Science and the Wider Curriculum - Planning and Ideas

Week Commencing: 22.06.20

Year Groups: 5/6

	Monday	Tuesday	Wednesday	Thursday	Friday
Area of Learning	**History** **To explore the different mysteries surrounding Stonehenge**	**Science** **To understand the 5 Kingdoms, including that of bacteria in more detail**	**PE** **To research the benefits of exercise on the body.**	**RE** **To perform acts of kindness**	**Art** **To explore the history and style of cave paintings**
Activity	Last week, we looked at Stone Age housing at the site of Skara Brae – we only had artefact evidence to help us and this meant that we had to make inferences about what the site revealed to us. Another location that requires us to make these intuitive leaps, is that of Stonehenge – have you heard of it? What do you already know? To help support your understanding, take a look at some of these videos and links: What does it look like? https://www.youtube.com/watch?v=APaIPPKFM-U How was it built? https://www.youtube.com/watch?v=iy0CfYd1hWg General information: https://www.bbc.co.uk/bitesize/topics/z82hsbk/articles/zg8q2hv#:~:text=Stonehenge%20is%20o	We have previously looked at how animals and plants are sorted by their characteristics. Carl Linnaeus took this one step further and gave every plant or animal a binomial name made up of two Latin words. But does that account for ALL living things? Can you think of an example of something that is living, but is not a plant or an animal? Living things are classified into 5 kingdoms, of which plants and animals are just two examples. They are: • Animals • Plants • Fungi • Protists • Monera Some of these terms may seem strange and unfamiliar, but don't worry, we will be working our way through them over the next few weeks.	We have already talked briefly at school about the effects that exercise has on the body eg, Heart rate/pulse, increased breathing etc but we also need to think about the other benefits of exercise. You might have heard people say that they feel good after exercise or that after exercise, people feel like they have lots of energy. Exercise stimulate the release of endorphins and 'feel good' chemicals such as serotonin which cause us to feel happy. Have you heard people say that they feel good after exercise? Well this is due to the endorphins which are released. **Task –** For your task today, I would like you to carry out a little research to find out about the benefits of exercise on the body. You might like to find out about endorphins.	**Our final topic this year for RE all about 'peace'.** **Starter**- what do we mean by peace? Make a list of ideas or discuss them with an adult. Read the definition of peace on the PowerPoint slide below. **Main Task –** Your task this week is to think of (and complete) *acts of kindness* through the week. I'm sure that you do this anyway, though this week I would like you to record the ways in which you have been kind or done something for the benefit of someone else. Record your ideas on the sheet below or you can use your own format. Here are some of my ideas if you are stuck -smile at someone while walking past them -read a story to a younger sibling -help a parent/carer in the kitchen	**Starter** Look at the example of the cave art below. Discuss these questions with an adult or make notes yourself. -How long ago were these paintings completed? -What were they painted with? -What are they paintings of? -Can you see any recurring themes or patterns? -Why were they made? Read the little descriptions next to the paintings to find out more about them. **Main Teaching** Read this paragraph of information. Pay special attention to the important words in bold. *Humans were rarely drawn, and if they were, they were drawn in much less detail. The colours were limited to the* ***natural pigments*** *found in nature.*

