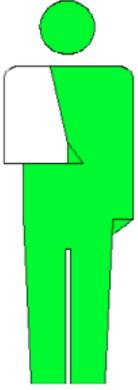


Using IT in... changing materials



How hot does plaster get when you mix it with water?

When plaster of Paris is mixed with water, it gets hot and this is a clue to the fact that it changes chemically and permanently. You can use a **temperature sensor**, wrapped in cling film, to take readings in the plaster as it sets. How hot does it get? Does the plaster set before it cools down? When does the plaster stop getting warmer? How could you find out if the plaster has really changed? What would happen if you crushed the plaster down to a powder again and added water back to it?

IT: Measuring

Does a burning candle produce water?

When things burn water is made. This is a sign of a chemical change taking place. So paraffin stoves cause condensation and a gas flame produces moisture. You can demonstrate this by burning a candle in a large glass container - the children may see a mist on the cold glass. At the same time you can put a **humidity sensor** in the container - and the computer screen should show a line rising as the candle burns.

IT: Measuring

Which sugar dissolves best?

The children can compare different types of sugar to see which dissolves best. They will need to think carefully about how to make a fair test of the sugars and indeed how they will measure which sugar is best. Should they time how long each sugar takes to dissolve or should they measure how much of each sugar they can dissolve. Either way, they can use a **spreadsheet** program to record their results and produce a bar graph to compare the sugars.

IT: Handling information

Does more sugar dissolve in warm water?

Children can investigate how much sugar dissolves in cold water, tap water and warm water. How much water should they use and how can they make this a fair test? How will they know that no more sugar will dissolve? They can count how many small spoons of sugar dissolve in a certain amount of a water. They will also need to take the temperature of the water. (They ought to take the temperature at the point that no more will dissolve - although it's hard to explain why).

After testing three temperatures they can put the results into a **spreadsheet** table. From this they can produce a scattergraph and be asked: does more sugar dissolve in warm water? Can they use the graph to guess how many spoons dissolve in hot water? How many might dissolve in ice cold water?

	A	B	C	D	E
1	How long will the candle stay alight?				
2	Volume cm ³	1st go	2nd go	3rd go	Average
3	100	2	2	2	2
4	150				
5	250				
6	400	From MEU Cymru			



Does the graph help with the answers? Do they think that if you stirred the cold water more, then more will dissolve?

IT: Handling information