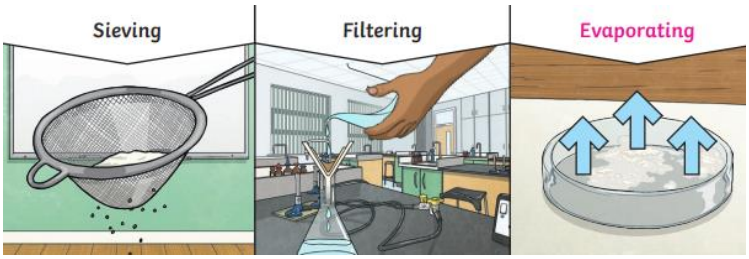
Properties of materials – knowledge organiser

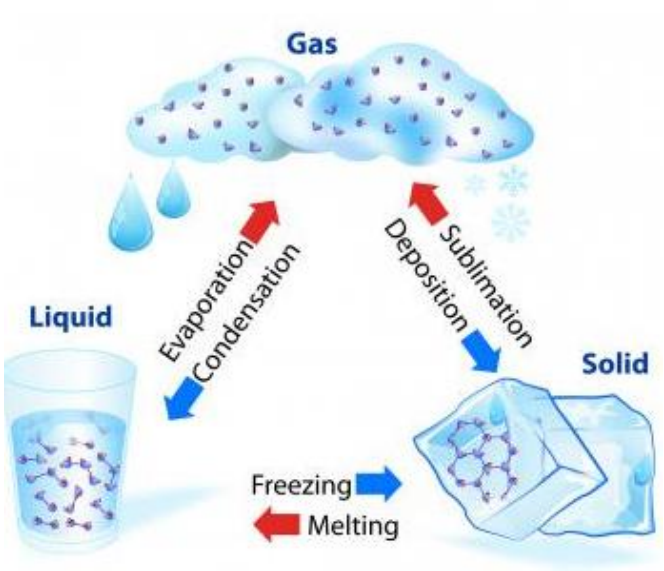
Key knowledge	
What is a material?	• A material is any substance that has a name. For example: chalk, paper, wood, iron, air, water, clay, plastic, rubber, stone, leather, wax • Materials are either man-made or natural • Materials are either solid, liquid or gas
Object or material?	• All objects are made from different materials. We need to choose the right material for the right job based on its properties
Properties	• The property of a material is something about it that we can measure, see or feel and helps us decide whether or not it is the best material. • We can group materials by their properties. For example: is it hard or soft?
List of properties	A list of useful properties are: • Hard/soft • Soluble/insoluble • Transparent/translucent/opaque • Conductor/insulator • Magnetic/non-magnetic
How can I separate materials?	There are several ways to separate materials including: • Sieving - sorting out the big bits from the small bits, e.g. stones from sand • Filtering - separating solid bits from a liquid, e.g. sand from sand and water. • Evaporating – Separating a solution. e.g. We can separate the salt from water by boiling it. The salt will be left behind.
Scientists we need to know about	
5 facts about Ruth Benerito	• She is best known for developing wrinkle-free cotton fabric • Ruth started by teaching • She also had to teach people how to drive • Ruth died in 2013 • Her work on cotton saved the industry from man-made fibres

Properties of materials

Separating materials



States of matter



Key Vocabulary

Brittle – Hard but breaks easily
Condensing - When a gas is cooled it turns back into a liquid.
Dissolve – When a solid becomes incorporated in a liquid to form a solution.
Evaporating – When a liquid turns into a gas
Freezing – When a liquid turns into a solid
Irreversible – A change that doesn't go back
Soluble – A solid or gas that will dissolve in a liquid
Solute – A solid that dissolves in a liquid
Solution – A dissolved solid in a liquid
Material – What an object is made from
Melting – When a solid turns into a liquid
Mixture – 2 or more materials that can be easily separated
Property – A way to describe a material
Reversible – A change that will go back