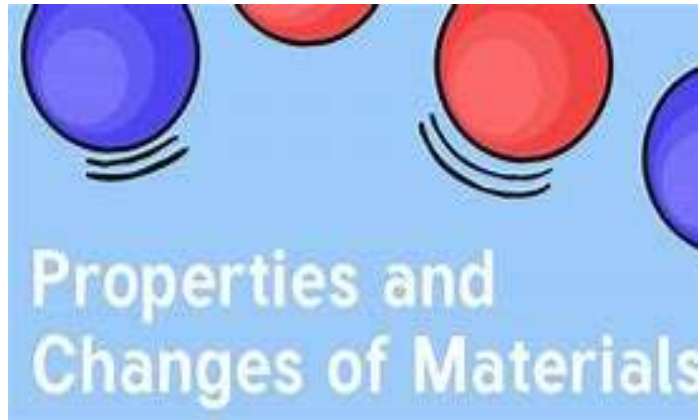


Big Question: What are the different properties of materials?



Exciting Books



LQ1	How can materials be grouped?
LQ 2	What is the difference between thermal conductors and thermal insulators?
LQ 3	Which electrical conductors make the bulb shine the brightest?
LQ 4	How are reversible and irreversible changes important to forensic scientists?
LQ 5	How can you recover a substance from a solution?
LQ 6	How could you solve a crime by using forensic evidence?
End Product	Create your own version of 'Brainiac' and present it to Key Stage 1 children.
Links to being previously taught.	Year 1 – Everyday materials Year 2 – Changing materials and classifying and grouping materials Year 4 – States of matter
Cross-curricular links. E	Art - consider the work of Salvador Dali and then create their own work using footprints, handprints and fingerprints.

Sticky Knowledge.

- Different properties of materials include: electrical conductivity, flexibility, hardness, insulators, magnetism, solubility, thermal conductivity and transparency.
- Solids, liquids and gases are made up of particles.
- Solid particles are very close together and therefore hold their shape.
- Liquids take the shape of the container as the particles are loosely packed together and can move around each other.
- Gas particles are free to move around, examples of gases are helium and oxygen.
- A solution is made when solid particles are mixed with liquid particles.
- Materials that dissolve are known as soluble (such as sugar, salt and instant coffee).
- Materials that don't dissolve are known as insoluble such as sand, glass and wood)
- To be able to sort different materials into thermal conductors and thermal insulators and explain why.
- Irreversible changes often result in a new product being made from the old materials (such as toast from bread or rust forming on iron).
- Reversible changes, such as mixing and dissolving solids and liquids together, can be reversed by: sieving, filtering and evaporating.

Vocabulary

Hard, permeable, soluble, transparent, opaque, translucent, conductor, insulator, magnetic, liquid, gas, solid, materials, freezing, melting, evaporating, condensing. change of state, reversible, irreversible, solution, dissolve, filter, burn, rust