	ne%20of%20the,Neolithic%20Age%2C%20around%203000%20BC. **Activity 1** Read through the information about Stonehenge and answer the comprehension questions. **Activity 2** There are numerous theories about what Stonehenge was created for and remember, as we are dealing with prehistory, we will never know for sure. But we can use the evidence to make supported suggestions, such as it was a religious site, a burial ground or even a large piece of art! What do you think? Consider these 5 facts and think about which theory they support. Use this to tell an adult in your house what your theory is about the purpose of Stonehenge: • Evidence of high-profile woman found buried at the site. • Further evidence of burials taking place. • There are axe-head carvings on some of the stones. • A cow's jawbone was found in one of the ditches. • Nearby, there is evidence of 5 Neolithic houses.	Today, we are going to focus on bacteria – what do you already know? Give yourself 5 minutes to think about your prior knowledge before we continue. • Bacteria are tiny, single celled organisms. • They are quite different to plants and animals. They reproduce by splitting themselves in two. • They are so small that we cannot see them without a microscope. • Bacteria are found in all habitats on Earth, in soil, rocks, oceans and snow. • Some bacteria live in or on other organisms including plants and animals including humans. • Some bacteria cause diseases, but other bacteria can be very useful to us. Bacteria has many different uses, some good and some bad. **Activity** Read through the example slides below to see examples of bacteria in action. Use these, and research of your own, to decide if you agree or disagree with the statement: All	How do endorphins have a positive effect on the brain? At school, we do morning exercises. Why do you think we do this? I would like you to create a leaflet/poster showing the benefits of exercise on the body/brain/mental health. You can present your work in any way you like.	-complete some housework There are many, many examples to choose from.	*Humans, who were the cave artists, would also use tools to create their art on the **walls and ceilings of the caves**. The cave paintings are often quite deep inside the caves, and sometimes in areas that were difficult to reach. It would have been **dark** inside the caves as they were painting, as they only had fire torches or spoon lamps to see by. The **flickering** of the flames might have made the painted animals seem like they were moving.* **Main Task** Today, you are going to recreate your own cave painting. There are many different ways of doing this and it depends on what resources you have at home. You might want to first paint/colour your page in earthly tones. There are some animals to stencil around or to cut out for your panting. Or perhaps you could paint your animal using your finger (if you have paints or charcoal). Remember, your picture needs to be simple and similar to the designs below – it should not include lots of details. **NB –** if you would like to produce a more technical drawing, there are some instructions included below. However, you don't have to do it like this.

	Activity 3 Create your own model of Stonehenge using any building material that you like. It could be made of Lego, bricks, clay or even biscuits! Take a photo of your finished creation and send it through to us.	bacteria is bad. Write a short, scientific paragraph explaining your opinion and using evidence to support your ideas. To help you, follow the link and click on '13 class clips' for lots of useful videos all about bacteria: https://www.bbc.co.uk/bitesize/topics/zfxxsbk			

History Activities

Stonehenge

Stonehenge is a very famous prehistoric monument in the South of England, in Wiltshire. It was started 5000 years ago during the Stone Age, around 3100 - 3000BC. Up to 150 peple were buried there when it was just an earthwork. The stones that we see today were added later.

Ther earthwork was a circular ditch dug using antler picks with a bank both inside and out. Bones of oxen and deer were found in the bottom of the ditch along with flint tools. The central area was about 100 metres in diameter and there were two entrances. There were 56 pits dug around the circle (called the 'Aubrey holes' after John Aubrey, who was thought to have first identified them in the 17th century) which were 1 metre wide and 1 metre deep, with flat bottoms. The purpose of these holes is unclear. Different people think they could have held timber posts, or stones, or were part of a religious ceremony.

It is unclear when the second stage started, it could have been between 4000 and 5000 years ago. The stones that were added at this point came all the way from the Preseli Hills in South Wales. They were called bluestones (because they appear to be slightly blue when broken or wet) and 82 of them, weighing up to 4 tonnes each, were transported an amazing 240 miles over land and water. This was way before roads and lorries. (Another theory is that they were brought much closer by a glacier). The stones were set up in a double circle pattern . During this second stage the North East entrance was widened and the largest stone, know as the Hell Stone added. The Avenue was started. This was an earth corridor dug to connect Stonehenge with the River Avon.

The third stage involved the addition of more stones about 500 years later. These were called Sarsen stones and came from the Marlborough Downs, about 25 miles from Stonehenge. The Sarsen stones were enormous, the upright stones being over 4 metres high, 2 metres wide and weighing up to 30 tonnes.

An outer circle was created, with stones laid horizontally across the top. Medieval gallows were built with two vertical stones and a horizontal stone on top, which is why the name Stonehenge could be derived from the Old English words for 'stone' and 'hang'.

In the middle, more stones were arranged in a horseshoe shape. At the centre was a stone called the Altar Stone. During the final changes the original bluestones were rearranged in the horseshoe and circle shape that can be seen today.

The Slaughter Stone is a type of sandstone which, after rain, can appear to ave a reddish colour. This is because the iron in the stone reacts with the rainwater. It was called the Slaughter Stone by Victorians who assumed that the red in the stone was blood, and thought that Druids must have practised sacrifices on it.

