# Particle model of matter – Cut and paste in

The points of the Particle model of matter

1. All matter is made up of very tiny invisible particles.
2. All the particles of one substance are identical to each other
3. Particles have kinetic energy and are always moving
4. Spaces exist between particles and the size of the space depends on the state
5. As temperature increases, the kinetic energy (movement) of particles increases.
6. Particles are held to each other by forces of attraction. The strength of these forces determine the state of the matter (solid, liquid, gas) at a certin temperature. ***(complex idea – class discussion)***

Particle diagrams - cut and paste (leave a lot of space above and below) and label this model using the words…

SOLID,

Evaporation,

Freezing,

GAS,

Boiling,

condensing,

 LIQUID,

Melting

Changes of State

There is one more word, but it is not shown in the diagram – Sublimation. Once your teacher has checked your work ask how the word Sublimation fits in the model.

**Cut and paste this table in – EXCEPT** for the last column, the explanations in the last column do not match their row. Cut out each rectangle of the last column and glue it into its correct row.

|  |  |  |
| --- | --- | --- |
|  | Characteristics of each state of matter | Which point of the particle model would you use to exlain |
|  | GAS | LIQUID | SOLID |
| 1 | Large distances between particles | Small distances between particles | Particles closely packed together |  |
| 2 | Particles move rapidly in all three dimensions | Particles vibrate and move with other particles. | Particles vibrate only |  |
| 3 | Easily compressed | Cannot be significantly compressed | Cannot be compressed |  |
| 4 | Takes up all volume of the containerTakes the shape of the container | Settles to the bottom of the container and takes the shape of the container at this point | Has its own shape shape regardless of container |  |
| 5 | Flows | Flows | Does not flow |  |