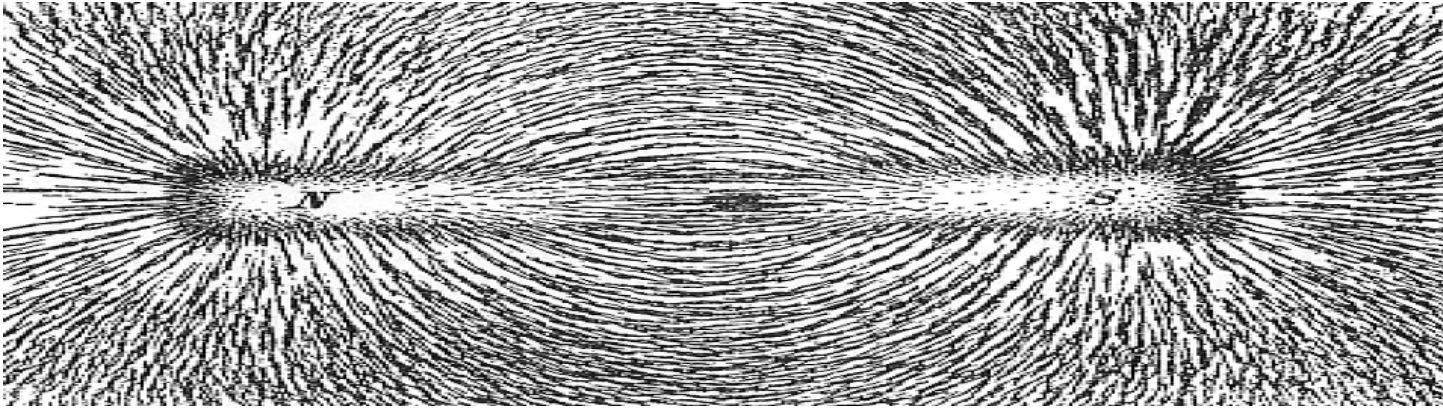




## Topic Title: Why did that happen? Year 5 Term Spring 2



Why can't we see the salt in sea water?

### Big Questions:

What do you observe when this substance is mixed with water?

Is this substance soluble?

How do you know?

What is the difference between a solution and suspension? Between the particles?

How could this substance be separated?

Which materials are magnetic?

### Skills Taught:

- Compare and group together everyday materials based on evidence from comparative and fair tests.
- Understand how some materials will dissolve in liquid to form a solution and describe how to recover a substance from a solution.
- Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.
- Compare how things move on different surfaces.
- Notice that some forces need contact between two objects, but magnetic forces can act at a distance.
- Observe how magnets attract or repel each other and attract some materials and not others.
- Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials.
- Describe magnets as having two poles.
- Predict whether two magnets will attract or repel each other, depending on which poles are facing.

**Immersion Activity/Provocation:** A range of substances mixed with water, some soluble and some insoluble, to observe and generate 'I wonder ...' thinking. Dissolving investigation with bath salts and bath bombs. Chromatography investigation inspired by Ada Twist Scientist. 'Salt, Tears of the Earth' film clip. Photograph of a tourist reading a book while floating in the Dead Sea.

Topic Title: Enquiry Question: Why can't we see the salt in sea water?

Focus Texts: Non-Fiction Collection Ada Twist Scientist, non-fiction collection



### Challenge for All:

	<u>Skills and Knowledge</u>
Some children will:	<ul style="list-style-type: none"><li>• Take measurements with a range of scientific equipment, with increasing accuracy and precision.</li><li>• Compare and group together everyday materials based on evidence from comparative and fair tests, including their hardness, solubility, conductivity (electric and thermal) and response to magnets.</li></ul>
Most children will:	<ul style="list-style-type: none"><li>• Plan enquiries, including recognising and controlling variables where necessary.</li><li>• Use appropriate techniques, apparatus and materials during fieldwork and laboratory work.</li><li>• Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, bar and line graphs and models.</li><li>• Understand how some materials will dissolve in liquid to form a solution and describe how to recover a substance from a solution.</li><li>• Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.</li><li>• Compare how things move on different surfaces.</li><li>• Notice that some forces need contact between two objects, but magnetic forces can act at a distance.</li><li>• Observe how magnets attract or repel each other and attract some materials and not others.</li><li>• Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials.</li><li>• Describe magnets as having two poles.</li><li>• Predict whether two magnets will attract or repel each other, depending on which poles are facing.</li></ul>
Some children will progress further and will:	<ul style="list-style-type: none"><li>• Understand further techniques for separating mixtures, including chromatography and distillation.</li></ul>

### Enrichment/Outdoor Learning:

Floating or sinking grapes investigation. Use of 'Salt. Tears of the Earth' film clip. 'Chromatography investigation. 'Skittles Colour Detectives' investigation. Rainbow Soda Geysers.

### Previously on....(Links to prior learning)

Pupils should build a more systematic understanding of materials by exploring and comparing the properties of a broad range of materials, including relating these to what they learnt about magnetism in year 3 and about electricity in year 4. They should explore reversible changes, including, evaporating, filtering, sieving, melting and dissolving, recognising that melting and dissolving are different processes. Pupils should explore changes that are difficult to reverse, for example, burning, rusting and other reactions, for example, vinegar with bicarbonate of soda. They should find out about how chemists create new materials, for example, Spencer Silver, who invented the glue for sticky notes or Ruth Benerito, who invented wrinkle-free cotton.

### Key Vocabulary:

• Dissolving • Soluble • Insoluble • Solution • Suspension • Density • Separating • Material

### Cross-curricular links:

Maths- Data handling

English- Report writing

### Celebration of knowledge and skills gained (opportunities for assessment):

Application of learning and understanding to investigations at 'Tell Me Something I Didn't Know' Learning Together with parents. Collaborative creation of Science display for a communal area.