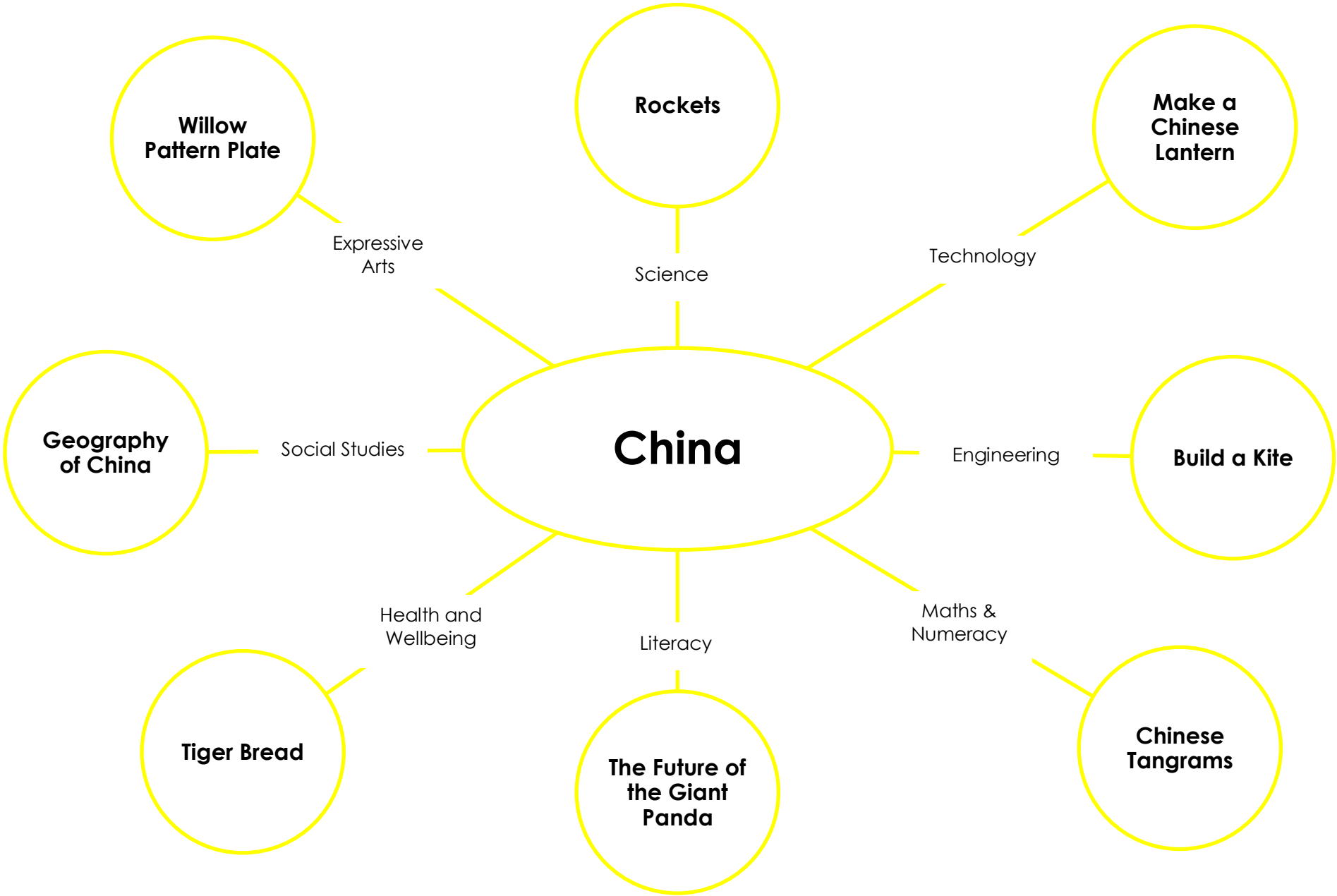
Learning from Home



Science Challenge

Rockets

Activity and image from https://pstt.org.uk/

According to **NASA** (**www.grc.nasa.gov**) rockets were invented by the Chinese. The first recorded use of rockets as weapons was in 1232 A.D when they used them to repel an attempted invasion by foreign warriors.

ADULT SUPERVISION REQUIRED!

