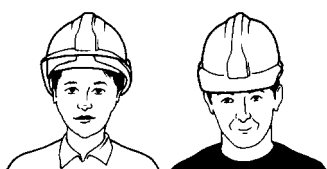


Archaeology in the Classroom: Introducing some basic concepts

Certain concepts can be introduced to children as early as Key Stage 1. You can talk about 'Old and New' buildings and objects, things which last a long time and ones which soon rot away. At Key Stages 2 and 3, these concepts can be developed further and others introduced.

CONCEPT 1: 'How do we know it happened?': Evidence.

We know about the past through looking at evidence. Many of the societies which children encounter in the National Curriculum History programme lived a very long time ago. You could start with more familiar people in the recent past and look at the evidence for their lifestyle.



THINGS TO DO WITH CHILDREN

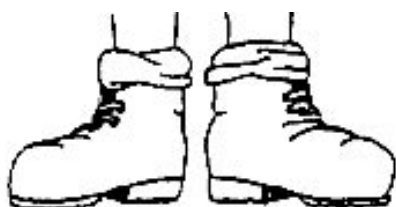
- Children can begin by asking grandparents what it was like when they were growing up. They may have things to show them (diaries, photographs, letters, toys, clothes, heirlooms etc).
- Children can bring things in for a class museum and discuss:
What things were used for
Do we still use them?
What are they made of and how were they made?

Children should see that there is a whole variety of evidence for the recent past.

However, when we go further back in time, primary evidence becomes more scarce. We could think back as far as Roman times for example. From the relatively few contemporary written works that have survived (primary sources) and the various copies made subsequently over the centuries (secondary sources) we know that the Romans were a literate society. We know about accounts of military conquests, various commercial transactions, about plays, poetry, letters and other public and private matters. Although it is often fragmentary, the variety and quality of both the primary and secondary sources now available to us illustrates significant capabilities of the Roman people. However we are dependant on what the ancient writer chose to record and what has managed to survive. A great deal more written evidence must have existed but for a multitude of reasons (fire, chance, loss, deliberate

destruction) it has been 'lost' through time. At a local level, the Roman name for Canterbury comes from documentary evidence. It is recorded as Durovernum Cantiacorum in the Antonine Itinerary of c. AD220. This was a collection of 225 routes along the roads of the Roman Empire. Stopping places were also recorded. However, we would know little about the Roman town if we relied solely on the written sources. Almost all of our knowledge comes from another type of evidence...

This is where Archaeology comes in ...



Archaeologists look at the physical evidence that has survived.

This means the buildings that people lived and worked in and the things that they used. Archaeological evidence does include some written work (inscriptions and graffiti on stone and pottery for example) but this constitutes only a fraction of excavated remains.

Archaeology is particularly good for finding out about the technologies of the past and about the lifestyles of ordinary people. We can examine and analyse the material in a way that is only possible with physical evidence.

CONCEPT 2: 'What kind of things do archaeologists find?': Survival and decay

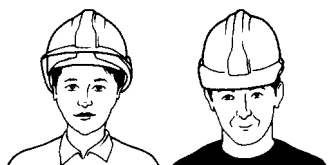
A lot of evidence is protected by being buried in the ground for centuries. But much is also lost over the centuries through decay.



What does survive? Ruins and objects of fired clay, metals, glass and stone tend to survive well. Often the mineral part (which is mostly calcium) of human and animal bone will also survive. This is what we see when we find a skeleton.

What kind of things rot or decay? Food remains will decay fastest through animal action in the soil (ants, worms) especially if buried near the surface. In soil conditions where oxygen, warmth and moisture are present (as on many British sites), other types of organic material eg. natural textiles, leather, paper, the soft tissue of humans and animals and the organic part of their bones, will gradually be broken down by bacterial action.

If warmth, moisture or oxygen is absent there is a far greater chance of preservation, as on permanently frozen, waterlogged and desert sites.



THINGS TO DO WITH CHILDREN

- Talk about things which decay. Most children will have seen rotting food and some will have seen wildlife in various states of decomposition!
- Try burying a variety of things in the ground eg. apple, cheese sandwich, metal spoon, animal bone, pottery, paper bag. Dig them up again after a few months. You should not expect to see any change in most of these things after a short period but the food should be rotten! This is not an exercise for immediate results... You could perhaps bury the items several months ahead of the planned project time. Any decomposition could then be discovered while the project is running.
- Try Activities 1 and 2 in this booklet to put survival and decay into an archaeological context.

