

WEEK	TASK	TOP TIPS	TAKE IT FURTHER
1	<p>Create a simple table and list down 12 activities/jobs that you do every day. Now give them a 'risk rating' on a scale of 1 to 10, where 1 is low risk, 5 is medium risk and 10 is high risk.</p> <p>For each of your 12 activities, write down any special equipment or things you use to help protect yourself or to make the risks of that activity/job lower.</p>	<p>As an example, going to the toilet can be a high-risk activity because it could be unhygienic. We reduce the overall risk by using toilet paper and washing our hands afterwards.</p> <p>As another example, crossing the road could be a high-risk activity. We reduce the risk by having zebra crossings and pelican crossings on as many roads as possible. We should also look and listen before crossing roads.</p>	<p>Modern electric cars and hybrid cars are very quiet when they are being driven. This poses risks to people crossing roads because they cannot always hear the cars coming. What would you add to the car to help warn people who are about to cross the road?</p> <p>If you had two different risks in the same activity and they both needed you to do things that are not allowed to be done together, which one would you pick to do?</p>
2	Test: Century	Remember to think about how things/objects/substances BEHAVE in the world around you. What do these things 'do' when you touch them, squash them, push them etc.	Some things around us are obviously solids, liquids or gases. What about the more unusual substances such as: jelly, toothpaste, rubber, syrup, sand, margarine, the soft centres of some chocolates.
3	States of Matter: Century - 2 Nuggets	If you think that a substance is 'in between' two states of matter in the way it looks, feels or behaves, make sure you make it clear which state of matter it is MOST LIKE.	The weather often involves changes of state. Can you explain what change(s) of state are involved when: 1) clouds form in the sky; 2) fog forms in the mornings; 3) rain turns to snow while it falls from the sky
4	Changes of state: Century - 2 Nuggets	Remember to use proper scientific words and phrases to describe the DIFFERENCES between two different states of matter. E.g. the particles are held together by STRONGER FORCES OF ATTRACTION in solids compared to those in liquids.	Evaporation is one of the states of matter that is found in many areas of our everyday lives. If you had to store 10,000,000 cubic metres of water in an open-top reservoir in <u>Australia</u> , would you store it in a reservoir that is 100m wide by 100m long by 1000m deep OR would you store it in a reservoir that is 1000m wide by 1000m long by 10m deep? Carefully explain your answer using both scientific and mathematical ideas.
5	You will have been given the name of a chemical element by your science teacher. You should prepare an A4 poster that tells a Y6 primary school pupil all about your element, what it is used for and	Don't include facts that you do not understand. Try to write about your element using words and ideas that Y6 students will understand. Test out	Some elements are now very rare. Can you find out an estimate of how much of your element is left on Earth? Also, is your element able to be

	where the element is found on Earth. Try to use a computer to produce your poster but 'hand drawn' posters are still very acceptable.	your work - try making a rough draft first and see what one of your classmates thinks of it.	mined on our moon or on Asteroids in our solar system?
6	Separating Substances: Century - 2 Nuggets	To separate two substances from each other you need to find something that one of the substances will 'do' but the other substance will not. E.g. separating salt from sugar cannot be done by using water. This is because both salt and sugar dissolve in water, so you won't achieve success!	Ethanol, propanol and butanol are all alcohols. They all look like each other and they all behave in quite a similar way to each other. Ethanol boils at 78 °C, propanol boils at 97 °C and butanol boils at 118 °C. Using this information, what method would you use to separate these three alcohols from each other? How does your chosen method work?
7	Combustion: Century – 1 Nugget	When something combusts (burns), three things are needed: 1) A fuel; 2) Oxygen; 3) Some form of spark or energy. Make sure you include all three of these in your answers.	There are different types of fire extinguishers for tackling different types of fires. Research three different types of fire extinguisher. Explain whether the extinguisher removes the fuel, the oxygen or the spark in order to put the fire out.
8	Acids and Alkalis: Century – 2 Nuggets	Remember that different indicators can give different colours for the same pH. You must learn the colours for each indicator 'off by heart'.	Use Excel or Word to create your own pH colour scale for Universal Indicator Solution that you can stick in to your science exercise book.
9	Forensic Scientists have the job of finding out detailed answers about things like crimes and environmental disasters such as poisoning of rivers etc. Write a decent paragraph that tells a Y6 student how forensic scientists use chemistry to help solve crimes.	Don't include facts that you do not fully understand. Use words and ideas that Y6 students will understand. Test out your work - try making a rough draft first and see what one of your classmates thinks of it.	Flame colours are a very important way to help identify unknown chemicals. However, sometimes the flame colours are just there for fun, such as at firework displays. Is there a link between the colours of fireworks and the cost of fireworks? Explain!
10	Chemical Reactions: Century – 2 Nuggets	Remember that when a chemical reaction happens, some things will change in front of your very eyes! Think about the small changes that are sometimes hard to see such as bubbling, slight changes in the shade of a colour etc.	The rate of a chemical reaction must be controlled otherwise a serious accident could occur. Can you think of four different factors that the human body uses to control the rate of chemical reactions inside of it?