



# A14 LEARNING BOX

**Teacher's Guide** 



# Welcome!

We've made this guide to help you navigate your own route through the learning box. It provides further information on the contents and sessions we have designed, suggests other activities that you may want to undertake, and signposts you to further information and resources. It is by no means exhaustive, but hopefully you will find it useful as a starting point and inspiration for your journey. Steppe, our woolly mammoth guide, is on hand to help.



The activities we have included draw upon the vast post-excavation research and reports carried out as part of the A14 scheme. They are aimed at KS2 (ages 7-11) as the archaeology of the A14 best aligns to this part of the national curriculum, however you can adjust and amend the activities to suit the needs of your children and students.

### **Contents of the learning box**

- This teacher's guide to help navigate the box
- A USB stick containing:
  - A PowerPoint presentation
  - Activity sheets linked to the national curriculum. Alongside history, they include maths, English, geography, art, music, science and more.
  - A timeline of the key archaeological periods covered for you to display in your classrooms.
- 8 x 3D printed artefacts from the A14, and some information about them.
- A selection of real archaeological finds from the excavations
- A copy of the A14 popular book and links to the digital interactive (see acknowledgements section).

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# Introduction to archaeology of the A14

### **Discover the archaeology of the A14**

The archaeological excavation for the National Highways A14 Cambridge to Huntingdon improvement scheme was one of the largest and most complex projects of its kind ever undertaken in the UK.

Between 2016-2024 hundreds of archaeologists excavated, recorded and studied the archaeology across hundreds of acres of Cambridgeshire, revealing more than 12,000 years of history and prehistory (before things were written down) right beneath our feet.

### What do archaeologists do?

For thousands of years people didn't write down information about their lives. The only way we can find out about them is through archaeology.

Archaeologists don't dig up dinosaurs (that's palaeontologists). We're really interested in people!

Archaeologists find and study things which were made and used by people in the past. Archaeologists do lots of different jobs. Whether you like maths, drawing, digging or computers, there is something for everyone.

Archaeologists:

- Dig (excavate) places where people used to live and work
- Collect information and take photos to make maps or models of sites
- Clean and study objects to find out what they are
- Look at the soil to find the remains of plants and animal bones

Being an archaeologist is a lot like being a detective. We look for clues (evidence) which can tell us what life was like for people who lived a long time ago. Our excavations can tell us what their houses looked like or what they liked to eat. Archaeology can even tell us about their pets.

We also ask a lot of questions. We use the evidence we find in our excavations to help us answer them.

### What have we found?

This video gives an introduction to some of the exciting finds from the A14 excavations: <u>https://youtu.be/mQMX2s18zLs</u>

Now it's the children's turn to be archaeologists. As you work through the sessions and activities in this learning box, they'll investigate the archaeology of the A14 and understand how the landscape was used through time. Everything they discover will help them put together a picture of Cambridgeshire's past, from woolly mammoths to medieval music. This is what archaeologists call **interpretation**. We have to put together all the clues to understand how a site or object was most likely used.



# Prehistory (900,000 BCE - CE 43)

The term prehistory covers everything before the written record. The prehistoric archaeology we discovered on the A14 can be dated back as far as the Palaeolithic (the Old Stone Age, c.900,000–9500 BCE).

Steppe, our woolly mammoth guide, was found in a gravel pit near Fenstanton, once the bed of an ancient river. Along with the remains of mammoths were those of woolly rhino, reindeer and other prehistoric animals, dating back to the last Ice Age. These are some of the oldest finds discovered across the whole excavation, with mammoths being extinct in Britain for more than 14,000 years.

### **Activity 1: Animal bone identification**

#### What animal bones do we find?

From mammoths and woolly rhinos to bison and aurochs (large ancestors of modern cows), some animals became much larger to survive in the freezing cold temperatures of the Ice Age. In total, there were the remains of at least two mammoths and four woolly rhinos, as well as reindeer, horses, bison and aurochs.

The A14 excavations uncovered a huge amount of animal bone - 3867kg to be exact. Some bone types survive better than others. Larger bones are easier to see in the ground, and very small bones can sometimes be missed even though we dig very carefully. Examining these remains gives us a richer understanding of Cambridgeshire's past landscapes. They can also tell us about the lives of the people and animals who lived here. Archaeologists who are experts in studying animal bones are called archaeozoologists.

#### What animals did people in the past meet and why?

The animal remains include dogs, cats, chickens, and geese, who would have lived in and around people's homes. There were also animals hunted or trapped for food, like deer, wild boar, and rabbits; as well as fish; reptiles; tiny mammals like voles and shrews; wild birds; as well as other wildlife species you perhaps wouldn't expect like bear, lynx, and beaver.

A vast majority of the bone, as might be expected for rural sites, was from farm animals: cattle, sheep, goats, pigs, and horses. These animals are collectively called 'livestock'. The remains mainly date from the Iron Age, Roman and Early Medieval periods. They reveal changing farming practices across thousands of years.

In the Bronze Age (2500-750 BCE) the most common farm animals were cows. Cows were very useful because they provided milk and meat for food, they could pull heavy carts and ploughs for farming, and their skin can be used to make leather for shoes and clothes. Finding a farm or settlement where cows were kept also tells us there was a good area of grassland nearby for grazing.

