**Properties of solids, liquids and gases**

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| **State of Matter** | **Relative particle distance** | **Flowing/Pouring ability** | **Shape and volume** | **Diffusion possible?** | **Compressibility** | **Density****(Depends on mass of substance and the volume that mass takes up)** |
| **Solid** | Particles very close together. In a fixed position. Touching on another. | Can’t flow/ be poured. | Fixed shape and volume. | No. (can only diffuse into liquids) | Cannot be compressed. | Particles very densely packed. |
| **Liquid** | Particles close together (further away than solids). Not in a fixed position – roll over one another.  | Can flow/ be poured. | Flow to the shape of the container. Fixed volume. | Yes, occurs more slowly than gases. | Only slight compression is possible. Generally considered not to be compressible. | Particles packed less densely than solids. |
| **Gas** | Particles not close together. Not in a fixed position – bump into one another. | Can flow/ be poured. | Fill the container they are in. Changing volume to match the container.  | Yes, Occurs rapidly. | Can be easily compressed. | Particles packed less densely than liquids. |