Figure 5. An illustration of an explanation for the sinking and floating of the cubes of different densities.



These ideas certainly help me think about why object sink or float, and they have given me a way to explain how large ships that weigh thousands of tons can float on water. I wonder how they can also help me explain why I float more easily in salt water than in fresh water. I will have to think more about that tomorrow.