By the Iron Age (750 BCE- CE 43) there were as many sheep as cows. This suggests wool was becoming more important for making clothes. Like cows, sheep also provide milk and meat but are easier to keep in small enclosures. They are happy to live on poor ground without lots of grass, but they don't like wetland or very boggy areas.

We also find the bones of goats, which are very similar to sheep, so it can be hard for archaeologists to tell them apart. Just like sheep and cows, they were kept for meat and milk. Goats are happy to eat most plants, including tall weeds and even bushes. Horses were kept for pulling carts or ploughs, and for riding. Pigs were kept for meat, and like cows their skin can be made into leather for clothing. Pigs were also a very useful animal because they will eat almost any food! Dogs were used for hunting and protecting other animals, as well as being kept as pets.

Everyday objects, cheese moulds and loom weights, show people were making use of everything the animals could offer. This includes their bones, which were used to make objects like combs, needles and spindle whorls.

#### For this activity you will need:

- The animal bones from your box
- The animal skeleton and bone comparison information
- The animal bone identification (ID) worksheets
- Further information to help identify the bones is available from the Natural History Museum, and can be found here: <a href="https://www.nhm.ac.uk/take-part/identify-nature/british-mammal-bones-id-guide.html">https://www.nhm.ac.uk/take-part/identify-nature/british-mammal-bones-id-guide.html</a>

Using the identification sheets provided, the students can work individually, or in groups, to become archaeological detectives and identify the bones in the box. They can also look to see if there are any evidence of marks on the bone and suggest how any why they might have been made.

**CAUTION:** All the bones in the box are archaeological, from a Roman site near the River Great Ouse, and are at least 1,600 years old. While the bones have been washed, some dirt remains, and as some of the bones are broken (mostly a long time ago) there may be some sharp edges.

Please be aware not all the types of bones mentioned will be in your box.

#### **Types of bones:**

When archaeozoologists are identifying animal bones, they start by sorting them into 5 different groups. The groups aren't based on where the bone is in the body, they tell us what the bones do!

- 1. **Long bones:** these are bones which help the body move. These bones are long with large joints at the top and bottom.
- 2. Flat bones: these bones protect the body's soft organs such as the brain, the heart, and lungs.

- 3. Blocky bones give the body support.
- 4. **Teeth** for cutting, grinding and crushing food. These can look different depending on what the animal eats. Carnivores (meat eaters) have sharper teeth, while herbivores (plant eaters) have flatter teeth.
- 5. **Horn:** these grow out of the heads of some cattle, sheep and goat (antlers for deer). Antlers regrow each year, horns last for the whole of the animal's life.

#### Identifying the bones

All the animal bones we are looking at are from mammals. This means that many of their bones are the same as ours! We can identify which animal these bones are from based on their size. Cow and horse bones are much bigger than sheep or goat.

#### Long bones:

Front legs or forelimbs (like our arm bones) are attached to the body by the shoulder blade (scapula). The upper long bones are the 'humerus' and there are two lower bones are the radius and ulna. They have a joint in the middle so the animal can kneel – these are elbows, just like we have!

Back legs (also called hind limbs). The upper long bones are called the femur. The femur attaches to the pelvis at the top (just like our hips). Then there is a knee joint so the animal can kneel. Below the knee are two long thinner bones called the fibula and tibia.

#### Flat bones:

Skull: Mammals' skulls are made up from around 34 bones. As the animal grows up these all fuse (join) together to make a large round section called the braincase, the rostrum (upper jaw) and mandible (lower jaw). The shape of an animal's skull helps archaeologists tell which animal it is from.

#### **Blocky bones:**

Spine (the backbone) is made up of lots of individual bones called vertebrae. They connect the head to the tail. We often find single vertebrae, but it is difficult to tell which animals they come from without other bones.

Foot bones: Cow, sheep, and horses all have toes and bones in their feet, although they look very different to our feet! The foot bones we find most often are:

Astragalus (or Talus) and Calcaneus – like human ankles, these bones connect the shin to the rest of the foot. They make a joint that allows the foot to move.

Metatarsal – these are the long bones that run from the ankle to the toe(s). Some animals, like pigs have four toes, but cattle and horses only have one.

Phalanges (toes) – Three phalanges (of different sizes) make up one toe. The phalange that connects to the metatarsal is the biggest, the middle phalange is usually smaller and blockier, and the last phalange is usually smaller again and has a more pointed shape.

#### Teeth:

Teeth survive longer than other bones because they are protected by enamel! We can find out a lot about animals from their teeth, including how old they were when they died. We can do scientific experiments on them to find out what time period they lived in (radiocarbon dating).

We can also find out what the animals liked to eat from the shape of their teeth:

Carnivores (meat eaters) have sharp and pointy teeth

Herbivores (Plant eaters) have flat teeth to grind their food.

#### Horn:

Prehistoric cows, sheep, and goats had horns (many still do today!). Cow horns were very useful because the outside layer (or sheath) could be taken off and used to make many things including handles for knives, and cups. It is made from the same material as your fingernails!