SAFETY NOTE: This activity should be carried out outdoors - you need a clear empty space. **An adult should do steps 4 and 5 and anyone else should keep well back. Eye protection is recommended.**

You will need:

• Straws or dowels	• String	• Clothes peg
• Cork to fit bottle	• Kitchen roll	• 1 tbsp bicarbonate of soda
• Vinegar	• Sticky tape	• 500ml plastic bottle (empty

Instructions:

1. Tape 3 straws (or dowels) to the side of a 500ml plastic bottle so it will stand up, upside down.
2. Pour about 2 cm of vinegar into the bottle and wrap the bicarbonate of soda in the kitchen roll to make a little parcel.
3. Choose a hard surface outside to be the launch site.
4. Drop the bicarbonate of soda parcel into the bottle.
5. Cork the bottle quickly and tightly, put the rocket down and STAND WELL BACK!

***Talk to an adult - can you predict what will happen? Why do you think that?**

WHAT IS THE SCIENCE?

A chemical reaction takes place between the vinegar and bicarbonate of soda which produces a gas called carbon dioxide. This builds up inside the plastic bottle.
When the pressure of the gas in the bottle is high enough the cork is forced out.
The downward force of escaping gas causes an upward force on the bottle, making it shoot up into the air.
This is an example of Newton's Third Law of Motion: for every action there is an equal and opposite reaction.
The balloon rocket works on the same principle. The air rushing out of the balloon (the action) causes the balloon to move forward (the reaction).

Technology Challenge

Make a Chinese Lantern

Activity and images from www.firstpalette.com/

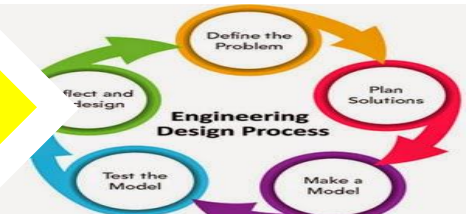
Today, we are making paper lanterns for Chinese New Year.

You will need: paper or cardstock (preferably red or yellow), scissors, stapler or tape, glue stick, ruler, pencil, things to decorate your lantern with (ribbons, sequins, glitter etc.)

Instructions:

1. Prepare the paper.	Start out with an A4, rectangular sheet of paper or cardstock. Red and yellow are preferred colours for a Chinese-themed lantern but you can choose any colour you like.
2. Make the handle.	Cut a 1-inch wide strip off on one short side. Set this aside for the handle.
3. Fold the paper in half.	Fold the paper in half, lengthwise.
4. Draw a horizontal line.	Draw a horizontal line one inch from the long edge opposite the fold. 
5. Cut the first slit.	Starting from the folded edge, cut a straight line about an inch from one short edge, all the way up to the horizontal line. 
6. Cut more slits.	Continue to cut more straight lines about 1 inch apart until you reach the opposite short edge of the paper. The horizontal line marks the point where you stop cutting each straight line. 
7. Unfold the paper.	Unfold the paper. The paper will have several vertical slits along the middle. Carefully rub out any pencil marks or re-fold the crease the opposite way to hide them. 
8. Decorate the top and bottom edge.	You can keep your lantern plain or decorate the top and bottom edges: **a.) Paint or colour** - make a border by painting or colouring the top and bottom edge of the paper. **b.) Draw details** - create patterns and details with glitter glue, puffy paint, or coloured markers. **c.) Glue a band** - glue a strip of gift wrap paper, patterned paper, washi tape, fabric, lace or a wide ribbon to make a border. **d.) Glue shapes or sequins** - glue on craft foam or felt shapes, small buttons, beads, sequins etc. **Remember** to leave at least ½-inch of undecorated area on one top corner. This gap will allow you to join the two edges of the paper to form a lantern. 
9. Form the paper into a lantern.	Turn the paper into a lantern by forming it into a tube shape. Overlap the long edges at least ½-inch. Staple or tape at the top and bottom of the overlap. 
10. Glue the handle.	Take the paper handle you made in Step 2. Glue the ends on the inside of the lantern's top edge. Decorate the handle if you like. Once the glue dries, hang the paper lantern as a festive Chinese New Year decoration. 
11. Add streamers.	Cut strips of crepe paper and glue these along the inside of the lantern's bottom edge. These streamers will make the lanterns move gracefully with the wind. 

