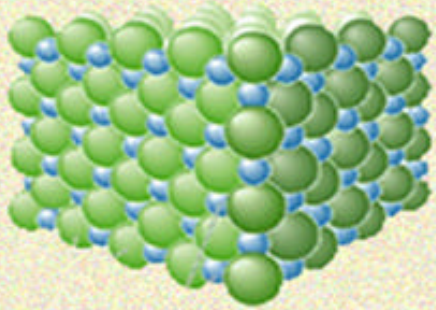
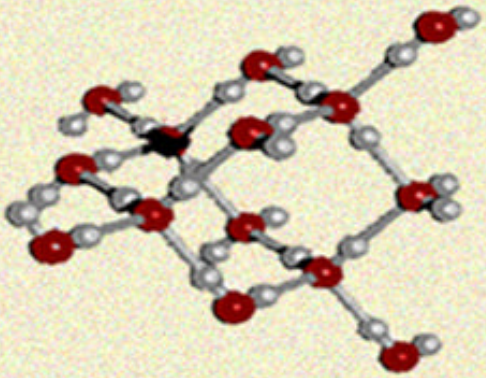
Cause #2: The Atomic and Molecular Bonds

The spacing between atoms differs due to the strength and structure of the atomic and molecular bonds.

Bonds can be more or less tightly bound, and as a result, atoms will be closer together or further apart. Stronger bonds are more tightly bound. Weaker bonds are more loosely bound.



The structure of the bonds connects the atoms or molecules to each other in different ways, so that they are further from or closer to their neighbors.



*The spaces between the atomic bonds do NOT have air in them.

**The spaces between the molecular bonds don't usually have air in them. (However, there are some exceptions. These are cases of mixed density. See Cause #3.)