CONCEPT 3: How archaeological sites are formed

First talk about ways (today and in the past) that things become buried.

For example:

Deliberate acts (rubbish disposal, human and pet graves, hiding hoards of valuables in the past, laying building foundations, re-surfacing roads etc.)

Natural disasters (Pompei and Herculaneum, the Mary Rose, the Titanic)

Losing things (in the garden, objects can be lost and become covered over in soil).

How do buried things then become archaeological sites?

Sites in today's towns

First, let's take an urban area that people have inhabited for 1000's of years, a place where people still live and work.

Any Roman remains may be a metre or more below our ground level. Why are they so far down?

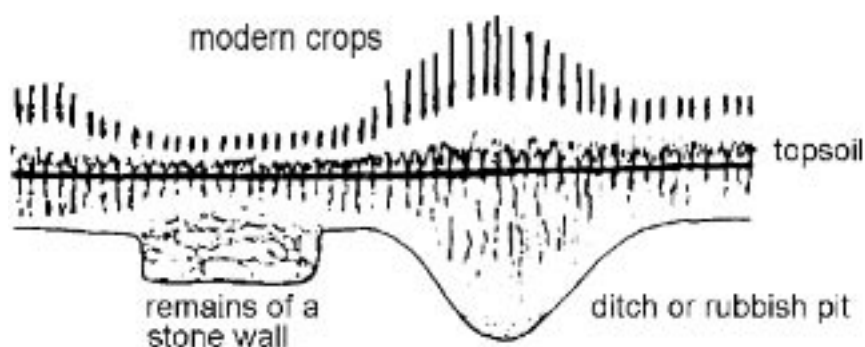
Man's daily activities over the centuries have resulted in layers building up. Activities such as laying building foundations, re-surfacing roads, floors and yards, leaving disused buildings to erode and collapse, dumping domestic and industrial rubbish, farming and landscaping.

NB. Observing the weathering of neglected 20th century farm buildings has shown that it can take as little as 20 - 30 years for a masonry structure to be broken down by wind, rain and uncontrolled vegetation, eventually becoming part of the landscape.

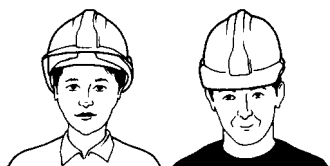
Sites in today's countryside

Now imagine a site which has been abandoned at some time in the past.

For example, a village has been deserted in Medieval times. Weathering erodes the buildings and the whole area becomes covered in soil and vegetation. It is never used again for human habitation and becomes open farmland.



The buried ancient remains can affect modern crop growth. Crops will grow well over well drained areas like ancient ditches and pits and less well over stoney ground like masonry walls. This can result in patterns in the crop growth, especially in the case of cereals. These cropmarks cannot be easily seen from the ground but are often clearly visible from the air. Aerial photographs can be taken when crops are at the best stage of growth to show up the buried remains.



THINGS TO DO WITH CHILDREN

- Dustbin Archaeology

The rubbish at the top of a modern dustbin will be the most recently 'deposited' and rubbish at the bottom will be from a week ago and the 'oldest'. This is the basic principle of stratigraphy on an archaeological site. However, on a site we

are looking at 100's or 1000's of years between the top and bottom. You can easily draw a stylised dustbin cut away to show a clear 'layer' of rubbish for each day of the week. English Heritage also produce a 'Dustbin Game' poster. For top KS 2 and above, see Roman Canterbury (A Harmsworth and CAT) where a more realistic stratigraphy diagram shows the formation of layers.