The stones are positioned very carefully to align with sunrise at midsummer and sunset at midwinter at opposite ends of the circle.

It has been estimated that the three phases of construction could have taken more than thirty million hours of labour.

Modern calculations show that it would have taken 500 men using leather ropes to pull one Sarsen stone, with an extra 100 men need to lay the huge rollers in front of the sledge.

The stones would have been moved and raised using a combination of rollers, ropes, wooden levers, A-frames and pulleys, and a massive amount of man power. It is thought that the horizontal stones would be raised to the height of the vertical stones by building up wooden platforms.

Carvings of axe-heads and daggers can be seen on some of the Sarsen stones. These were perhaps symbols of power.

We don't know why Stonehenge was built. Suggestions include a special burial ground, a place of healing, an astronomical calendar, or a place of worship.

Stonehenge

1. Where is Stonehenge?

2. How did they dig the ditch?

3. What name was given to the pits?

4. Where did the bluestones come from?

5. There are two main theories about how the bluestones got to Stonehenge. What are they?

6. Which entrance was widened during the second stage?

7. What are the largest stones called?

8. How much did they weigh?

9. We don't know why Stonehenge got its name, but what is one suggestion?

10. How did the Slaughter Stone get its name?

11. What is special about the alignment of the stones?

Stonehenge

12. There is so much we don't know about Stonehenge. If you could go back in time and find out the answer to just one question about Stonehenge, what would the question be?

13. There are many different theories about why it was built. What do you think? Why?

14. In the past there was open access to Stonehenge, now there are ropes up so visitors have to look from a distance, and closer access is restricted. Do you think this is right? Why?

Science Activities

E-coli

E. coli is a type of bacteria.

E-coli bacteria normally live in the intestines of people and animals

Most types of E. coli are harmless

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Wash hands after handling animals.

Wash hands before and after preparing food.

Wash hands after going to the toilet.

Some types of E. coli can cause **diarrhea, respiratory** illness and **pneumonia** and make people very ill.

Bad Bacteria: Plague

Plague was caused by a bacteria called Yersinia pestis. This was spread to humans by fleas which were carried on rats.

The Black Death
1346-1350
Between 75 million and 200 million
people died.

The Great Plague of London
1664-1666
Roughly 100,000 people died.

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Good Bacteria

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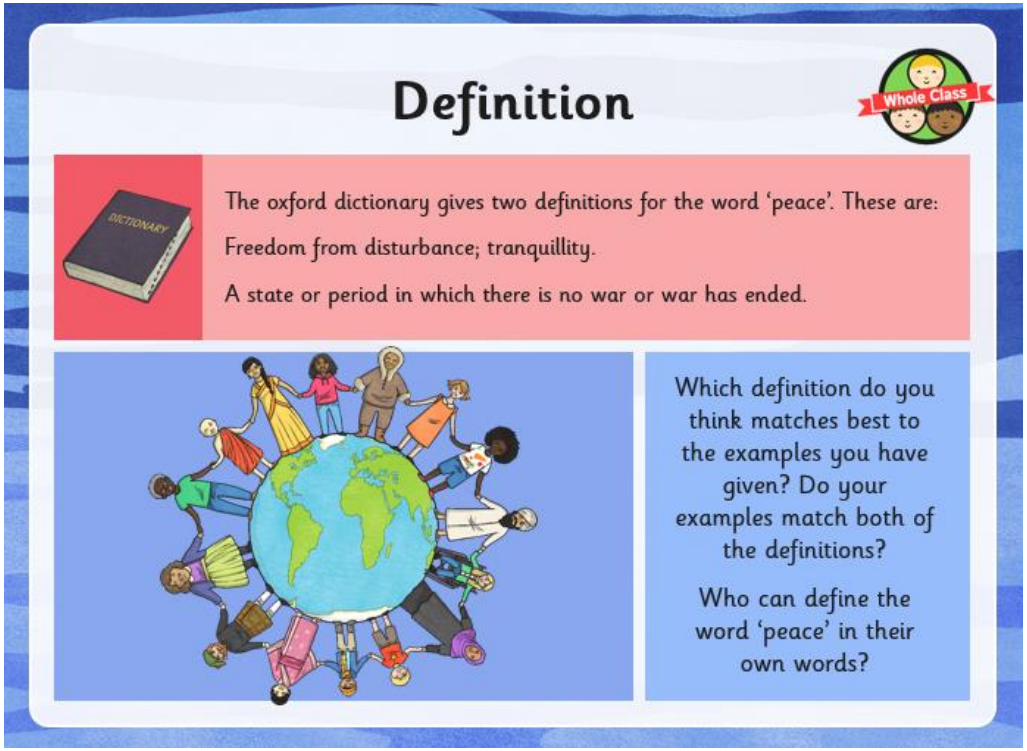
Some foods wouldn't exist without bacteria.