Archaeologists usually find the structure inside this horn sheath, called the horn core. This is made of bone which grows out of the front of the skull.



# **Activity 2: Pottery making**

Pottery was very important in prehistoric daily life. Everything people needed to cook and eat and store food was generally made from pottery. This could be made locally or traded for from across the country.

Pottery vessels also played an important role in ritual activities. When people were cremated in the Bronze Age, their remains were often buried in pottery urns, which could be ornately decorated. We even found small Iron Age pots which had been left at the bottom of a well as part of a ceremony when the well stopped being used.

Before potters' wheels were introduced to Britain by the Romans, people used the 'coil' and 'pinch' techniques to make pottery.

Coil technique: The potter rolls out long snake-like "ropes" of clay. They stack the "ropes" in circles on top of each other and pinch them together to make a pot. The outside of the pot is smoothed out.

Pinch technique: The potter takes a ball of clay and presses it into the shape of a bowl, cup or jug etc between their fingers.

#### For this activity you will need:

- The complete pot and pottery sherds for inspiration
- Images and instructions in the PowerPoint.
- Air dry clay or salt dough (not provided).
- Paints for decorating (if using).

Using the coil or pinch technique, make a pot and decorate it!

#### The pottery in your box

The pottery in your box comes from our Roman site near the River Great Ouse. It mostly dates to the later Roman period CE 150- 410. Different types of pottery had different uses - all the pottery in your box would have been used for eating, drinking, storing and / or making food.

#### Mortaria:

Mortaria are Roman "mixing bowls" used for making food. The gritted surface was used for grinding herbs and other ingredients for sauces and marinades. Some of these **sherds** (broken pieces of pottery) are made from white ware with black grits (bits of slate) and were made in the Nene Valley. They were made between CE 150 - 410. The orange or pink sherds with clear or pink grits (bits of quartz) are from Oxfordshire and date to CE 270-410

#### Shell tempered jars and bowls:

Shell tempering means that tiny pieces of shell have been added to the clay, which helps to make it more porous and less likely to crack. This process helps the clay dry and shrink more evenly and protects it from thermal shock during firing. As the pot breaks down over pieces

of the shell can come out. You might find some of your sherds have holes where the shell used to be.

Smaller thinner sherds are probably from bowls and jars, while larger chunkier pieces are probably from large storage jars. The style and design of these is very similar to that in the Iron Age so they can be difficult to date.

These jars and bowls were probably made in Cambridgeshire Fen-edge, possibly around Chesterton, and then were transported to the settlement where we found them. Some of the sherds have comb decoration on them, and this could either be for decoration, or may have a functional use, such as for gripping. What do you think?

#### Colour coated ware:

These are from the Nene Valley pottery industry (near Peterborough). They include a large range of pots, such as **flagons**, for holding liquids; **beakers**, for drinking liquids; **jars**, used as containers; **dishes** and **bowls**, used for holding and eating food.

The colour coat on the outside (different to a modern glaze) would have been added before the vessel was fired. It was made using iron oxides. The chemical reaction when the pot was fired produced a range of colours from greenish browns to orange. Some of the sherds are also decorated with a white paint.

#### Greywares:

Greywares are made by local potters all over the country. The dark surfaces are produced when there is a lack of oxygen in the kiln during the firing process. Some of the sherds have small parts of black slip (liquefied clay used like a glaze). This is evidence of potters copying the popular, black-burnished ware pots. They probably date to CE 150 – 350. The bowls with a flange (a small ledge) at the rim are mostly from CE 200 - 350. These pots were used in a similar way to the colour coated ware.

# Additional activity: Thinking about flint

Before metal, stone – usually flint – was the main material used for making a wide range of tools. In fact, even after metal production began in the Bronze Age (2500-750 BCE), flint was still used to make lots of everyday objects. The A14 excavations uncovered a wide variety of stone tools. Each of them had a distinct purpose, from hammers to axe heads, tiny knives, scrappers, and instantly recognisable arrowheads.

Many of the flint working sites found were located on the banks of the River Great Ouse. They were used for thousands of years from the Mesolithic (Middle Stone Age 10,000-4000 BCE) to the Early Bronze age (2500-1500 BCE). Over the millennia, different methods were used to work the flint, giving the tools unique characteristics which help archaeologists date them.

The provided activity sheet helps students understand how stone tools were made and use their archaeological detective skills to spot real stone tools from ordinary pieces of flint.

# The arrival of the Romans (CE 43 - 410)

Some places in Britain had links to the Romans before they invaded. Cambridgeshire was one of those places. We found fancy pottery, Roman glass and even a Roman style spoon at Iron Age sites. This shows us the people who lived there traded (bought and sold) things with the Roman Empire before CE 43.

The Romans brought over 50 new foods to Britain. This includes food we eat every day, like cucumber and apples. They also brought over more exotic food, like figs, dates and almonds from Egypt and southern Europe.