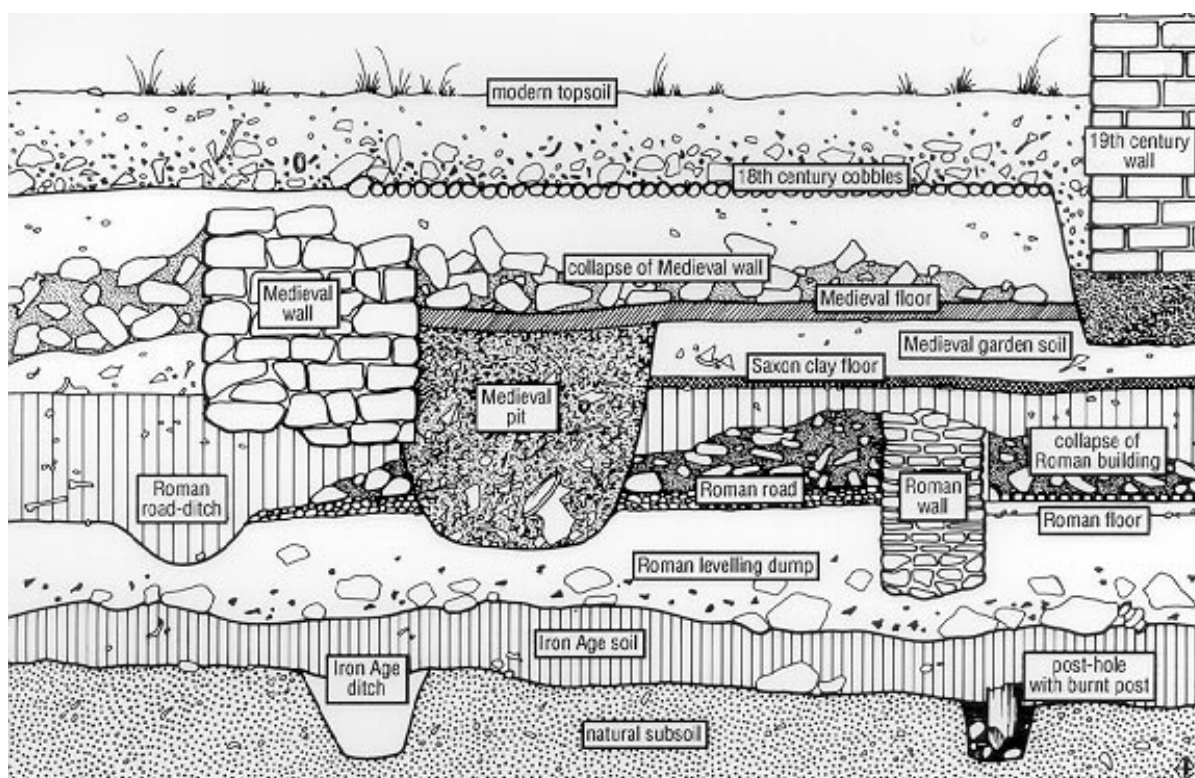


- Talk about organic waste (fruit and vegetable skins etc.) and how it breaks down into compost. Thick layers of decomposed organic matter found on sites may indicate ancient agricultural land.
- Look at how rubbish, leaves and twigs gradually build up in gutters and on country footpaths if they are not kept cleared. These also are the beginnings of 'layers'.
- Top KS 2 and KS 3 children can be introduced to cropmarks and aerial photography. See 'Sites and Monuments Record' in 'Kent Contacts' section.

CONCEPT 4: 'How do you know it's Roman/Anglo-Saxon/Medieval?': Dating the evidence.

It may take many years to amass enough useful evidence to build a dating framework. Even then, archaeologists may be limited to talking in terms of 'late 4th century' for example, with any more specific date being relatively rare.

The first principle is one of stratigraphy (as in the dustbin analogy) with the most recent remains in the topmost layers of an archaeological site and the oldest at the bottom. Everything else fits in between, in a broadly relative sequence.



How are things dated within this sequence?

Nothing can be dated in complete isolation. An object or building is dated by its association with something else which already has a date.

Eg. By association with dateable objects:

Imagine an archaeologist finds a variety of domestic objects (pottery, a knife etc.) with a number of coins on the floor of a ruinous building. Although the coins do not have a date on them, the information on them tells us that they are Roman and were minted during the reign of the Emperor Claudius. From the works of ancient historians we know that he reigned between AD 41 and 54.

By their association with the coins, we can suggest that the pottery, knife and the building itself are also Roman.

Eg. By association with dateable documentary evidence:

There are cases where people in the ancient past have written about a particular place, building or event giving a date to their account which has managed to survive, usually by being copied out, over the centuries. It has become valuable documentary evidence for archaeologists today. We know from the letters of Pliny (a prominent lawyer and administrator of the Roman period) about the catastrophic eruption of Mount Vesuvius which was recorded at the time, in AD79. The nearby towns of Pompei and Herculaneum were buried under thick layers of ash and lava.

