Some materials dissolve in water others just mix

(a) Present the class as a whole with a wide range of materials to mix so that there can be a comparative, plenary discussion. Each group of children can have a smaller selection to work with. Include soluble and insoluble materials and get the children to record what happens each time. Suggest they stir or shake the mixtures and be patient! This would be a good lead into work on dissolving.

Good examples are;

Water with sand, sugar, salt, oil, coffee, lemon juice, flour;

Vinegar with oil, lemon juice.

At this stage the amount of each ingredient mixed is not critical but when adding solid to a liquid use no more than 1 teaspoon of solid to at least 100 cm^3 of water to avoid saturation. Keep the various mixtures for the discussion.

(b) The results of the activity could then be grouped into those materials that dissolve and those that do not, having discussed solubility first. In some of these mixings has anything new been made?

ICT

Word processing

Water and:	Prediction: will it dissolve?	Did it dissolve?	Describe any other changes that occurred
Sand			
Chalk			
Sugar			
Salt			
Oil			
Flour			
Coffee			

The coffee dissolved and went brown.

There are a variety of factors which affect dissolving

Discuss this with the children first and get them to suggest the factors that affect dissolving from their own experiences such as making a cup of tea. Get them to suggest a hypothesis, for example; 'I think that stirring affects dissolving' and then plan a way to prove it. This would make a good **investigation** or series of small investigations, eg **Investigate** Does stirring affect dissolving? This can have particular reference to fair testing due to the large number of variables that could be investigated. In this set of quantitative investigations, care should be taken if using salt, as impurities in the salt often leave the water cloudy after it has dissolved. Consequently, it is not always clear at what point the salt dissolves.

abpi