Some of these foods can tell us if people were rich or important. They could afford to bring over exotic foods like olives and grapes. We found an olive stone and grape pip at a Roman site, possibly an estate, near the River Great Ouse. The family who lived there also ate a type of deer first brought over by the Romans – fallow deer. The only other places archaeologists have found fallow deer in the Roman period are at very important sites, like Fishbourne Roman Palace. What does this tell us about the Roman estate near the River Great Ouse? It seems like this estate was home to a wealthy, possibly important, family!

# **Activity 3: Roman coins**

Coin use in Cambridgeshire began in the Iron Age. Even before the Romans arrived, local people would have been familiar with the use of token coinage, as well as the use of coins as portable propaganda for rulers.

Roman coins have similar characteristics to modern coins, representing a guaranteed and widely recognised value. Many we find have recognisable portraits and legends which is very helpful for dating.

From the late 3rd century, lots of unofficial copies of coins sprung up around the A14. They even outnumber official coins. These are not counterfeits but were made by local officials to help keep coin supplies high while waiting for more official coins to arrive. However, the arrival of new official coins often made these copies worthless almost overnight.

Can you spot the differences between the coin copy and the official coin is based on? (in the PowerPoint – the official coin is on the left).

#### Discuss the differences which the children can spot.

Official coins demonstrate the vast scale of the Roman empire. They connect rural Cambridgeshire with the very edges of the empire, thousands of miles away.

#### For this activity you will need:

- The replica coin for inspiration
- The coin activity sheet.

# **Activity 4: Snakes and ladders**

This game explores how life in Britain changed with the arrival of the Romans – at least for those like the wealthy family living in the villa near Fenstanton who could afford the latest luxuries.

Fun Fact! Did you know we found ladders during the A14 excavations? It is incredibly rare to find wooden objects from prehistory during archaeological excavations. This is because wood breaks down quickly. On some lucky occasions there are perfect conditions which help the wood to survive. Where the buried wood can become waterlogged, bacteria can't survive long enough to break it down. This was the case at a number of A14 sites, including ones close to Brampton and Fenstanton.

At Fenstanton there were several Iron Age waterholes. Some still contained log ladders, made from field maple, a tree native to the UK. This ladder even shows evidence for the wide, square axe used to carve it, a typical tool of the Iron Age.

#### For this activity you will need:

- The playing board.
- The die and tokens activity sheet.

Children can play in pairs or small groups, taking turns to move around the board, and learning about what the arrival of the Romans changed (or didn't) for the people living here. The winner is the first person to get to the finish!

# Activity 5: Historic homes: Iron Age and Roman buildings

The way buildings look has changed over time, but many of the ways we use them haven't.

#### Get the class to suggest types of buildings and what they are used for.

For thousands of years, people have used buildings as shelter and protection - from the weather, dangerous animals, and from each other. During our A14 excavations, we found houses from the Iron Age, Roman, Early Medieval, and Medieval periods, as well as buildings that were used as workshops for making things.

Let's find out more about some of these ancient buildings. We'll look at how buildings changed between the Iron Age and Roman periods and explore:

- What materials were used to build them
- Why those materials were chosen
- What the materials can tell us about when it was built

#### Iron Age roundhouses

Watch the video to explore a virtual reconstruction of an Iron Age roundhouse. This is the type of house which people lived in over 2000 years ago, before the Roman invasion.

#### https://youtu.be/ylcNy0sTk4w

The Romans brought different styles of buildings and materials when they invaded Britain in CE 43. However, the houses that most people lived in didn't change much – or very quickly. As they were rebuilt over time, houses changed from round to square / rectangular. Some people reused bricks and stone from other Roman buildings. But most people living in roundhouses didn't get upgraded to fancy Roman villas!

#### **Building materials:**

#### Wood, wattle and daub

At the centre of the Iron Age roundhouse was a strong wood frame. Archaeologists don't usually find wood because it rots (breaks down) very quickly in the ground, but we find a lot of 'post holes' where the wood used to be. The Romans also used wood to support roofs in their villas.

Roundhouse walls were made from wattle panels covered with daub.

- Wattle woven panels made from thin and flexible wooden branches, such as willow.
- Daub a mixture of clay, grass, sawdust, even animal poo!

This was cheap, quick, and the materials were easy to get. Wattle and daub were used to build houses in England until the 1800s!

#### Straw roofs

Straw comes from plants like barley and grass. It was easy to grow in fields around Iron Age settlements. Bundles of straw were tied together onto the wooden roof frame. This is called a thatched roof, and some old houses still have them today.

Thatch roofs were very useful because smoke from the central fire in the roundhouse could pass through it. But they had to be replaced every 30 years.

#### Earth floors

Not many floors are made of earth anymore, but they were the most common type of floor for ordinary people in Roman and Iron Age Cambridgeshire.

Earth floors can be difficult to spot during excavations because they were made from a mix of soil, sand, rocks and even plants, so they look a lot like the ground outside!

#### Roman buildings and ceramic building material

Ceramic building material (CBM for short) is any material made from ceramic (fired clay) used to construct buildings, such as tile and brick. It was made (fired) in kilns, just like pots, and had to be left outside to dry, before they were fired and then taken to the building site by boat or cart. If the weather was bad, or there was a problem with transport, this could mean the building project was delayed. Other materials were used, like stone, but this isn't CBM.