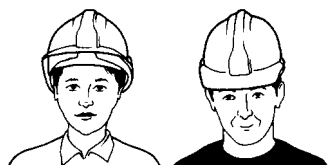
By association with the written evidence, archaeologists are able to say that objects and buildings found in these places were in use upto AD79 - and no later. The whole area had become a time capsule!

How do we use this valuable information?

From these two examples a whole range of finds and buildings will have been identified as Roman. Archaeologists then go on to record their characteristics (material, colour, size, shape, construction etc.) so they can be recognised as Roman when found on other sites where perhaps no coins or documents exist to help them.

Scientific dating methods

Scientific techniques are available but are not used on a day-to-day basis as they are expensive and require certain conditions. One such is Carbon -14 dating. It works on the principle that all living things contain a fixed amount of radioactive carbon (Carbon -14). On death of the living organism this decays at a regular rate. By measuring the amount of Carbon -14 present in, for example, a wooden well discovered on a site, we can use a standard formula to trace this rate of decay back to the time when the tree (from which the well was made) died. In this way we can estimate when the well was built and used.



THINGS TO DO WITH CHILDREN

- Roman Rubbish Pits.

You can use finds from a loan box (see 'Kent Contacts'). If there are no replica coins these can be bought cheaply in many museum shops. Use any containers for the two 'pits'.

Put into Pit A a few objects including a sherd of distinctive pottery and some of the coins. The coins date the other finds to the Roman period. Put into Pit B a few objects including another sherd of the distinctive pottery of the type in Pit A, but no coins.

Although Pit B has no coins we can judge that these finds are also Roman. The link lies in the evidence which is common to both. In this case it is the distinctive pottery you selected, but the common object could be something else. In reality dating can be more complicated than this but the basic principle holds true.

Archaeology in the Classroom

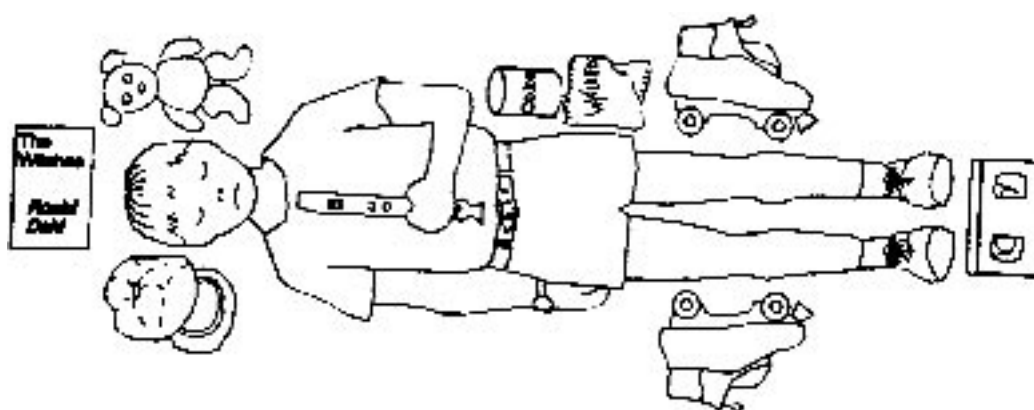
Using Objects to find out about People

These classroom activities can encourage skills of observation, identification, classification and interpretation in children. There will also be opportunity for a little research. How much you choose to do will of course depend on the abilities and personal experience of the children - and the time you have available.

ACTIVITY 1: 'Playing Dead'

This activity has been adapted from an original idea in Remnants, the English Heritage Education Service schools magazine (now re-titled Heritage Learning).

A child lies down 'dead' on the floor. He or she takes some chosen possessions into the 'grave' to make for a comfortable time in the After Life. These may include a favourite toy, food and drink, video tape, book and so on. You imagine that after 1000 years the 'grave' is excavated by archaeologists.



SOME QUESTIONS TO THINK ABOUT

Q 1. Which things would survive?

What are the body, clothes, grave goods and coffin made of? How many things are made of organic materials? What evidence would decompose and what would be left?

Q 2. What would the archaeologists be able to say about the person?