Special bacteria change milk into cheese and yoghurt.

- Bacteria (and fungi) play an important role in decomposing dead / waste material.
- Without bacteria, things would not rot away.

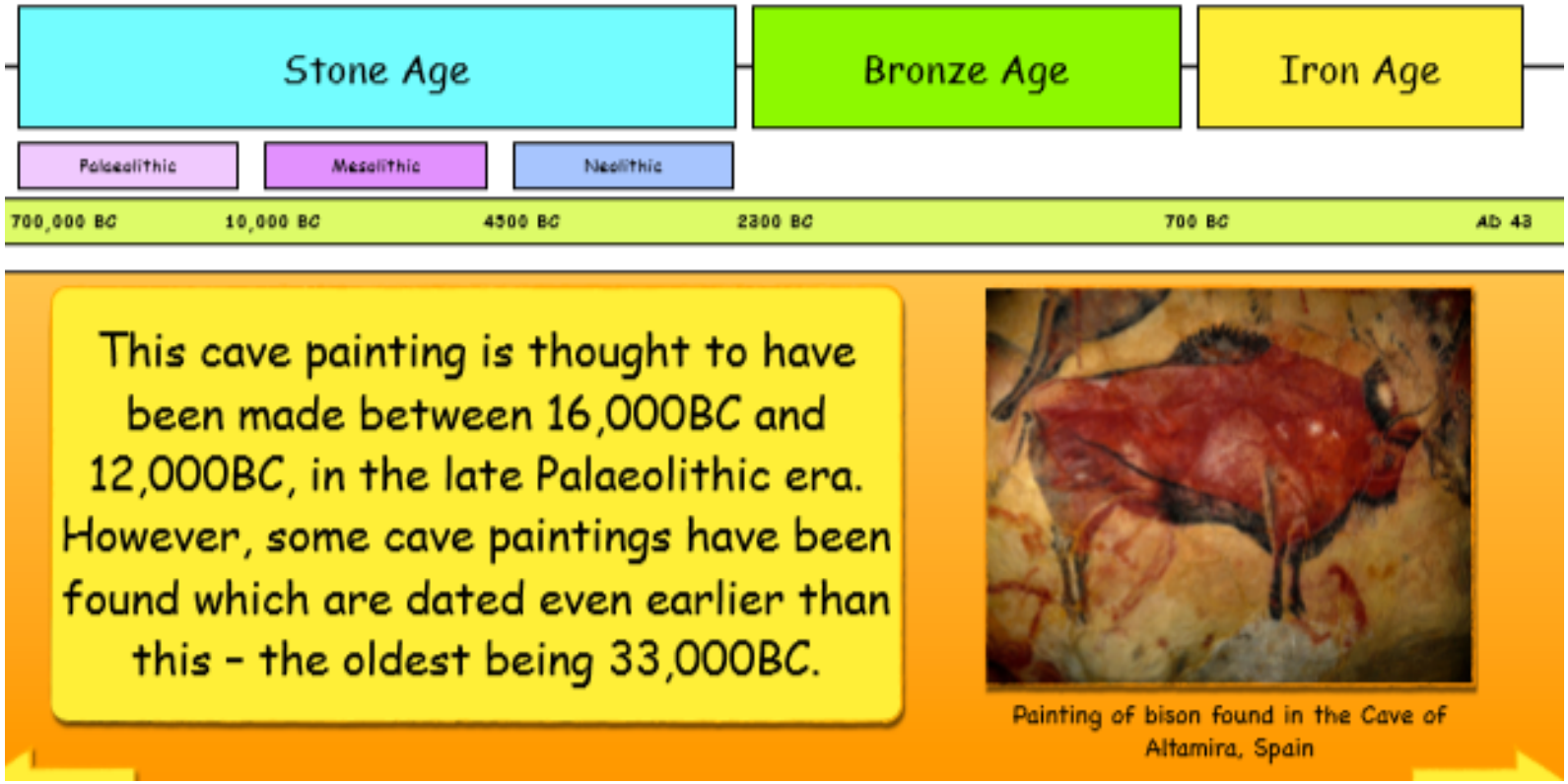
RE Lesson – To understand the definition of 'peace'