CBM survives well in the ground, but we didn't find lots on the A14 because it is often reused in later buildings. This is what can also make a building difficult to accurately date!

All the building material your box is from a site near the River Great Ouse, which was likely a high-status Roman estate, possibly near a villa. Based on the types of materials found, we think this CBM is the remains of a Roman bathhouse!

The material used to build the Roman bathhouse was mostly made locally in Cambridgeshire, but some of it is imported from Bedfordshire. The material from Bedfordshire (which has lots of shelly inclusions) is some of the latest produced in the Roman period, dating to the 3<sup>rd</sup> and 4<sup>th</sup> centuries. It was one of the last Roman production centres for building material and even supplied to London.

We can tell what building material was used for by its shape or **form**. Use this as a guide to explore CBM with your students. You can sort the CBM from your box together, identify what each piece is and use this as a platform to explore different topics, including how buildings have been constructed through time, what Roman baths looked like (a great example is in Digging for Britain, series 11 episode 1) etc.

Ordinary people who lived on small farms probably couldn't afford to build their homes out of CBM.

#### **Building materials:**

#### Roofing

Many Roman buildings had tiled roofs, just like houses today. These roofs were actually made up of two tiles - a flat tegula and a curved imbrex.

- Tegula: These are a mostly flat tile but with upward projections along the edges which taper (narrow) slightly towards the bottom. The top and bottom corners are cut way so that the tiles can overlap on the roof.
- Imbrex: These are curved tiles which cover the join between the adjacent tegulae on the roof. These also slightly taper at the bottom to allow for some overlap to keep the roof waterproof. There is the imprint of moulding sand on the inside of these.

#### Walls

- Bricks: These come in different shapes and sizes, but in the Roman period these are usually square or rectangular in shape and quite flat. They were used in walls and floors.
- Box Flue tiles were box shaped as the name suggests, but open at both ends to allow hot air to pass through from the underfloor heating and escape out of the roof

Tiles were **keyed** or scored to create a pattern on the surface to help wall plaster to stick to it. The pattern could be made with a knife, a comb, or stamped with a design from a wooden roller.

Roman bricks and tiles were held together with mortar, which is made from a mixture of water with clay, earth, gravel and 'lime' (either calcium hydroxide or calcium oxide) which was very hard when set.

#### Floors

You could spot a wealthy Roman from their brick or stone houses, with tiled roofs. But if that hadn't already given it away, their floors would! When the Romans invaded Britain in CE 43, they brought lots of new things with them. This included underfloor heating - if you were rich enough to pay for it!

Different types of brick or tiles were used to make flooring:

- Bessalis: These were used for paving or could be stacked in piles or pillas to create the hypocaust for underfloor heating.
- Bipedalis: This literally means 2 feet, which is how big they were: 2 feet square. They were used on top of the Bessalis stacks to cap the hypocaust and create the floor surface. Other bricks or tiles could be built on top of these for designed floors, like mosaics for Romans who could afford it.
- Mosaic floors: These are made from small cubes of ceramic or stone called tesserae. Sometimes these would be decorated with beautiful images. However, the tesserae we found during the A14 excavations were all plain.

• Opus spicatum: These are small paving tiles (that look like little bricks) that were set on their long edge in a herringbone pattern. Often you can feel that one of these long sides is worn smooth from the people walking on them.

#### For this activity you will need:

- Building material finds
- Historic Homes activity sheet

Think about when the house is built – what materials do you have?

Think about the people who live in the house – how much money can they spend on expensive materials?

Think about what people are doing in the house – do they need to keep animals inside, where will they cook?

**CAUTION:** Everything you have is at least 1,600 years old, but it can be touched and handled by children. While they have been washed, some dirt remains. All the materials are broken, they have mostly been worn smooth but there may be some sharp edges.

Please be aware not every type of material mentioned is necessarily included, but you have received a mix of identifiable pieces.

# Additional activity: Food and cooking

In the Iron Age, people ate a lot of soups and stews cooked in one pot over a fire.

Here are some Iron Age foods you might know: blackberries, honey, beans and peas, mushrooms, leeks, cheese, and porridge. They also ate meat from cows, sheep, and goats – usually on special occasions.

When the Romans invaded Britain, they brought lots of new foods with them – many of which we still enjoy today, like cucumbers and apples. They also brought figs, dates, and almonds from Egypt and southern Europe.

Food could take a long time to reach Britain. Fresh food didn't last, so food was dried or kept in salt and oil. Plants seeds were easy to bring, so people had new herbs like coriander.

See additional recipe sheets for ingredients and instructions. These recipes are made from ingredients from the Iron Age and Roman period – can you tell which is the Roman recipe?

Do they taste as good as food today? There's only one way to find out – let's get cooking!

## Additional activities: Creative writing and finds recording

#### For this activity you will need:

- The finds from the box
- The creative writing activity sheet
- The finds recording sheet

Children pick one of the finds (from any time period) from the box and use the worksheet to produce a piece of creative writing about it. This could be a poem from the find's perspective about its use and rediscovery, or a short story telling the story of how it arrived in Cambridgeshire. Alternatively, they could choose an object from the A14 book or create a piece of artwork inspired by the finds.

