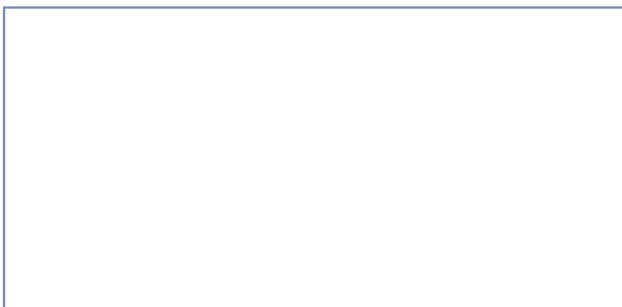


Particle diagrams: draw these ten

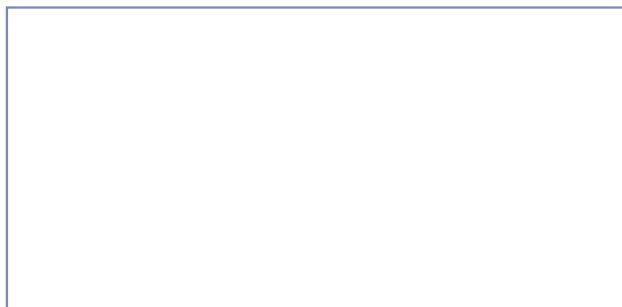
Draw each one in its box. Check three things: regular or random? touching or apart? all the same, joined-different, or unjoined-different? Write the movement of the particles in words under each box.

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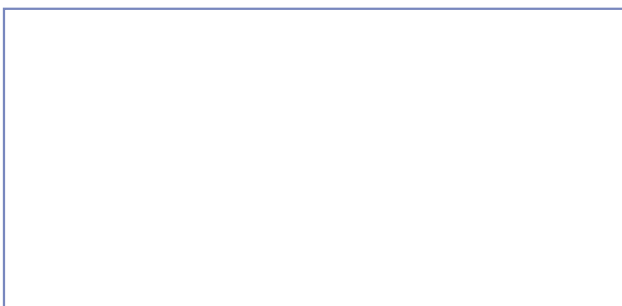
1. Solid iron



