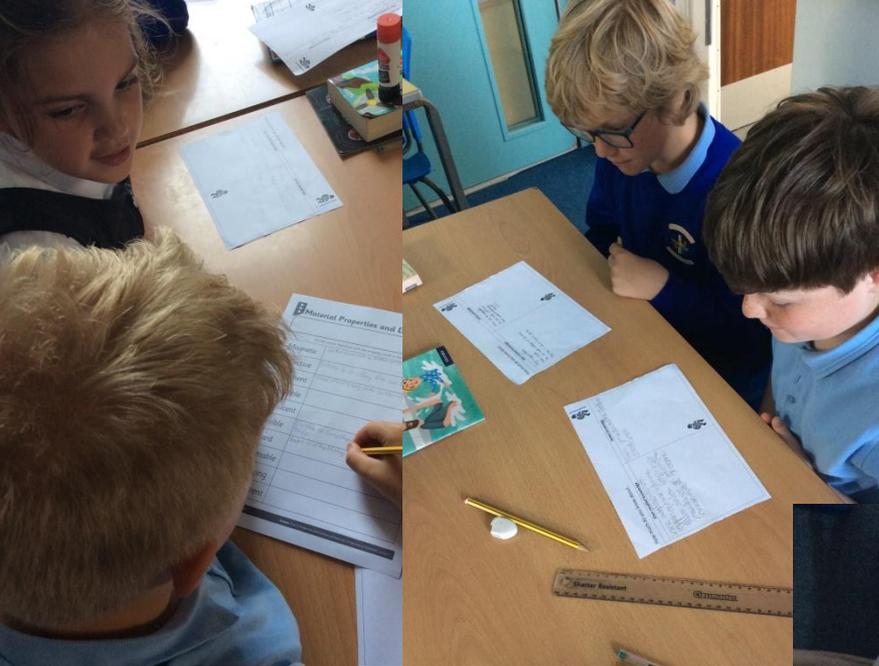


# Science

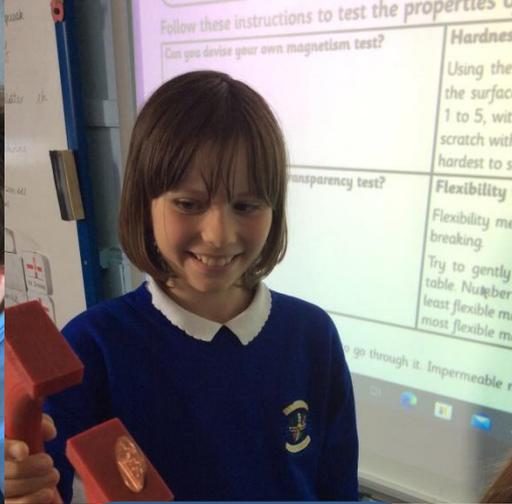
## Properties of materials

Summer 2  
2022

Class Lynher



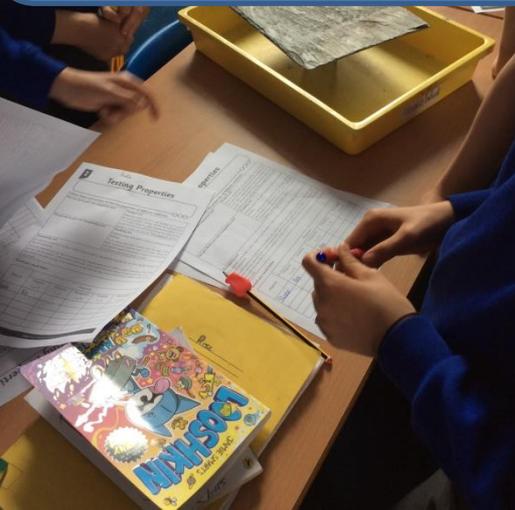
To start the lesson we recalled what we already knew about properties of materials and wrote definitions for some of the key vocabulary.

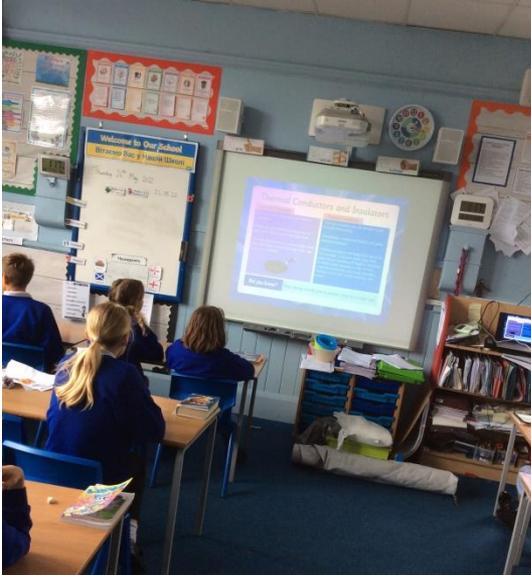


Most of the materials looked quite thin but it was surprising that they didn't let water go through them.