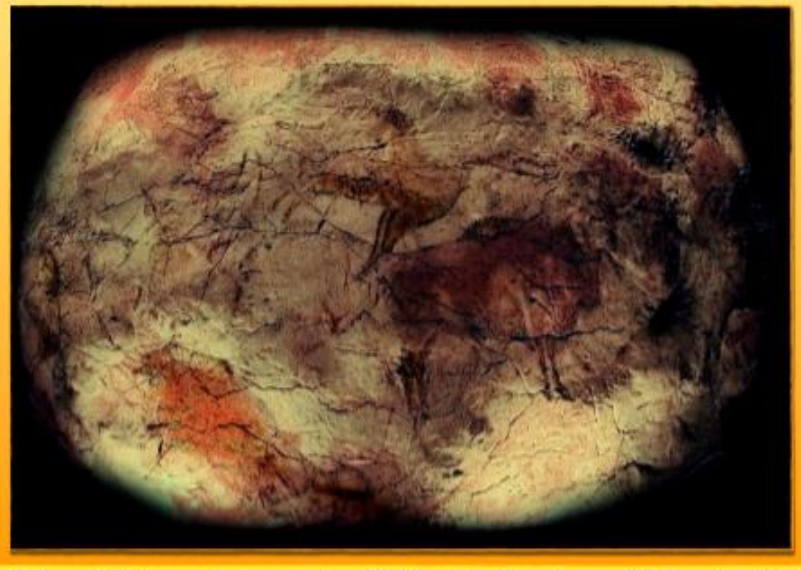


RE Activity Sheet

Acts of Peace and Kindness Checklist

Art Cave Painting Examples





Painting of bison and other animals found in the Cave of Altamira, Spain.

Painting of a Megalocerus (giant deer) in the Lascaux caves, France.

Painting of a horse in the Lascaux caves, France.

