



St Leo's and Southmead  
Catholic Nursery and Primary  
School

Year  
Five

# Science Knowledge Organiser

Autumn  
Term

## Properties & Changes in Materials

**Amazing Activities**  
Experiment to demon-  
strate irreversible  
changes  
Design a product based  
on its properties

### Key Concepts

**Comparing & Grouping materials** - that materials can be grouped by their properties (is it hard or soft?) or by more than one of their properties (is it hard and magnetic?)

**Recognise the properties of materials we can compare** eg. hard & soft, transparent & opaque

**Know that some materials will dissolve in liquid to form a solution whereas some liquids from a mixture (no dissolving has taken place)**

**Mixtures can be separated by sieving and/or filtering**

**Solutions can be separated through evaporation**

**What a reversible change is**, that it is a change that does not last forever e.g. water turning to ice

**What an irreversible change is**, that it lasts forever and usually involves heating, e.g. flour, butter and egg mixture being baked to form a cake is an irreversible change

### Key Vocabulary

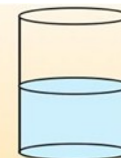
<u>Vocabulary</u>	<u>Definition</u>
Soluble	Can be dissolved like sugar and coffee granules
Insoluble	cannot be dissolved like stones
Transparent	You can see through it like glass
Opaque	You cannot see through it, like cement, wood
Electrical Conductor	Lets electricity pass easily through it, like copper wire
Electrical Insulator	Does not let electricity flow through it, like wood or plastic
Thermal conductor	Lets heat pass through it easily, like a metal kettle
Thermal insulator	does not let heat pass through it easily, like a wooden handle
Magnetic	Is attracted to a magnet, like a steel spoon (Remember not all metals are magnetic)
Dissolved	To be incorporated into a liquid so that it forms a solution
Evaporation	When a liquid is turned into a gas by an increase in temperature

### Skills

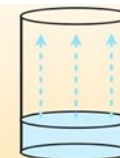
Using test results to make predictions to set up comparative & fair tests.

Planning different types of enquiries to answer questions, recognising & controlling variables

Recording data & Reporting & presenting findings



Sugar dissolves in the water making a sugar solution. You cannot see the sugar but it is still there in tiny particles.



The water evaporates. This means that it becomes water vapour. The process will be quicker if the water is heated.



Once all the water has evaporated, the sugar is left at the bottom of the beaker. This is because sugar cannot evaporate.

### Curriculum Links

- Maths—measurement, Speaking & listening.



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# Geography Knowledge Organiser

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## North America

### Key Concepts

To identify North America on a world map  
 The countries of North America  
 That North America is the 3<sup>rd</sup> largest continent and is made up of 23 countries  
 The different climate zones within North America  
 That they range from arctic to tropical and compare two locations in North America to see the different climates.  
 To know why the climate zones are so different - that the closer a place is to the equator generally the hotter the climate is.  
 To recognise some of the features of North America and sort which are human and which are physical  
 To know the capital cities of 5 countries of North America: USA - Washington, Canada - Ottawa, Jamaica - Kingston, Costa Rica - San Jose, Mexico - Mexico City  
 To understand why different parts of the world have different time zones, to calculate different time zones in North America using GMT  
 To understand similarities and differences between Merseyside and a region of North America

### Skills

Locate key places on maps and atlases  
 Present information knowledgably about North America  
 Use 6 figure grid references, symbols and keys to build their knowledge of the UK and the

### Amazing Activity

Television interview to compare locations  
 Tourist information posters/guides on an area of North America



### Curriculum Links

Computing, Speaking & listening, reading

### Key Vocabulary

#### Vocabulary

Equator

Tropics

Greenwich Meridian

Climate

Tropical

Moderate

Arid

Polar

#### Definition

An imaginary line drawn around the world and spaced equally between the north and south

The regions of the world that are closest to the equator

The imaginary line that equally separates East from West and denotes time zones

The weather conditions in an area over a long period of time

Very hot and humid, temperatures are usually higher than 18°C

The weather is mainly quite mild - no real extremes of temperature

Very hot & dry (as in a desert)

Long periods of extreme cold



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# Art Knowledge Organiser

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**Amazing Activity**  
Invite artist in to hold an  
art work shop in still life.

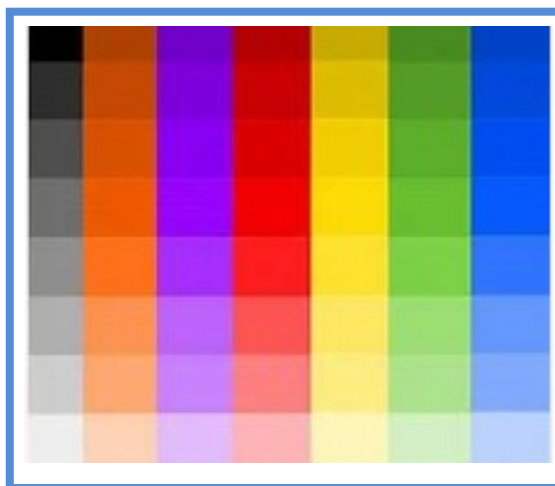
Where is the detail in this picture—Still Life

## Key Vocabulary

Vocabulary	Definition
Still Life	A collection of inanimate objects (things that are not living) arranged in a specific way
Composition	The position & organisation of shapes on the paper
Tone	The lightness/darkness of a shape
Line	The outer edges of an object
Shape	The outline of the object
Proportion	The size of an object in relation to other objects
Viewfinder	An area of a picture selected to focus upon
Balance	The even spreading of objects and shapes on the design
Shading	A way of showing tone in the object



Paul Cezanne



## Curriculum Links

- Literacy Link:** Opportunities for the children to use books and websites to research.
- History Link:** Opportunities for the children to learn about the historical context of the artist and their work.

## Skills

- create sketch books to record their observations and use them to review and revisit ideas
- to improve their mastery of art and design techniques, including drawing and painting with a range of materials [for example, pencil, charcoal, paint,
- To learn about great artists in history.

## Key Concepts

- explore ideas for a still-life painting of objects
- collect visual and other information for their work;
- organise and combine visual and tactile qualities; experiment with and use their knowledge of painting techniques to communicate ideas and experiences;
- compare and comment on ideas, methods and approaches in their own and others' work; adapt and improve their own work, according to its purpose