Engineering Challenge



Build a Kite

Kites were invented in China 2,500 years ago. Originally, kites were used by the military to send messages and for measuring distances. Soldiers could see them flying and knew what they meant.

Adult supervision required

You will need: newspaper, colourful tape, scissors, 2 lengths of strong string, ruler, strong tape (duct tape), 2 dowels (long thin sticks / cylinders), (hot glue gun -optional)

The earliest kites were built of wood and cloth. Paper was used later.

Activity and Images from https://littlebinsforlittlehands.com/

How to Build Your Kite:

1. Measure out 2 lengths of dowel, one 4" longer than the other e.g., a 24" and 20", and carefully cut with scissors. Then measure 6" down from the top of the longer dowel and place the centre of your smaller dowel across it.

2. Tie or tape the centre of the dowels together by weaving a piece of string around each side and tie off into a knot.
3. Carefully cut a notch into the ends of the dowels, wrap a piece of embroidery thread around the kite and tie into a knot. You can hold those in place with a dab on hot glue or sticky tape.

4. Lay the "t" shape onto a large piece of newspaper and cut an inch larger all the way around.
5. Fold each edge over the string around the kite and firmly tape the edges.

6. Poke a tiny hole at each point of the kite. Then starting at the top, place a piece of string through the top hole, tie a knot onto the back of the kite and tape. Place that same string through the bottom hole, tie a knot onto the back of the kite and tape.
7. Let that string hang about 24" from the bottom and tie about 5 7" pieces around the string.
8. Repeat STEP 6 across the width of the kite.
9. Use a piece of leftover dowel and wrap an entire strand of embroidery thread around it. Then tie the end to the centre "t" of the strings and the dowel will be what you use to fly the kite.

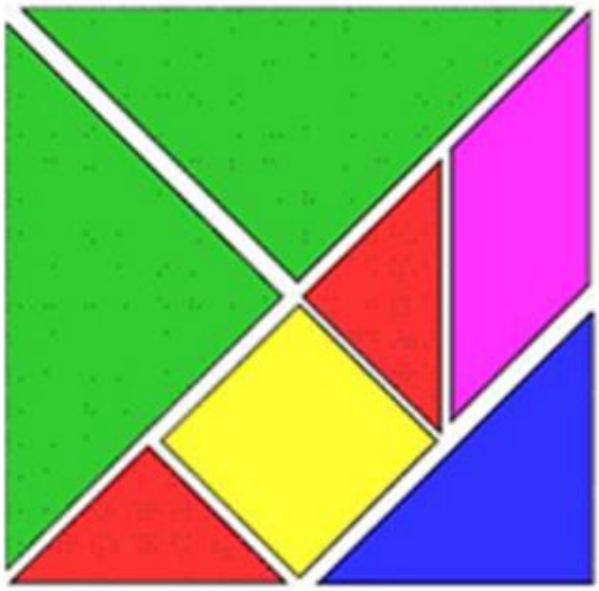
Safety note: **Ask an adult to go with you to fly your kite and make sure it is an open space away from overhead cables.**

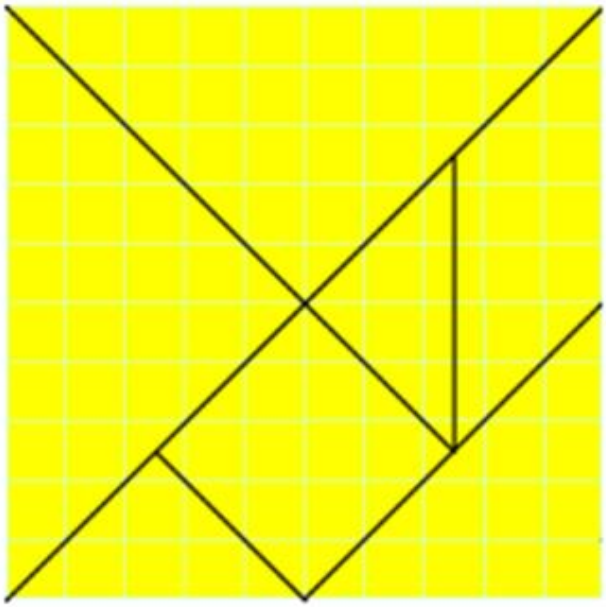
Maths & Numeracy Challenge

Chinese Tangrams

Tangrams, which were invented in Ancient China, are geometric puzzles – that is they are shapes cut into 7 separate pieces that then fit together to form another shape. The pieces are all **2D** shapes – 5 **triangles** (2 large, 1 medium and 2 small), 1 **square** and 1 **parallelogram.**

Image and activity from https://nrich.maths.org/





Task: Cut out the shapes from the multi-coloured tangram.