There are 2 ways that the provided finds recording sheet could be used. Firstly, the grid can be used to draw a scale drawing of one of the finds from the box, and the details and interpretation filled in the boxes on the right. A second use could be to draw what the complete find might have looked like, this is what our archaeological illustration teams do.

# Early Medieval (CE 410 - 1066)

We excavated the Early Medieval (roughly CE 410-1066) settlement of Conington in Cambridgeshire, which shares its name with the nearby modern village. The name *Conington* means 'king's town' This suggests the Early Medieval village was one of many 'administrative centres' for the Mercian kingdom. It was guarded by a large fence and gate. At its height in the 7th and 8th centuries, the Kingdom of Mercia stretched from the Humber River in the north to the Thames in the south. The settlement was likely abandoned when Mercia began to lose power in the early 9th century.

The early medieval objects we uncovered on the A14 give us an insight into everyday life in early medieval Cambridgeshire. They include hair pins, tools for making clothes, a rare musical instrument and even a protective amulet.

# **Activity 6: Weaving**

In the Early Medieval period, most people had to make their own clothes. They couldn't go to the shops like we do! When we excavated the site of an Early Medieval village near Conington, we found lots of objects which tell us how people made clothes.

The largest group of dateable finds from the early medieval settlements across A14 are all for making clothes and fabric. These objects tell the story of a piece of cloth, from raw wool to finished garment.

Households in the Early Middle Ages would usually own sheep for wool and make enough cloth for their own use. The wool was prepared using a special comb with long teeth, before being spun into thread using a drop spindle.

Once the thread was ready, it could be woven on a wooden loom. Loom weights were used to keep the vertical strands (the warp) tight while the horizontal threads (the weft) were woven through. Loom weights are very common finds from these Early Medieval settlements because each loom needed up to 30 weights! At a settlement near Conington a group of 22 weights were still sitting together in the ground. These almost certainly came from a single loom. Partially made loom weights from the same site suggests the community were making their own.

#### For this activity you will need:

- The loom template
- Scissors (usual cautions)
- Straws (ideally paper)
- Glue
- Yarn, string / twine, ribbon or strips of fabric or paper (to weave)
- Tape
- Plastic needles (these aren't strictly necessary but might be helpful)
- Twigs or sticks and optional accessories to finish

#### Making the loom:

- Fold the loom template in half (this makes it sturdier to use)
- Carefully cut down the dash marks at the top and bottom of the loom to make notches do not cut any further than the bold line
- Cut your straw to the same width as the loom, and glue it over the bold lines.
- Cut 12 pieces of yarn and thread into your notches, remember to leave a tail of about 10cm on the back to hold these tails in place with tape. Make sure the yarn is tight, but not too tight that it stretches the yarn.
  These vertical threads are called the warp you have your loom!

#### How to weave:

- Cut a piece of yarn about 60cm long, thread through the needle and tie a knot at the end of the needle.
- Starting with the first warp thread (on the left), slide the needle underneath and then up over the next thread, and then back under the third thread, and so on.
- Use this under-over pattern until you get to the last warp thread. When you get to the end of your first row, pull the yarn through all the way, leaving about a 10cm tail.
- You can tie this tail in a knot around the first warp thread to secure it while you work but after you weave two rows it won't be in danger of coming out anymore.
- For your next row, go back the other way (right to left) by doing the opposite overunder pattern as you did for the first row. (If you go under and over in the same way as the first row you will be undoing what you just did). These are your *weft* threads.
- Once you have a few rows, use your fingers to push up the weft yarn together so that it's snug. Be careful not to pull too hard on the weft yarns after each pass through because your weaving will start to pull in at the middle.
- When you are done with your first color yarn, or if you decide you want to switch colors, simply end it with about a 3" tail remaining. It might start to look messy with lots of tails hanging out all over, but don't worry all of them will be taped to the back at the end.

#### Taking your weaving off the loom:

- When you are finished, undo the tape in the back and carefully pull off the warp threads. Make sure to be careful because the weft threads could come off easily.
- When your entire weaving has been pulled off the loom, tie all of the warp threads together at the ends. Tie 1 & 2 together, 3 & 4 together, and so on. You should have six knots at the top and bottom. Make these double knots.
- At this point, it's time to deal with the tails coming out of the sides. The reason to leave the tails on the longish side is so that you can thread them through the needle, and then gently weave them through the back a few times before trimming them. If you don't want to take this extra step, you could just tape the tails to the back with masking tape.

• Also use masking tape to tape down the top and bottom warp threads to the back of your weaving. (If you don't want a messy looking back, you can also weave the bits back through instead.)

#### Finishing your weaving:

Technically, you are now done with your weaving. Hooray! But if you want to embellish or hang it on a twig, then read on!

To attach the weaving to a twig, cut a piece of yarn, about 30cm long, and string it through the needle. Starting on one end, loop the threaded needle through the top of the weaving and around the twig, wrapping the twig all the way until the end. Tie knots on either end, then trim and use masking tape to tape the ends to the back.

