We generally think that a solid (human body could be an example) is completely packed with no space in between. But look at what science says

The size of an atom is of the order of 1 Angstrom which is 10^{-8} cm. The size of the nucleus is of the order of 1 Fermi which is 10^{-13}cm. All the mass is concentrated in the nucleus consisting of protons and neutrons. Electrons of negligible mass and negligible size will be moving around the nucleus in the atom.

Thus, except for the nucleus, the remaining space is empty. The volume of the nucleus is proportional to $(10^{-13})^3$ i.e. 10^{-39} cm^3 and that of atom is $10^{-24}cm^3$. The ratio is $10^{-24}/10^{-39}=10^{15}$. It means only $1/10^{15}$ of an atom is occupied and the remaining is empty. That means only 1/ ten lakhs crores of volume is occupied and the remaining is empty. That applies to all the matter including solids.

To get an idea let us take water whose density is 1 gm./c.c.(ml). That means one ml of water weighs 1 gram. From the above we see that only $1/10^{15}$of the volume is occupied. Now suppose we compress it so that all the empty space is removed. Then $1/10^{15}$ml.of water will weigh 1 gm. That means 1ml. will weigh 10^{15}gm=10^{12}kg=10^{9}tons=100 crore tons.

Such a phenomenon exists in so called neutron stars. These contain only neutrons. So they have a very high density. Because of this, even the light rays bend near these stars due to gravitational pull.