

# Primary Science

03.05.19

# Primary Science

- To develop an awareness of the Science Curriculum
- To be familiar with materials that support the planning, teaching and assessment of Science
- To develop an awareness of the progression of knowledge in 'Materials' in KS1 and KS2
- To promote the familiarity of appropriate and accurate Scientific vocabulary
- To develop an awareness of assessment

What do we know about  
materials?

# Materials in the National Curriculum

- Where is materials taught?
  - What is your experience of teaching materials?
  - What does the progression for this topic look like?
- 
- National Curriculum POS and Hampshire KI

# Materials in KS1

- Name as many materials as you can ( name KS 1 materials)
- Sort objects- MUST feel the materials
- Properties of materials- walk around school and outside
- Spinner- appropriate materials- How can you use this for assessment?
- Ideas for investigations – best done in context ( real life or a story)
- Best Curtains for a baby's room?
- Make a hat for Teddy in the rain
- A bag for Katie Morag
- Same object, different materials- Why?
- Materials to bend, twist, stretch, squash ?

# Materials in Lower KS2

- Loop cards
- Properties of solids/ liquids/ gases      Sand? Flour?
- Concept Cartoon- good for AFL starter and hook
- Hook - Micheal Rosen Poem- Chocolate
- Chocolate button investigation. Set in a context.

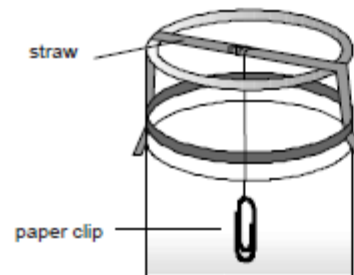
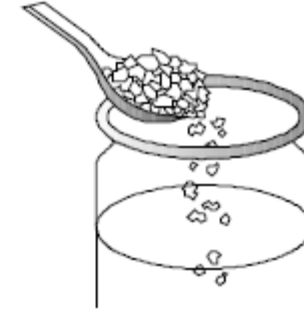
# Materials in KS2

- Irreversible and reversible changes
- Separating materials
- Growing crystals
- How can we clean our dirty water?

# Materials in KS2

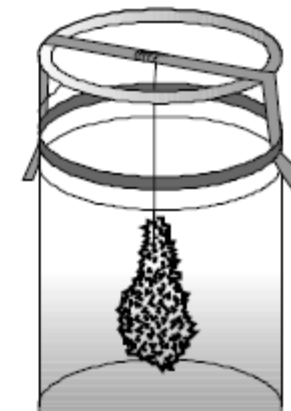
## GROWING CRYSTALS

1. Fill a jar with warm water from a kettle.
2. Add several teaspoons of salt to the water and stir until all the salt has dissolved.
3. Add several more teaspoons and stir. Repeat this until no more salt will dissolve.



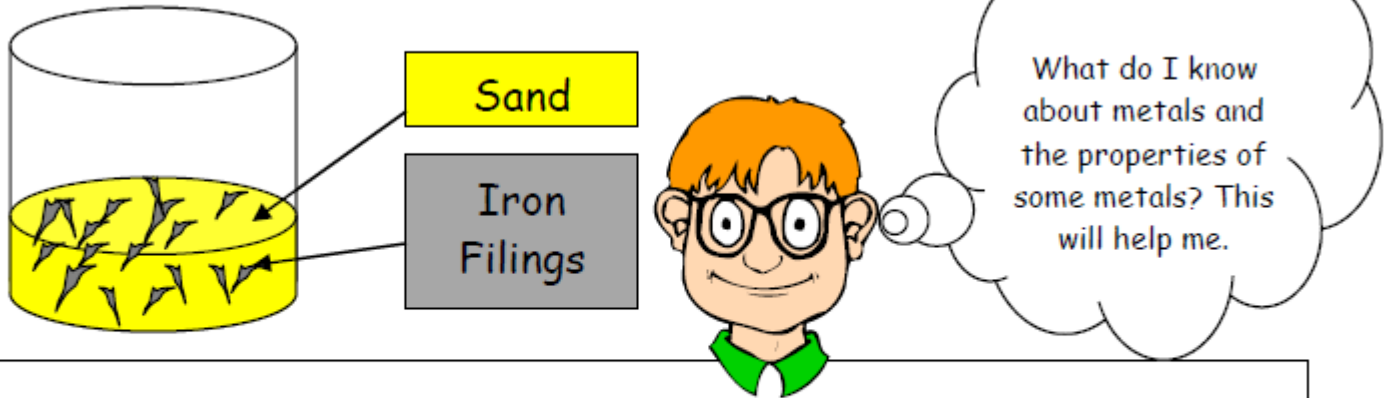
4. Tie a paper clip onto the end of a piece of cotton and wrap the cotton around a straw. Bend down the ends of the straw and secure over the jar with an elastic band as shown in the diagram.