Lastly, to attach the hanger, simply cut a piece of yarn about 45cm long (this will be trimmed, but better too long than too short), and fold it in half. Loop the folded end around one side of the twig and make a knot. If you want to add beads, now is the time. To finish off the other side just tie it around the twig in a double knot and trim.

### Activity 7: The music and sounds of the past

This session focuses on the reed pipe, which is provided as a 3D printed object. This very rare find gives a glimpse into the music of early medieval Cambridgeshire. Made from a deer metatarsal (one of the hind foot bones) this is not a flute. Originally it would have been a paired set, played with a reed, making a deep skirling sound like a clarinet or bagpipe chanter. The fingerholes are well-polished with use, suggesting it was played regularly, rather than an instrument kept for special occasions.

The choice of material is what makes this instrument stand out. Deer metatarsal was not one of the bones commonly used to make wind instruments in the Early Medieval period, despite it being a straight bone with a naturally thin cavity.

Just two other deer metatarsal pipes have been found in the East of England: a complete 8th-century double pipe from Ipswich, Suffolk, and a weathered piece of a similar instrument found in Thetford, Norfolk. There are also three very similar pipes dating to the same period from Hungary. There does not appear to be a direct connection between these pipes, but it is a great example of how ideas travelled around Europe during the early medieval period.

We worked with a musician (<u>www.terrymann.net</u>) to recreate how this pipe would have sounded. Before the class / group listens to the recording, have a discussion about how the children think it might sound. You can prompt with questions such as:

- "Do you think it will make a loud or quiet sound?"
- "Do you think the musician can play lots of different notes (the instrument has a long range) or only a few notes (the instrument has a short range)?"
- "Will the sound be high (pitch) or low (pitch)?"

Once you have listened to the recording, have another short discussion exploring what they thought about the music, were they surprised by anything etc. If the children didn't like it, explore what they didn't like.



There are two options for the second part of this activity:

- Think about where you would have heard this music there are examples of other Early Medieval music, including religious music, and secular (non-religious) music including someone reciting a section of the Old English poem Beowulf. This pipe was likely used for playing secular music, perhaps to entertain people during a feast, just like the poem Beowulf. Can you imagine what other sounds you might have heard in an early medieval hall where this pipe was being played. Sounds could include people talking and eating, animals, a fire crackling. How can you recreate these sounds to create a soundtrack of the past – just like foley artists do for films (https://www.youtube.com/watch?v=UO3N\_PRIgX0).
- 2. Make your own instruments using recycled materials and play along to the pipe music. Instruments ideas could include dried lentils in clean yoghurt pots as shakers, tissue boxes and elastic bands as a harp, empty plastic bottles as drums let your imaginations run wild.

# **Additional activity: Dyeing**

There are lots of different dye recipes and it was important for early medieval dyers to record exactly what they used, how they produced the dyes and the method they used for each experiment so it could be reproduced. In this activity, as well as experimenting with different water sources (or still vs sparkling) and temperatures, you could add special ingredients (such as acids or alkalis) to the dye vat to change the outcome of the colour.

#### For this activity you will need:

- Plastic tubs (dye vats) to contain the dyeing solution, ideally these will be clear so you can see what is happening
- Material to be dyed such as felted wool, cotton, or linen (this already needs to have been soaked in water). Additionally, if using felted wool, make sure it has been washed and mordanted (a dye fixative, used to set (i.e., bind) dyes on fabrics) – usually by soaking in alum water (a type of mordant)- in preparation. This means that the dye will would hold fast during washing of the fabric.
- Tyvek (waterproof) labels
- Safety pins
- A dye. There are many possible dyes, simple and cost-effective ones like onion skins (which will need some preparation) or you can purchase natural dye powders like madder online from suppliers like Wild Colours:

(www.wildcolours.co.uk/html/natural dyes and seeds.html)

- Aprons and gloves
- Wooden spoons (or similar)
- Dye record sheet

#### Optional:

- Vinegar (an acid) or soda crystals (an alkali)
- Sparkling water
- Material that has been pre-dyed to experiment with over-dying. This is a more advanced technique which helps to add variety of colour.

Dye Vats (possible solutions):

- Still (warm) water plus dye
- Sparkling water plus dye
- Still water plus dye plus vinegar
- Still water plus dye plus soda crystals

Or a mixture of these. You can also experiment (carefully) with different water temperatures (hot water can speed up the dyeing process for certain dyes) or collected rainwater vs water from a tap.

Make sure you write down what is in each vat, as it can be difficult to remember later on.

#### **Preparation of the fabric:**

Take a Tyvek label and write your initials plus the number / type of vat the piece is going into. Carefully safety-pin it to the sample piece. Then place in a bowl of tap water to presoak if not already done.

#### Preparation of the dyeing vats:

Before the vats are made up you need to know how much weight of fabric is going in each one. The dye amount usually needs to be at least 1:10 ratio, or 10% dye: 100% weight of fabric (WOF). If you don't know precisely that is ok, the experiment will still work! Half-fill the vats with water and add dye to the vat.

#### Time to Dye:

Stir gently to distribute the dye, the pre-soaked fabric samples can then be added. Top up with water to cover the fabric if needed.