Then we used various methods to compare materials looking at properties such as magnetic, transparent and hardness.





For this lesson we focussed on the property of thermal insulation and did an investigation based on this.



It was weird how different materials worked differently to what I thought.

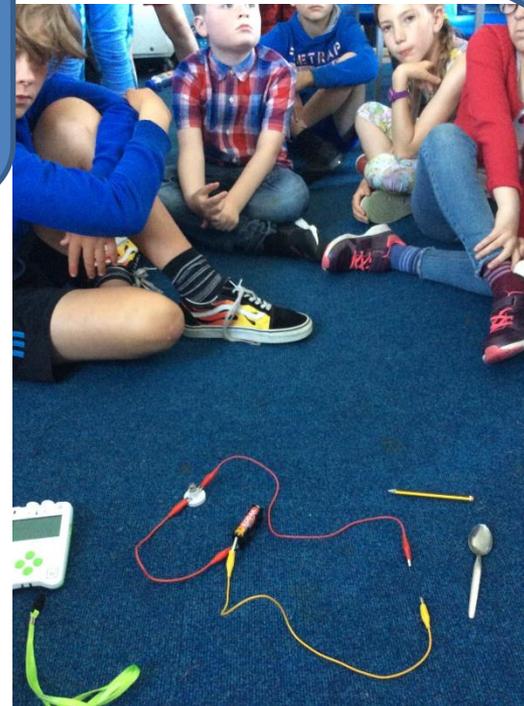




First of all we discussed the effect of resistance and did a practical demonstration to aid our understanding.

I was interested in how the light would shine at a different brightness depending on which material you put between the clips.

Then we designed an experiment to test how well different metals conducted electricity. We used a light sensor to help us get accurate results.

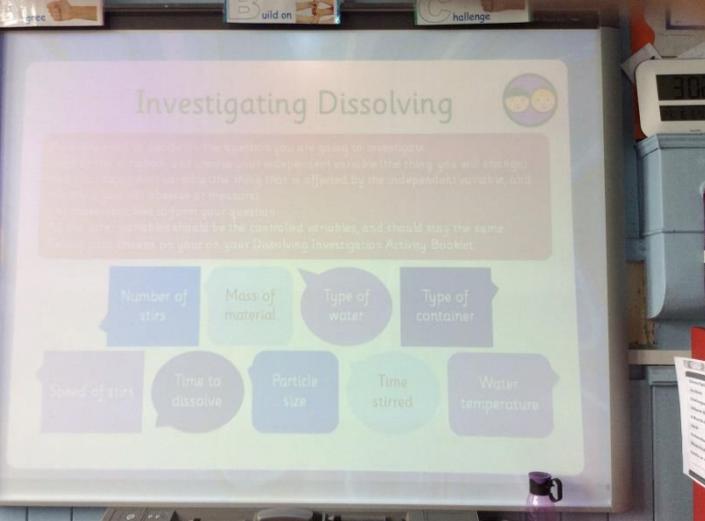


10.06

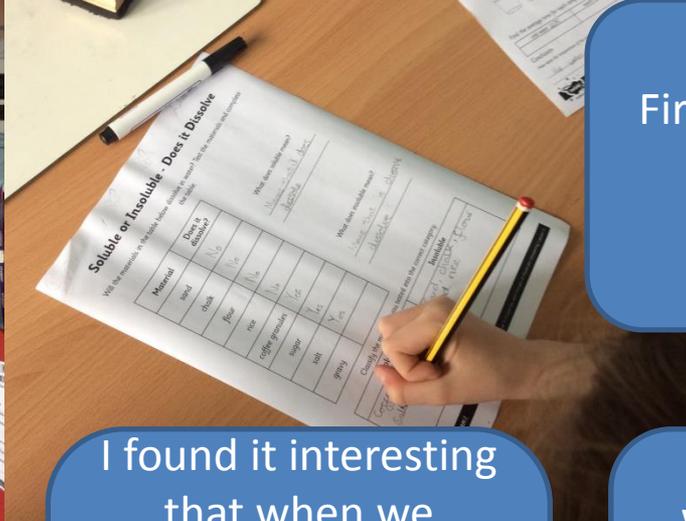
I can investigate electrical conductors

Teaspoon	150
split pin	250
paperclip	245
key	170
20p	160
gold ring	200
1p	160
silver ring	180
hook	180