Investigating a grave is likely to be the closest an archaeologist will get to finding out about individual people. A skeleton can provide information about age (development of teeth and 'long' bones), sex (shape of skull and pelvis), sometimes disease and injury. Cause of death can seldom be identified from looking purely at the 'dry' bones. Occasional discoveries are made of certain diseases which have penetrated the bone, almost certainly leading to a fatality and of wounds suggesting

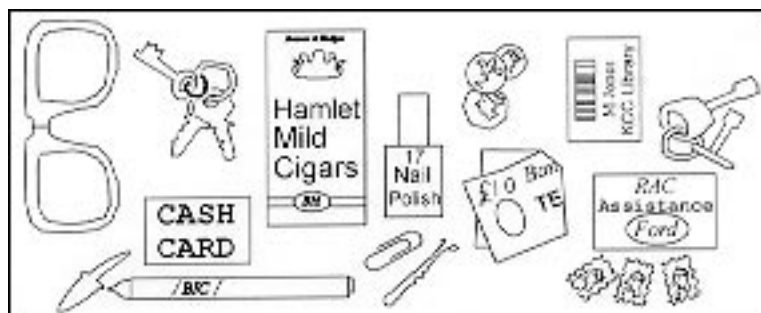
an offensive, physical attack. Grave goods can give an indication of wealth, status and perhaps occupation. The position of jewellery, buckles and brooches can suggest how the person was dressed.

Q 3. What would they be able to say about the society in which he or she lived? For example, the materials and technology available to us; our monetary system; whether we were a literate society; did we like aesthetic or 'quality' things?

ACTIVITY 2: A Bagful of Clues

Empty out the contents of a bag onto a desk (handbag, shopping bag, briefcase, rucksack...). If you want to, you can contrive the selection of items to make interpretation easy or difficult.

Items you might choose: money, purse, keys, cashcards, make-up, tablets, cigarettes, diary, notebook, pen or pencil, travel card, glasses, photographs.



SOME QUESTIONS TO THINK ABOUT

Q 1. What do the contents (or 'finds') tell us about the owner of the bag? For example, can you tell if the owner is male or female? Young or old? Wealthy? Literate? In good health? What is the evidence?

Q 2. What do the contents tell us about our society? For example, the materials and technology available to us; our monetary system; whether we are a literate society; do we like aesthetic or 'quality' things?

Q 3. Imagine someone steals the bag, takes any money and throws everything else into a ditch in the countryside. After 1000 years what would have survived for archaeologists to discover?

We will assume the bag becomes covered in soil and vegetation. The oxygen, warmth and moisture in the soil are ideal conditions for bacteria to break down any organic materials (leather, paper, fabric etc.).

Q 4. With only the surviving evidence for clues, what could archaeologists say now about the owner?

Could they answer the questions you asked before?

Q 5. What could they say about the society in which the person lived?

Again, could they answer the questions you asked before?

ACTIVITY 3: Looking at a 'Big Mac' box to find out about 20th century lifestyle.

This activity has been developed from an original idea in Learning from Objects, an English Heritage Education Service resource book.

The aim is to gain some practice in looking closely at a single object. You can begin by asking questions about a very familiar one where you've got a head start! You could use the Big Mac box or any other object which holds a useful amount of information.



Here, a small number of questions have been constructed which can be applied exactly to both modern and ancient objects (as in Activity 4). While they show the range of possibilities you will decide how much to use.

You can approach the questions on different levels according to the time available and the children's experience and abilities. For example, in Question 3 you can discuss what the box is made of and could then go on to consider what this tells us. The word 'material' may be unfamiliar to some children in the sense used here. 'Stuff' may be more appropriate!

Things to use in the exercise:

'Big Mac' boxes. Other uses of polystyrene (packing chips, egg box, plant boxes). Examples of moulding (jelly mould, badge moulds, moulded chocolate figure).

SOME QUESTIONS TO THINK ABOUT

You can find out a lot by looking and feeling. Some questions need a little research.

Q 1. Can you tell what the object is used for?

You will have to pretend you don't know and there is no writing on it. Its enclosed shape and lid suggest that it contains something. Solid or liquid?

Q 2. Is it a common or rare object?

Very common. We know because we've seen masses of them. This suggests there is a high demand for Mcdonald's food and that boxes are relatively easy to produce.

Q 3. What material is it made from? Is it a natural material or man-made?

Polystyrene foam. Man-made material. We do not come across it in the natural world. This shows us that the technology exists to make new materials to suit our needs.

Q 4. Is this a good material to use?

Hold the box firmly between your hands for several seconds and it will conduct heat. This material is suitable for keeping something warm. It is clean, light to handle and transport. Think of other consumer items made of polystyrene. It is a very versatile material. These qualities are beneficial to both the company and the consumer. But the material is not biodegradable.

