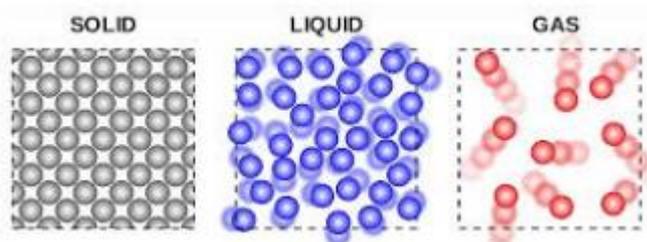




FAMILY HOMEWORK

Mad about Science

Welcome to your guide to Mad about Science! This is your family homework. You can get everyone involved. You need to choose at least two activities from the next page and complete them over the holiday. It must be in your **own words**, please do not just copy and paste from the internet. If you think of something totally different to do, other than the ideas that are listed, go ahead! All home learning should be brought into school by Friday 6 January 2017 to be shared with the class.



DISSOLVING

When some substances are added to other substances, they seem to disappear. This is because they have dissolved.

The solute is the substance that is dissolved. The solvent is the substance that dissolves the solute. The solution is the mixture of the solute dissolved in the solvent.

A substance that can be dissolved is called **soluble**. A substance that cannot be dissolved is called **insoluble**.

What happens when a solid dissolves?

Liquid particles collide with the solid particles and cause them to split up. The solid particles then mix with the liquid particles.

Solid particles (Solute) Liquid particles (Solvent) Solid and liquid particles (Solution)

Solubility is the amount of a solute that can be dissolved in a solvent. A solution becomes saturated when no more solute can be dissolved by the solvent.

Factors affecting the rate of dissolving

The rate of dissolving can be increased by:

- Increasing temperature**: At higher temperatures, particles move faster so they can collide more often.
- Increasing surface area**: Breaking a solute into smaller pieces increases its surface area.
- Adding a catalyst**: Stirring the mixture acts as a catalyst because it increases the number of collisions between the solute and solvent particles.



Over the next term we will share your work at school so make sure you bring things in to school as you complete them!

TRY THESE ACTIVITIES WITH YOUR FAMILY

What is your favourite fairy tale?
Can you re-write it in 100 words?



Super challenge - can you re-

50 words?

write it in

You Decide!

Which fairy tale character would be the best detective?

What story would you put them in?

Can you write an episode of this story?

Electricity Themed Board Game

Can you design an electricity themed board game?

You can design the board, characters? Questions?

Your game must have an element of electricity (e.g. something lights up when you get a correct answer).

What would the game be? You must include a diagram of your circuits using the correct symbols.



Invisible Ink

Do you want to be a detective?
Can you write a secret message using lemon juice?

Squeeze some lemon juice into a bowl and add a drop of water.

Mix

Dip a cotton bud into the mixture and then write your message on to white paper. Wait for it to dry.

Can you see it?

When you're ready to reveal your message hold it up to a light bulb.

All will be revealed!



Who invented the light bulb?

Do some research into this wonderful invention.

What can you find out about the controversy behind the invention of the light bulb.



Can you imagine a life without electricity?
What would you miss?

Could you survive?

What would you do for fun?

Go on a family trip to discover and explore

Here are some ideas of places to visit:

Science Museum The Science Museum has many wonderful exhibits that show the history (and the future!) of electricity. Learn about how electricity has shaped the modern world.



Unicorn Theatre The Big Bad Wolf is in trouble - he's been ripped out of his story and thrown in jail for being too good at being bad! Head down to the Unicorn Theatre to see the new musical *Baddies*. www.unicorntheatre.com/baddies2016



Remember to bring something in to tell your class about your trip. It could be a photo, drawing, poem, booklet, ticket, - anything!

Visit one of these amazing places over the term!
Museum of London Docklands Trip includes fun story-telling sessions for families!



Idea Store Go and borrow net or listen to a story!

a book, use the inter-





Mad about Science



Name:

Class:

Parent's comments:

Signed: