Enquiry Knowledge Organiser Year 5 How can science help the vulnerable?

Vocabulary I need to know

- natural
- man-made
- permeable
- flexible
- suitable
- absorbent
- dissolve
- properties
- irreversible
- reversible
- solution
- insulator
- transparent
- conductor
- insoluble
- sieving
- filtering
- evaporation

Homelessness & Vulnerability

Being homeless means 'not having a home'. This means that you can be homeless if you stay with friends or family. You can also be homeless but live in a hostel, bed and breakfast or hotel.

You can even be classed as homeless if you are living with lots of other people and your home is overcrowded, if your home is in bad condition or if your home is not suitable for you because you are ill or have a disability. If you do not have permanent, secure housing, you can be considered homeless

Reasons people may become homeless:

- unemployment
- criminal behaviour
- drug or alcohol problems
- disability
- health or mental health problems
- family or relationship breakdown
- grief or losing a job
- victim of crime or abuse
- lack of affordable housing
- housing is too expensive
- poverty
- low income
- lack of support
- bereavement

Scientific definitions

Insulation - thermal insulation consists of materials that conduct heat poorly. Many good insulators are made of non-metallic materials filled with tiny air spaces. Insulation, reduces the movement of energy in either direction

Solubility - is the term used to describe how easy it is for a substance to dissolve into a liquid (solvent). If a substance dissolves easily, like salt into water, then it is highly soluble. Some materials are insoluble, like flour and sand, meaning they do not dissolve in water.

A reversible change - is a scientific term used for a change that occurs that can be changed back again. No new materials are created in a reversible change, and we can get the original materials back again.

Some examples of reversible changes are melting chocolate (this can be solidified again) and freezing water (ice can melt again).

Steps of a scientific investigation

- Make an observation or ask a question.
- Gather background information.
- Create a hypothesis.
- Create a prediction and perform a test.
- Analyse the results and draw a conclusion.
- Share the conclusion or decide what question to ask next: Document the results of your experiment.

Prior Learning

You should know:

- How to compare and group materials together, according to whether they are solids, liquids or gases.
- How to observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C)
- How to identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.

Types of material

Properties of materials

- rigid
- soft
- transparent
- strong
- absorbent
- man-made
- stretchy
- permeable
- soluble

- conductive of heat
- conductive of electricity

- flexible
- hard
- opaque
- weak
- waterproof
- natural
- tight
- impenetrable
- insoluble

- non-conductive of heat
- non-conductive of electricity

Inventions

EMPWR Coat

Winterhyde Tent

Water filter bottle

Fabric

scientist philosopher geographer engineer