Q 5. How has it been made? What does this tell us?

The standard size and shape (remember we have seen lots of them so we know this), regular lettering, impressed image and absence of joins show us that it has been moulded in one piece. You can relate this to jelly moulds and moulded chocolate figures. The 'hinge' allows the box to lie flat (good for stacking) and to close, retaining heat and making it compact to handle. This all suggests mass production. Mass production means a relatively cheap product for the consumer.

Q 6. What is the purpose of any decoration, colour or writing on the box?

Describing the contents and logo advertising company. Colour helps assistants to pick out right box quickly. CFC FREE - no Chloro Fluoro Carbons in the gases used to make the polystyrene foam. Note 'Don't litter' image. The '100% beef' promotes a 'quality' image. Mcdonald's use CFCs and litter details to try and promote an environmentally friendly company.

Q 7. Do we see these boxes in other parts of the country? Do we see them abroad?

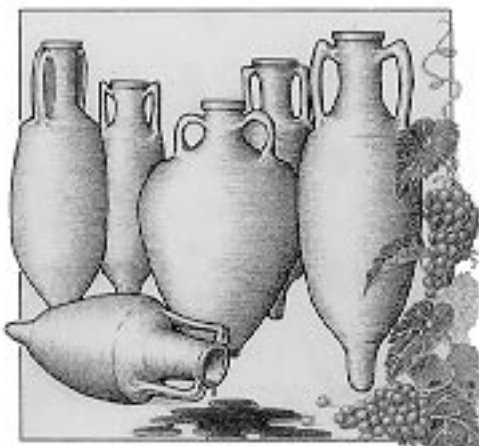
Mcdonalds fast food restaurants originated in the United States and they are now found in many towns in this country. What about other countries? There is a high demand for Mcdonald's products. In this respect it is clearly a successful company with extensive marketing networks. There is even a Mcdonald's at Pompei! (the new town, that is).

Q 8. What happens to the box after it has been used? It is intended to be thrown away. It has served its purpose and is disposable. However, children may say they keep them for nick-nacks etc.

Q 9. Do you think the box is a valuable object? What does 'valuable' mean? In monetary terms, the box is not of value. There are too many of them and they are

not made in a precious material. The box may however become a collector's item in the future. It is of value to McDonald's (boxes don't need washing, don't break, desirable qualities of material used, mass produced) and of value to the customer (convenience food can be eaten almost anywhere giving more freedom of choice).

ACTIVITY 4: Looking at artefacts to find out about the Romans.



In the archaeological sense, a man-made object is called an artefact. Archaeologists deal with both man-made and naturally occurring objects (eg. bones, shells). They call them collectively finds.

Here are some of the things we want to learn about when we examine finds:

- The range of things people used in the past and how they used them.
- The materials and technologies that were available to and developed by people.
- The trade systems people established wōWhat kind of things people valued.
- The natural environment of the time and farming practice.
- People's diet and general state of health.
- Which things changed and which essentially stayed the same over long periods of time and why this might have been.

In this next exercise you will focus on what we can learn from an artefact.

- You will be asking the same questions that you asked about the Big Mac box in Activity 3. You can apply them to any artefact. Some artefacts will have more information to offer than others. Again, certain questions will need some research before you can answer them.
- Try taking a whole Roman pot or broken piece (a sherd) and see what you can find out about life in Roman times.
- You can get a lot of information from just a fragment.

Things to use in the exercise (see 'Kent Contacts' for loan boxes)

- Whole vessel or sherd of Roman pottery.
- Modern ceramics for comparison.
- Lump of natural clay.

- Other Roman clay artefacts (tesserae, tile, lamp, different pottery)
- Examples of modern moulding (as Activity 3)

Q 1. Can you tell what the object was used for?

Look at the shape. Do we use anything today that has a similar shape? Do you think it contained something? Liquid or solid? Can you estimate how big it was? Where appropriate you could have a modern equivalent to hand. A Roman pot may well have had more than one use in its lifetime, as we re-use containers today.

Q 2. Was it a common or rare object in Roman times?

Pottery was very common. We see it in museums, pictures in books, and through contact with archaeologists we know that masses of pottery is dug up from sites.

Q 3. What material is it made from? Is it a natural material or man-made?

Clay. A natural material. Show children a lump of raw clay. Do they know about the nature of clay, its properties and where it comes from? What do we use clay for today?