Stir gently and occasionally.

For each sample, note in the record sheet:

- The time it went in and came out (how long was it in the dye)
- The water type used
- The water temperature
- What was the dye?
- Was anything else added to the mixture?

#### To finish:

Remove fabric from the dye vats and rinse thoroughly under running water (if possible) otherwise use a big bowl. Rinsing water should be the same temperature as the dye vat, but lukewarm will probably be ok. Do not scrunch the samples too much – frequent gentle squeezing is best. When dry attach to your record sheet. Compare the results!

#### **Additional inspiration**

A quick internet search will lead you to lots of other recipes and ideas about using natural ingredients for dyeing. Vegetables and plants are relatively inexpensive and easy to come by, and you actually only need the scraps (like onion skins, carrot peels, mushroom stems). You can also forage outside for things to dye with. If you think about what stains your clothes when you spill food on it, that would be perfect to use as a dye! A couple of examples that we enjoyed can be found here: <u>https://www.cedardelldesigns.com/blog-posts/dyeing-with-onion-skins; https://thebarefootdyer.com/how-to-dye-with-acorns/</u>

And dyeing isn't just for fabrics, how about dyeing eggs for easter: <u>https://www.cedardelldesigns.com/blog-posts/naturally-dyed-easter-eggs</u>

# Medieval (CE 1066 - 1500)

The medieval village of Houghton was one of over 2000 English villages deserted during the Medieval period. We don't know exactly why it was deserted, but it may be related to the forest being made into a hunting forest, which restricted what people could do there. It was likely because the people living there couldn't get enough work or grow enough food, so they moved away to find a better life.

Archaeological evidence showed that the village flourished in the 12th and 13th centuries but declined shortly after. However, primary sources tell us a different story – we can see from historic documents that many people continued to live and work here until at least the mid-14th century. In fact, there were at least three brewers in Houghton during the 1350s,

Historical records give fascinating details about the people who lived in Medieval Houghton, including their names and livelihoods. Two of them were Peter and John le Webbestere (Webster). This surname is traditionally associated with textiles makers. In Houghton, this is backed up by archaeological discoveries. In a building in the southern part of the village were lots of flaxseeds. Flax (the plant which grows from flaxseeds) is used to make linen. There was also archaeological evidence for other medieval jobs including blacksmiths.

### **Activity 8: Medieval jobs**

# In this activity, children will learn about medieval coats of arms and use the activity sheet to create their own.

The use of coats of arms in England (also called heraldry) can be traced back to the early 1100s, not long after the Norman Conquest in 1066. Originally, they were used by knights to tell each other apart during battles and tournaments. But by 1250 many ordinary people had designed their own. They used them to decorate their clothes, houses, jewellery and as adverts for their businesses. Most people living in Medieval Houghton couldn't read or write, so using pictures and symbols to represent themself, their family or business would have been very useful.

When people designed their coat of arms, they included pictures (symbols) which represented who they were and what they liked. Colours were also important, and each had a meaning. Some examples are included in the accompanying PowerPoint presentation.

# Activity 9: The great debate

This activity helps children use and interpret primary and secondary sources.

Court records document an outstanding event in the village's history. In the summer of 1338, villagers from Houghton stood up against their feudal lord (the landowner), the Earl of Derby, who they accused of taking more than his share of their prized animals.

Divide the class into two groups and give them each a full set of the source sheets. One group will be representing the landowner, the other group will be representing the villagers. The groups need to carefully read their sources and put together their argument about why the person or people they are representing were right. But they need to make sure that they look carefully at whether they are using a primary or secondary source, as well as thinking about who wrote the source and why it was written – could they be biased?

For example, the king will be biased towards the landowner because he is his cousin.

You can also explore about where we find primary sources – i.e. National Archives, who have further resources for discussing sources:

https://www.nationalarchives.gov.uk/education/students/study-resources/working-withrecords/

Once the two groups have prepared their arguments, they can step into the medieval courtroom – the assizes – to make their case.

There isn't a correct answer to this, so you and the class can choose a winner based on the best case put forward.

# Acknowledgements

The archaeological programme for the Cambridge to Huntingdon National Highways scheme was carried out by A14 Integrated Delivery Team on behalf of National Highways.

Thank you to all the archaeologists, specialists, A14 project team, and everyone else who has contributed to these learning boxes, including:

MOLA (Museum of London Archaeology) public impact, graphics, publications, finds specialists and conservation teams.

Headland Archaeology

National Highways

Rachel Hosier, for the additional dyeing activity.

We would also like to thank the teachers and group leaders who have kindly consulted on the resources and activities for this project. Our special thanks go to:

Liam Murphy, Crosshall Junior School

Rhys Thomas, Round House Primary Academy, St Neots

Emer Smartt, Bushmead Primary School, Luton

Jess Ingrey, Robert Peel Primary

### Find out more about the A14

Search "A14" on the Archaeological Data Service (ADS) for images, reports, and more at: archaeologydataservice.ac.uk

Explore the A14 roadtrip to the past storymap online at: tiny.cc/A14storymap

Read blogs from the excavation team at: mola.org.uk/news/by-tag/a14