1. Can you make other squares using some, not all, of the pieces?

2. Can you make five different squares?

3. What is the smallest square you can make? What is the largest?

4. Can you make any other shapes/ characters using your pieces?

Have a go at these interactive tangram activities:

- https://www.abcya.com/games/tangrams
- https://nrich.maths.org/1
- https://nrich.maths.org/14735
- https://nrich.maths.org/14169

Literacy Challenge

The Future of the Giant Panda

The question: Should pandas be left to die out?
Today you are going to consider two different points of view regarding the future of Giant Pandas which only live in China and are endangered. Read both arguments then decide which point of view you agree with. **Discuss with an adult and try to write down the reasons for your decision.**

Activity from TES

Yes – Chris Packham TV Presenter and Ecologist: I don't want pandas to die out but let's face it: conservation, both nationally and globally, has limited resources. We are going to have to make some hard decisions.

The truth is pandas are expensive to keep going. We spend millions of pounds on pretty much this one species, when we know that the best thing we could do would be to look after the world's biodiversity hotspots with greater care. Without habitat, you've got nothing. So maybe if we took all the cash we spend on pandas and just bought rainforest with it, we might be doing a better job.

Image from www.clipart-library.com

Extinction is very much a part of life on earth. And we are going to have to get used to it because climate change is going to result in all sorts of disappearances. The last large mammal extinction was another animal in China – the Yangtze River dolphin, which looked like a worn-out piece of pink soap with piggy eyes. If it had appeared beautiful to us, then I doubt very much that it would be extinct. But it vanished, because it was ugly and swam around in a river where no one saw it. And now, sadly, it has gone for ever.

No - Dr Mark Wright - Chief scientist at the Worldwide Fund for Nature (WWF): If we don't destroy a species' habitat, they will just chunter along in the same way that they have for thousands of years.

In terms of its biodiversity and the threats it faces, I think that the part of China where pandas live should be on the preservation list. The giant panda shares its habitat with the red panda, golden monkeys, and various birds that are found nowhere else in the world.

It is true, though, that there some cases where preserving an animal is not the best use of resources. If you asked 100 conservationists – you would probably get 90 different answers as to which species we should save.

Smaller creatures often don't need a big habitat to live in, so in conservation terms it's better to go for something further up the food chain, because then by definition, you are protecting a much larger habitat, which in turn encompasses the smaller animals.

Distinctive animals are a very good vehicle for the messages we want to put out on habitat conservation. Look at Borneo, where you instantly think of the orangutans. In the southern oceans, you think of the blue whale. Then there are polar bears in the north. There are things you pull out from the picture because people can relate to them, and it does make a difference. Let's continue to save the Giant pandas.

Health & Wellbeing Challenge

Tiger Bread

This is the Chinese **Year of the Tiger** so today we will be making Tiger Bread. Bread can be eaten as part of a healthy diet – from toast, to sandwiches, just think about the toppings you use.

Adult Support and Supervision Required

Ingredients (For the bread)

- 400g/14oz strong white bread flour, plus extra for dusting
- 7g sachet fast-action dried **yeast** (or 1½ tsp)
- 1½ tsp salt
- a little sunflower oil (or oil spray)

(For the topping)

- 50g/1¾oz rice flour
- 1½ tsp caster sugar
- ½ tsp fast-action dried yeast
- ¼ tsp salt
- 2 tsp vegetable oil, or 1 tsp vegetable oil and 1 tsp sesame oil

Recipe and photo from www.bbc.co.uk/food/

Always wash your hands before preparing food!