Housepoints



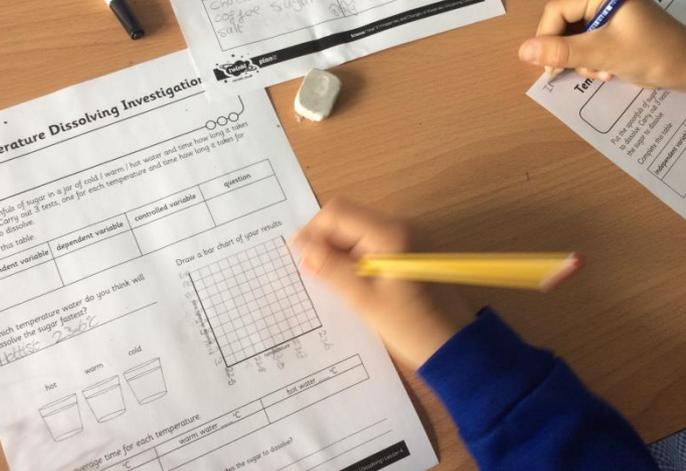
Then we designed and carried out an investigation about a factor in dissolving.



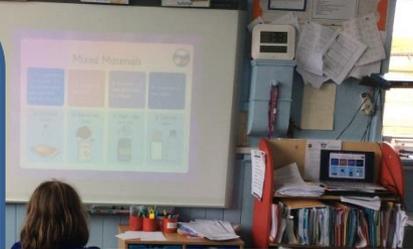
I found it interesting that when we changed the temperature at the hot end there wasn't a big difference but at the cold end there was.

First of all we discussed the vocabulary of soluble, insoluble and dissolve.

We found out that the hotter the water was the quicker something dissolved.



We discussed the vocabulary for different mixtures – linking to the previous lesson on dissolving.



Then we used various processes to separate materials from each other including filtration, sieving and evaporation.



It was really interesting that when we used the filter paper the water went really clear.

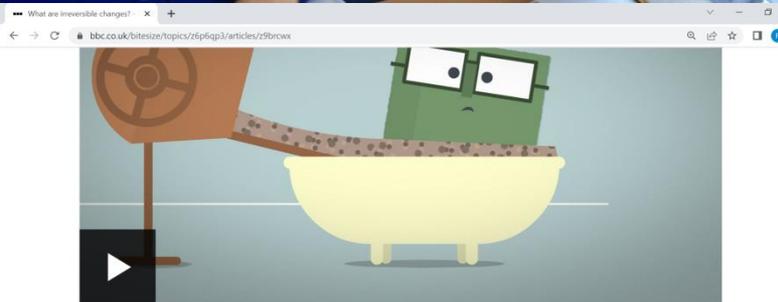


Thursday 23<sup>rd</sup> June 2022 E.g. 1

Process	Materials	Equipment	Diagram
Filtration	To separate these materials I will use sand, water, and flour.	To separate these materials I will use a filter funnel, filter paper, and a beaker.	
Sieving	To separate these materials I will use sand, water, and flour.	To separate these materials I will use a sieve.	
Evaporation	To separate these materials I will use sand, water, and flour.	To separate these materials I will use a shallow tray and a heat source.	