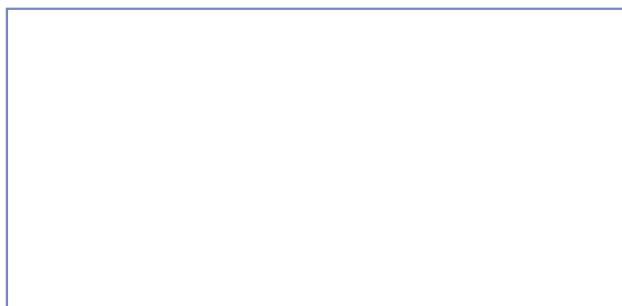
2. Liquid water



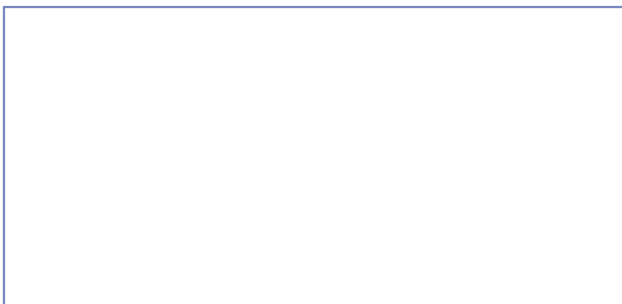
3. Steam



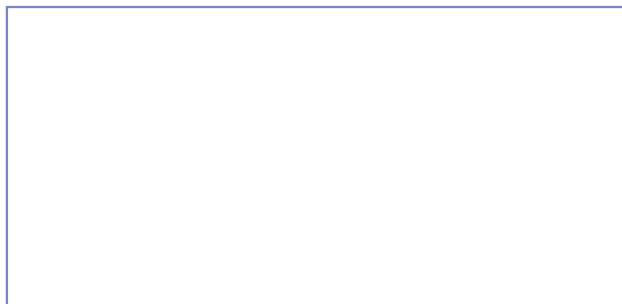
4. Neon gas



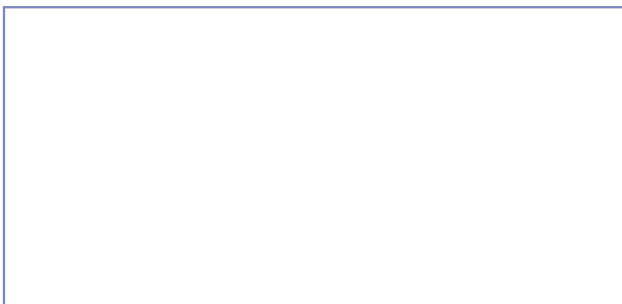
5. Oxygen gas



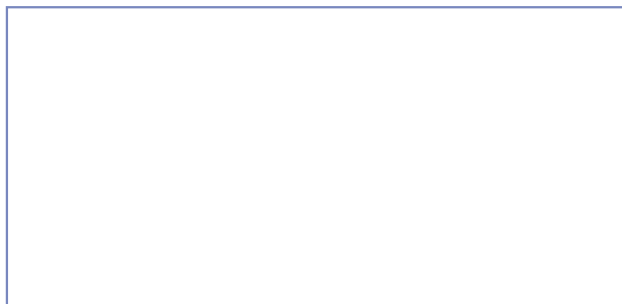
6. Hydrogen chloride gas



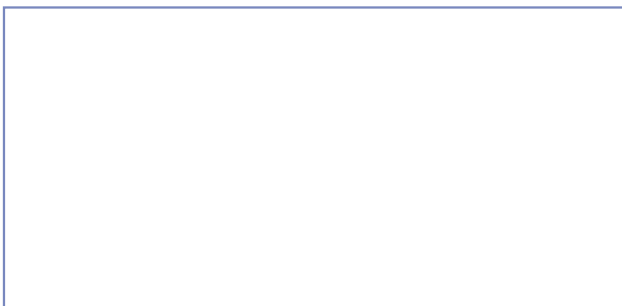
7. Air (nitrogen and oxygen)



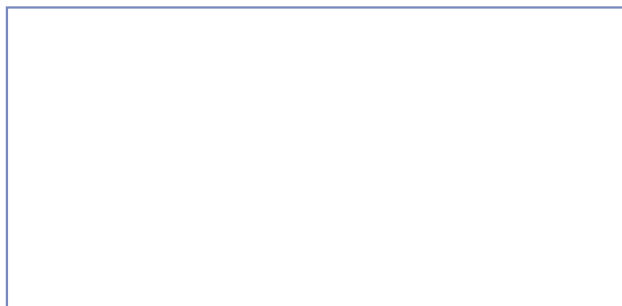
8. Salt dissolved in water



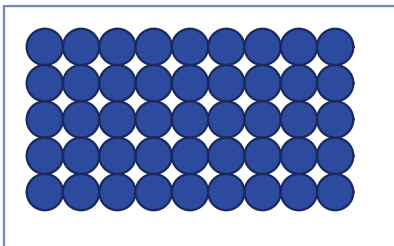
9. Ice melting (after)



10. Hydrogen + oxygen -> water (after)

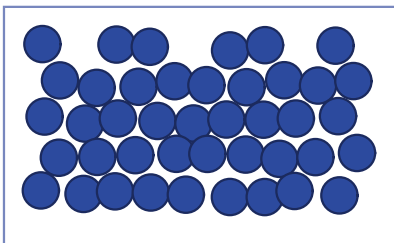


Answers



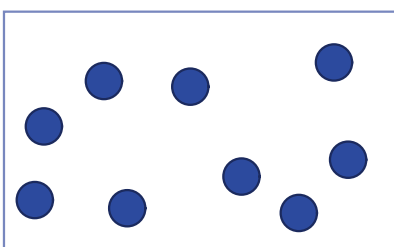
1. Solid iron

Regular rows, all touching, all the same. Vibrate about fixed positions.