Method

1. Put the flour, yeast and salt into a large bowl and give it a quick mix. Add 275ml/9¾fl oz of water and mix with your hands until the dough comes together. Turn out on to a floured surface and knead for 10 minutes. The dough should be smooth, springy and elastic.
2. Lightly grease a large clean bowl with oil and add the dough. Cover with a large plastic bag, cling film or a damp tea towel. Allow to rest (prove) in a warm place for about 30–45 minutes or until it has nearly doubled in size.
3. For the topping, mix the rice flour in a small bowl with the sugar, yeast and salt. Stir in the oil and 25ml/1fl oz of warm water until it forms a thickish paste – the consistency should be easily spreadable, if it's too thick add a little more warm water. Cover and set aside in a warm area until ready to use.
4. To check that the dough is risen enough, dip your finger in some flour and then dip it into the side of the bread making a small indent. If the dough springs back halfway it is ready.
5. Once the dough has sufficiently proved, knock it back and reshape. Sprinkle a little more flour on the work top and pull the edges of the dough down to the bottom to create a ball shape. Rotate the dough with your hands, cupping it round the bottom of the ball, to shape it into tight ball with a smooth top. Transfer to a floured baking tray.
6. Leave to rest again until nearly doubled in size. After about 20 minutes, use your hands to rub the topping paste all over the top and sides of the bread in a nice even layer, then leave to finish resting.
7. Preheat the oven to 200C/190C Fan/Gas 6.
8. Bake the bread for 25–30 minutes. The bread should be crackled on top and sound hollow on the bottom when tapped. (Use a clean tea towel to protect your hands)
9. Once ready, remove it from the oven and allow to cool on a wire rack before slicing.

Social Studies Challenge

Geography of China

Answer the questions below based on this map of China.

★ = Capital City

Compass

1. What is the capital city of China? **a**. Beijing **b**. Guangzhou **c**. Nanjing **d**. Shanghai
2. Which of the following cities is closest to Mongolia? **a**. Chengdu **b**. Harbin **c**. Guangzhou **d**. Wuhan
3. Which of the following countries does not share a border with China? **a**. India **b**. Kazakhstan **c**. North Korea **d**. Uzbekistan
4. Laos borders southern China. **a**. True **b**. False
5. What is the approximate distance between Beijing and Guangzhou? **a**. 400 miles **b**. 800 miles **c**. 1200 miles **d**. 1600 miles
6. China is smaller than Mongolia. **a**. True **b**. False
7. China is located in... **a**. Africa **b**. Asia **c**. Europe **d**. South America (You may need to look in an atlas, ask an adult or search on the internet to find out this answer.
8. Name 2 countries found to the Southwest of China. _____

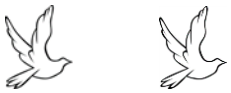
Images from http://clipart-library.com/

Map and activity from https://www.studenthandouts.com/

Expressive Arts Challenge

Willow Pattern Plate

The Willow pattern is a distinctive and elaborate design used on household porcelain. It became popular in this country at the end of the 18th century when it started being imported from China. The design is based on a Chinese story…



1. A rich Mandarin warrior had a beautiful daughter, called Koong-Se. She lived in her father's pagoda garden as she was promised to Ta-Jin, a noble warrior. Her only friends were two doves.
2. The doves were also friendly with Chang, employed as a gardener to the Mandarin. The doves passed messages between Chang and Koong-Se. They fell in love. Chang wrote a poem and sent it to Koong-Se in a shell.
3. Koong-Se received the love poem. She added sails to the shell and sent it back down the stream. In it was a letter telling of her marriage.
4. On the wedding night, all the guests became drunk. Koong-Se and Chang met. They agreed to run away together.
5. They were seen by the guests and chased. They escaped in a boat and sailed away to a distant island to become farmers.
6. The Mandarin trapped the birds and sent his men to find Koong-Se and Chang. They could not find them, so he had an idea; he released the doves.
7. The birds led the Mandarin to Koong-Se and Chang. They were captured and thrown into a maze under the pagoda garden.
8. They tried to escape but died in each other's arms. The gods were so touched by their love that they transformed them into lovebirds the instant they died.

Your Task: is to make your own willow pattern plate based on any section from the story.
You will need: paper plate, blue media - paint, pens, colouring pencils, chalk pastels etc.

Activity and images from TES

Can you see which parts of the story are shown by the arrows?

To watch the story of the Willow Pattern, click here:
https://www.youtube.com/watch?v=Ge1LD8JDfYg