Q 4. Was this a good material to use?

Handling the raw clay will show children how pliable it is. The pottery shows them how it is transformed when fired. It becomes very strong - but will break if you drop it! Clay can be worked and decorated to become very attractive pottery.

The pottery alone shows us that the Romans knew about the properties of clay and that they had the technology to produce quality goods. The quantities of clay objects that archaeologists find are evidence that it must have been a readily available resource in Roman times. They exploited its versatility to make tesserae for mosaics, figurines, water pipes, lamps, wattle and daub walling, kilns and ovens. Tones of red, pink, cream, white, grey and black could be produced depending on the type of clay and how it was fired. London Clay is found between Canterbury and the north Kent coast. Discoveries of kilns show that this was one area of pottery, brick and tile manufacture.

Q 5. How has it been made. Does this suggest anything?

Is the pottery smooth and regular in shape? Is a broken edge (the section) even in thickness? Then it was probably thrown on a potter's wheel. It may even have throwing lines on the inside. Is there an elaborate decoration? Then it may have been formed in a mould. Jelly moulds etc. will help children to understand the technique. Press a flattened piece of clay into a mould to demonstrate. Both methods show that Roman potters had considerable technological skills in making pottery and firing it successfully. We can see potters today still using these techniques. Both types of manufacture suggest mass production. Mass production suggests considerable demand. Samian ware potters really exploited the use of moulds, making glossy red vessels with lots of intricate decoration. The shiny surface is not a glaze. It is likely that it is due to a mineral in the clay called illite. The

Romans did know about glaze but they used it very rarely. The masses of unglazed Roman pottery that we find show us that potters did not exploit this skill.

Q 6. What is the purpose of any decoration, colour or writing on the pottery?

Different colour tones and decoration are attractive to look at. You may have a sherd with the potter's name, or the 'company' name, stamped on it. Sometimes it is just a distinguishing mark. A stamp was probably a form of advertising and may also have served as a tally. Quantities of pots produced by an individual or company could be assessed by counting up numbers of vessels bearing the same stamp. In the Roman world, as today, individual workshops often had their own 'house style'. Samian was very distinctive and archaeologists think that the different decorative styles were another way of advertising, like a trade mark. Archaeologists divide Roman pottery into two main categories. The Coarse Wares are generally jars and bowls, often plain grey or black and are found in great quantity. The Fine Wares are decorated, more delicate and include red, white and cream tones. It may be that poorer people could only afford to buy the coarse wares. It is quite likely that wealthier people bought a variety of pottery, using some for the kitchen and storage and the finer pieces for serving at the table.

Q 7. Do we see Roman pottery in other parts of the country? Do we see it abroad? Have children seen pottery in museums on holiday or day trips? Whenever a lot of Roman pottery is found on a site in this country, this is first of all evidence that there was some kind of occupation there in Roman times. If we have discovered where a particular type of pottery was made and then we find it turning up consistently elsewhere in the country (or abroad), this is evidence that the Romans traded their products. By linking where artefacts were made with where they are found by archaeologists, we have learned that the Roman world had extensive trading systems.

Q 8. Do you think people kept the pots to use again or did they throw them away? Considerable effort went into making pottery. It is unlikely it was thrown away until broken beyond use. When this did happen, it must have been easy to buy some more as Roman pottery appears to have been plentiful. It is likely that some vessels had many uses beyond their original function.

Q 9. Do you think the pottery was valuable in Roman times? Is it valuable today? If you have a piece of samian and some grey pottery ask children which they think would have been more valuable and why. A dish doesn't have to be a work of art and expensive to be 'valuable' in the sense of 'useful'.

Archaeologists have found that compared to silver and bronze vessels, pottery was very common in Roman times and therefore presumably of less monetary value. No doubt some unusual pottery and vessels showing high quality workmanship cost more than others and were therefore considered more valuable

in a monetary sense. Archaeologists have found evidence of samian pottery being repaired in Roman times. Some pots show that the owner had joined broken pieces with metal 'staples'. We can certainly say that the large numbers of ceramic dishes, cups, flagons, jars, plates etc. that we find for both the Roman kitchen and table are evidence that pottery was very useful.

Today, surviving whole vessels are relatively rare. They tend to be found in graves where they have been left undisturbed for centuries. These would have a certain 20th century monetary value. To anyone interested in the past however, the true value of artefacts is in the information that they hold about the people who once made and used them.