5. Put your growing crystal solution to one side and look again in a week. You should see crystals growing around the paper clip.
6. After a week, observe your crystal using a magnifying glass. Can you see any of the shapes below?













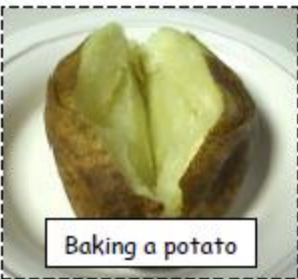

# Materials in KS2








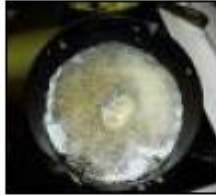









The diagram shows a glass beaker containing a mixture of sand and iron filings. Two labels, 'Sand' and 'Iron Filings', are connected to the mixture by lines. A cartoon boy with orange hair and glasses is shown next to the beaker, with a thought bubble above him. The thought bubble contains the text: 'What do I know about metals and the properties of some metals? This will help me.'

**Problem**  
Jim wants to separate the sand and iron filings. He wants to use the sand in his fish tank but does not want the iron filings to go rusty. How could he separate the sand and iron filings?

# Materials in KS2

 <p>Melting ice-lolly</p>	 <p>Burning wood</p>	 <p>Cooking an egg</p>	 <p>Melting ice-cream</p>
 <p>Boiling water</p>	 <p>Melting chocolate</p>	 <p>Melting butter</p>	 <p>Cooking meat</p>
 <p>Baking a potato</p>	<p>Look at the foods and liquids in the pictures and use the table to predict whether any of the changes occurring due to heating are <b>reversible</b> or <b>irreversible</b>. Test your predictions (where possible) to find out whether or not your predictions were accurate.</p>		 <p>Melting toffee</p>

# Materials in KS2

Material	Change	Changes caused by:
1) Orange juice 	 	What has changed _____ This change has been caused by _____ Is this change reversible? _____
2) Butter 	 	What has changed _____ This change has been caused by _____ Is this change reversible? _____
3) Chocolate 	 	What has changed _____ This change has been caused by _____ Is this change reversible? _____
4) Water 	 	What has changed _____ This change has been caused by _____ Is this change reversible? _____
5) Ice 	 	What has changed _____ This change has been caused by _____ Is this change reversible? _____

# Assessment

- Marking- Reword the question?
  - KS1 postits for evidence
  - AFL- before and end of the unit
  - Exemplification Materials
- 
- **MUST HAVE EVIDENCE!**

# Vocabulary activities

- KS1- Pupils should read and spell scientific vocabulary at a level consistent with their increasing word reading and spelling knowledge.
- KS2 – Pupils should read and spell scientific vocabulary correctly and with confidence , using their growing word reading and spelling knowledge.
- Bingo, Anagrams, word searches, Games- quizzes, matching dominoes, dice games, finger folding games, jigsaws, Hangman

# Questioning

- BLOOMS- Use high level questions to encourage thinking and explanations

# Useful resources

- Stories – scenarios in context
- Concept Cartoons
- Michael Rosen- Centrally Heated Knickers
- KS1 and KS2 Science Books ( Smiths , Waterstones) – Great for subject knowledge
- Puppet
- Websites

# KS1 and KS2 books

- Where is materials evident?
- How is Science taught?
- Is there progression of materials within the books on your table? How do you know?
- Where is practical science evident?



# Planning

- Plan your own materials activity that you can use back in school

What do you now know  
about material?

Any questions?