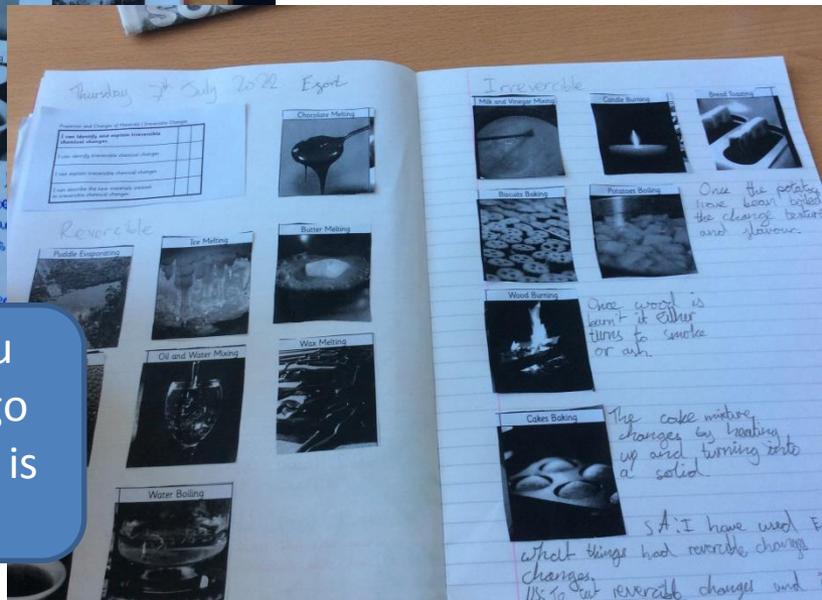
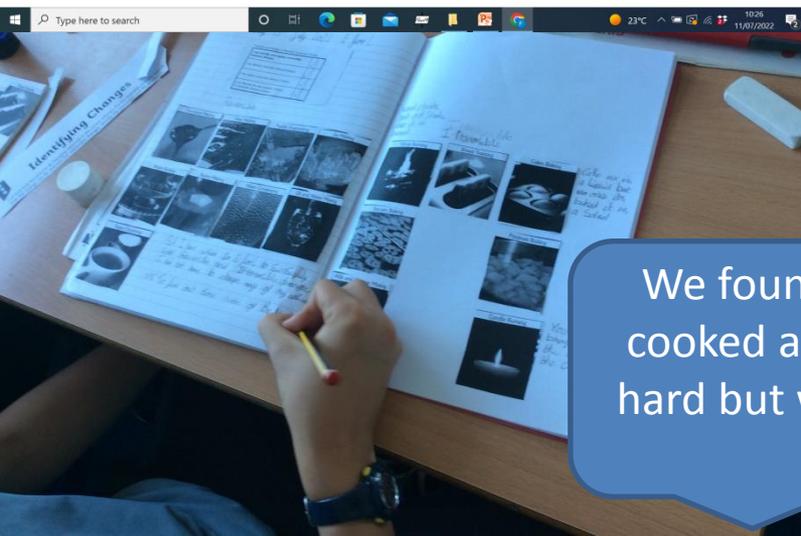
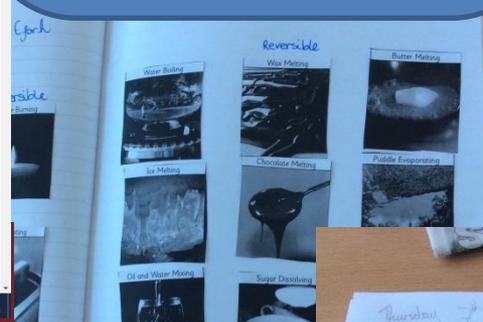
**Good E.g. 1 in your explanations.**  
 SA Today I have used different ways of separating mixtures such as sieves and rice.  
 NB: It is to find a way to make sure that all the sand was filtered from the water.  
 so separating what could you do

For our final session we learnt about irreversible changes and then identified them in real life explaining how we knew it was irreversible.



### Irreversible changes

A change is called irreversible if it cannot be changed back again.



We found out that if you cooked an egg it would go hard but when it is raw it is liquid.

SA: Today I have learnt is when you can separate or make an object return to its original state and irreversible is to do any of that.  
NS: Is to learn more about...

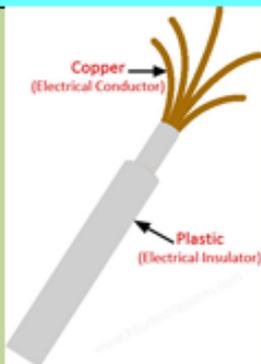
Once the potatoes have been cooked the change, texture and flavour.

Once wood is burnt it either turns to smoke or ash.

The cake mixture changes by heating up and turning into a solid.

SA: I have used F... which things had reversible changes...  
NS: to get reversible changes and...

**Cultural capital**  
 Children see the real life value of science in life. Children are exposed to scientific vocabulary.  
 Real-life jobs it could link to: electrical engineer, electrician, waste management.



Skills
Plan different types of enquiry to answer questions
Use scientific evidence to answer questions and support findings
Use test results to make predictions
Present findings from enquiries
Record findings in a graph

Forever Facts
Most metals are both thermal and electrical conductors
Wood and plastic are both thermal and electrical insulators
In an irreversible change you cannot get back to the original materials
Different materials are used for different jobs based on their properties
Sieving separates small particles from larger ones
Filtering catches solid particles and lets liquid through
<b>What I have learnt before:</b> Magnetism, electricity, states of matter

**Exciting Books**

**Our Endpoint**

I can describe the properties of materials using scientific vocabulary

Subject Specific Vocabulary	
materials	the substance something is made out of e.g wood, plastic, metal...
conductor	a material that heat or electricity can easily pass through
insulator	a material that does not let heat or electricity travel through
transparent	lets light through so the object can be looked through
soluble	will dissolve
insoluble	will not dissolve
evaporating	liquid turns to gas or vapour
condensing	gas cools and turns to liquid
melting	solid heats until it becomes liquid
freezing	liquid cools and turns into solid