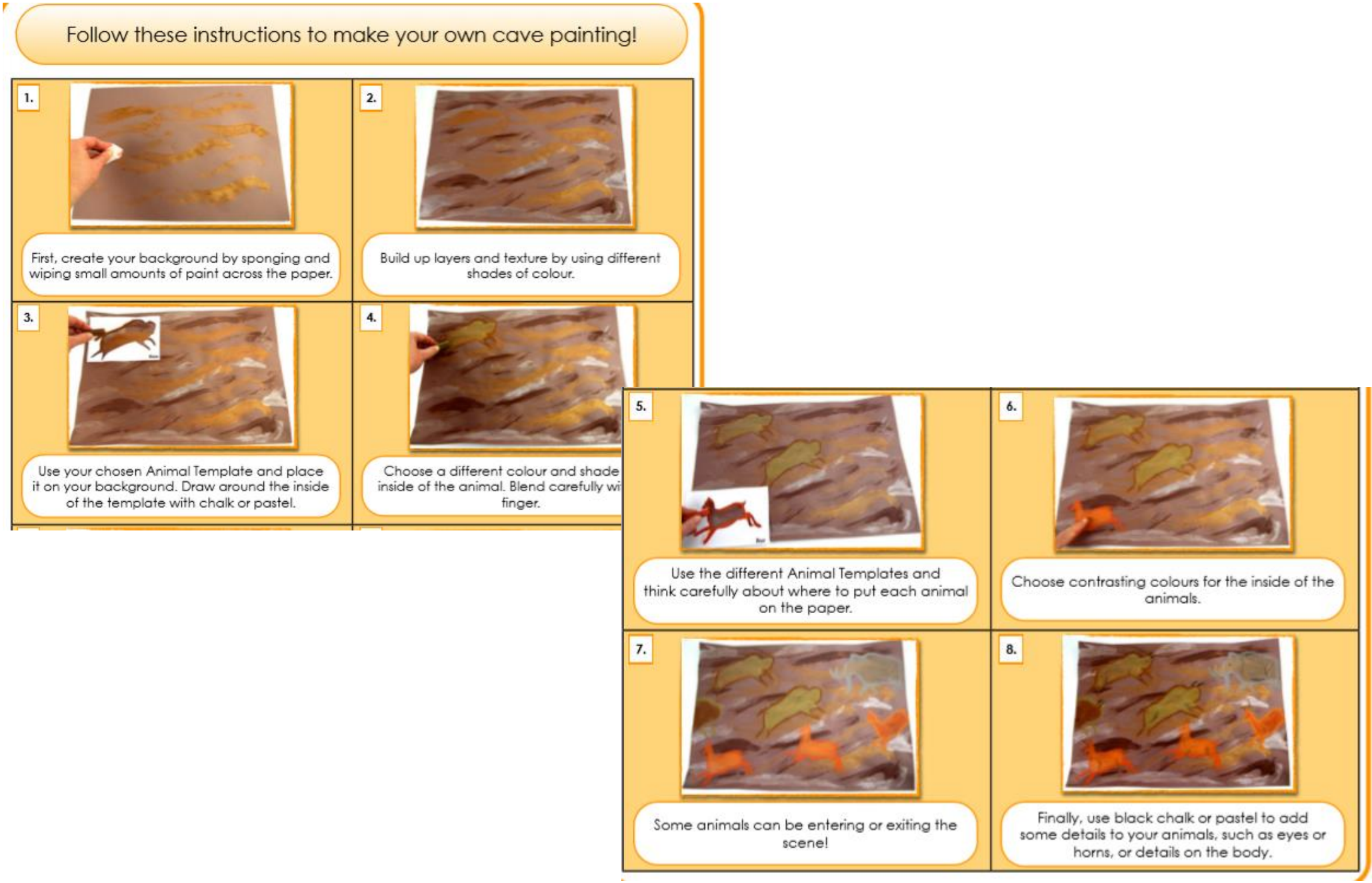
To create red or yellow shades of colour, certain rocks will have been searched for and chosen especially for the right shade they could create.

Black paint would have been made from charcoal (burnt wood).

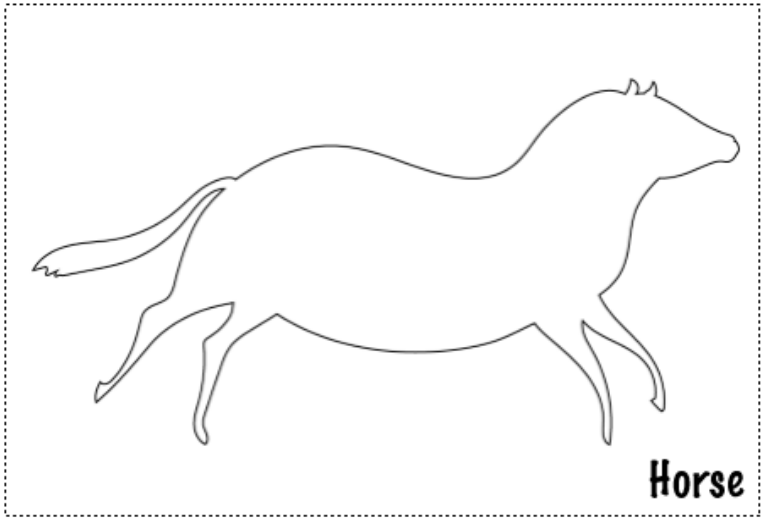
Chalk, burned bone or shell would have been used for white paint.

