

Science • Properties of Materials



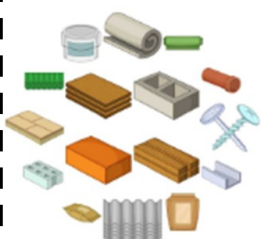
Crucial Knowledge

- A material is any substance that has a name.
- Everything is made up of materials.
- When we want to make something we need to choose the best material for the job.
- Most materials have more than one property and can be natural or man-made.
- Thermal insulators can be used to control heat and keep things hot or cold.



Key Vocabulary

We are getting better at communicating scientifically



Materials: The substance that something is made out of. They can be solids, liquids or gases.

Property: Something, a characteristic, that we can measure, see or feel.



Flexible: A material capable of bending easily without breaking.



Stiffness: the amount of force needed to change the shape of a material (opposite of flexible).



Strength: The amount of force needed to break a material, usually by pushing or pulling.



Toughness: a material's resistance to breaking by cracking (brittle is the opposite of toughness).



Elasticity: the ability to return to its original shape when a force is removed.



Absorbency: the ability of a material to soak up a liquid, to absorb and retain the moisture within its structure.



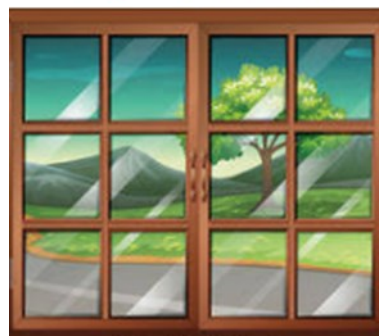
Thermal Conductor: thermal conductivity is the property of a material that measures how well it can conduct heat.



Thermal Insulator: a property of a material that does not conduct heat very well.

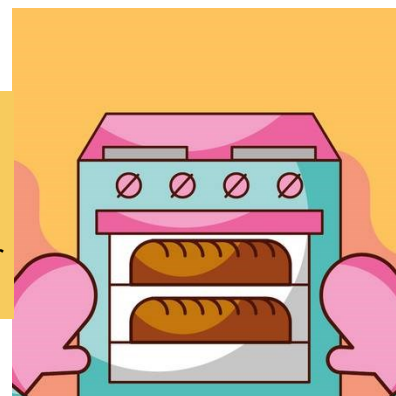


Diagrams / Images



Glass is used for windows because it is hard and transparent.

Oven gloves are made from a thermal insulator to keep the heat from burning your hand.



Important People



Walter Lincoln Hawkins
Polymer Chemist known for inventing plastic coating for telephone wires.



Julie Brusaw
Material Engineer and Solar Roadways inventor.

We Are Building Our Knowledge From

- Materials (Y2) Electricity (Y4)

This will help when we learn about

- CXhanges of Materials (Y5)