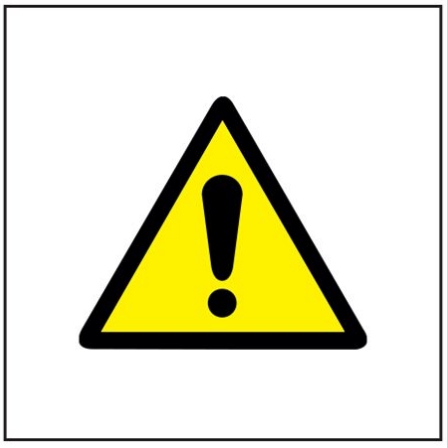
Dissolving sugar and sand

Safety!

- Be careful if you investigate different temperatures of water.
- You must not heat water using a kettle or on a stove without adult supervision
- To reduce mess, do this experiment on a hard surface not affected by water. Outside is even better!



Apparatus

- A beaker or glass, to be able to be seen through.
- Sugar
- Sand
- A spoon or stirring utensil

Method

Summary

It doesn't have to be sugar or sand, however these are both good examples of materials that do and don't dissolve in water, however other materials that are commonly used are salt (which reduces its solubility when temperature is increased) and pepper (which is hydrophobic - see Soap powered boat for more on hydrophobic materials and their uses).

Steps

- Pour some water into a cup or beaker. Don't fill it too high as you will need to stir the water.
- Next get a spoonful of sugar and put it in the water.
- Stir the water with the spoon for around 1minute, or if barely any sugar is left.
- Empty the sugar water, and fill the cup/beaker with fresh water.
- Put a small amount of sand in the water
- Stir this for 30 seconds.
- Notice the difference!

Once you have done this, then...

- You can also vary the temperature of the water to show how the rate of dissolving changes. - Some materials, such as salt, act differently to others when dissolving in different temperatures!
- You can use different materials instead of sugar and sand - fats such as cooking oil are insoluble in water and you can use it to make lava lamps!
- What else in your food cupboard do you think might dissolve or not? If you have permission from an adult, test your ideas.

Tweet us @*AbSciPart* if you want to show us your work!

Results:

Materials	Does it dissolve in room temperature water?	Does it dissolve in warm water?
Sugar		
Sand		
Other:		
Other		
Other:		

Follow Up Science

Here are some questions for you to think about or research.

- Why do some substances dissolve?
- What happens to sugar or salt particles when they dissolve?
- Do substances dissolve in some liquids and not others?
- Why is there salt in the sea?
- Why does salt melt ice?
- How can you get the solid material back from a solution?