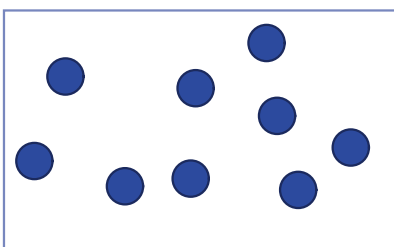
2. Liquid water

Random, touching, uneven top surface, same particles as ice. Slide past each other.



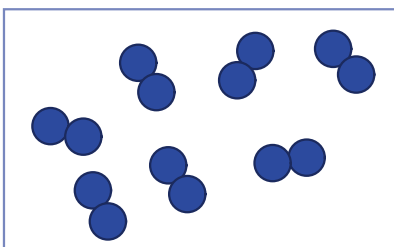
3. Steam

Few particles, far apart, filling the box, moving fast in all directions.



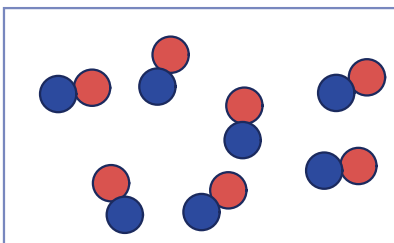
4. Neon gas

Single identical circles far apart: a monatomic element as a gas.



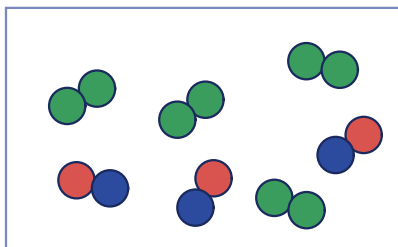
5. Oxygen gas

Pairs of identical circles (O_2), far apart: a diatomic element as a gas.



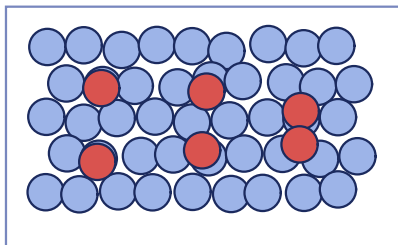
6. Hydrogen chloride gas

Every unit one small + one large circle joined (HCl), far apart: a compound as a gas.



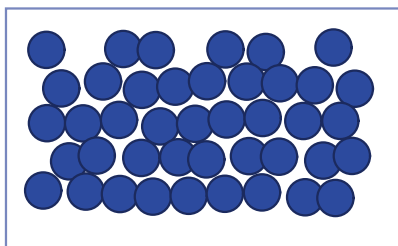
7. Air (nitrogen and oxygen)

Two different kinds of pair, not joined to each other, about four N₂ to one O₂: a mixture of elements.



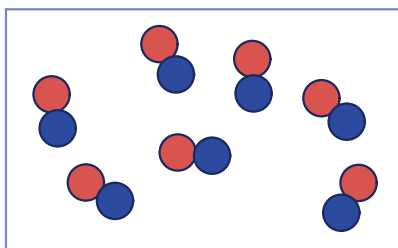
8. Salt dissolved in water

Many solvent particles touching randomly with a few solute particles of another colour spread evenly: a solution (a mixture).



9. Ice melting (after)

Same circles as the solid, now random and sliding; same number of particles, only the arrangement changes.



10. Hydrogen + oxygen -> water (after)

Units of two small + one large circle joined (H₂O); same number of each colour as before the reaction.

Marking rules: solid = regular + touching; liquid = random + touching; gas = far apart, few particles, fills the box.

Element = one kind of particle; compound = identical units of different atoms joined; mixture = different particles not joined. Full notes:

sciencewithshobha.com/blog/particle-diagrams-solids-liquids-gases-elements-compounds-mixtures-how-to-draw/