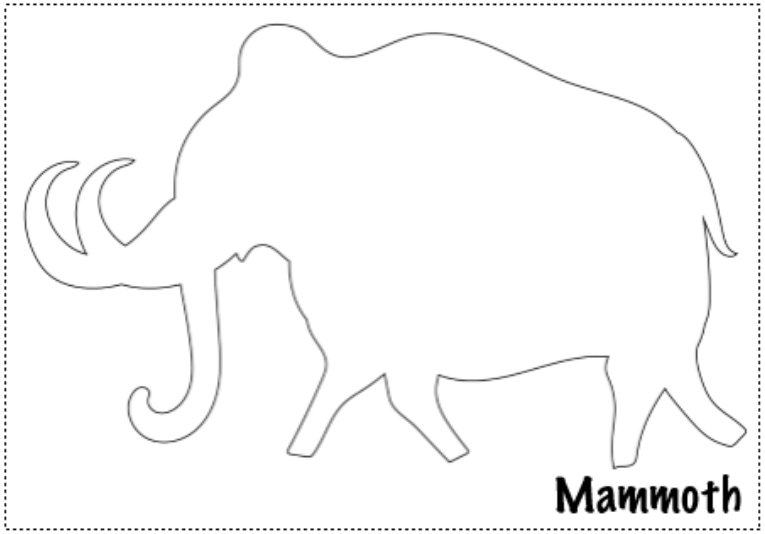
To make their paint, first they would have had to grind down the rock, wood, shell or bone into a powder. It would have then been mixed into a paste using water, saliva and animal fat, which would have helped the paint stick to the walls.

Optional instructions for cave painting design

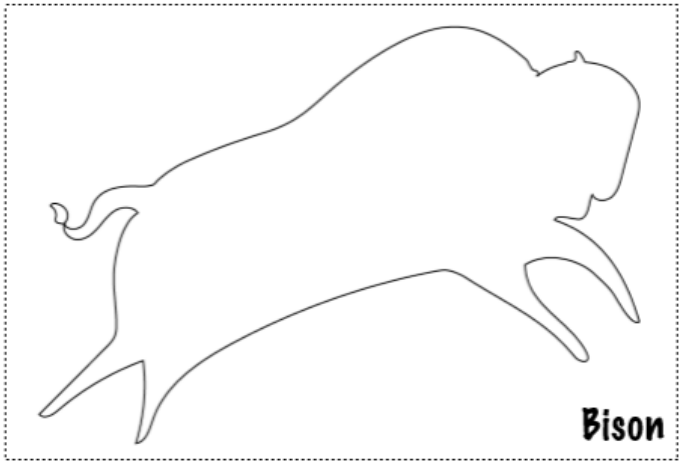


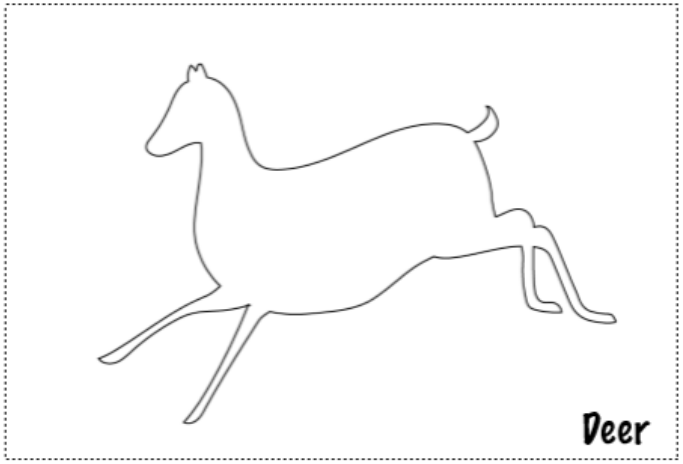
Prehistoric Animal Outlines





Cut out the inside of the animal to create a template for your cave painting. Create a hole in the centre of the animal, and then carefully cut around the outline from the middle. Do NOT cut from the outside in!





Where can I complete further work?

Twinkl – Subscription service used by schools is offering a free premium service for teachers, parents and children to use whilst schools are closed. Enter the code **UKTWINKLHELPS** for access to worksheets, powerpoints and interactive games to support all areas of learning.

Classroom Secrets – Free Maths, Reading and Grammar home learning packs and interactive resources for all ages.

BBC Bitesize Primary – Free learning resources available for KS1 and KS2 across all subjects.