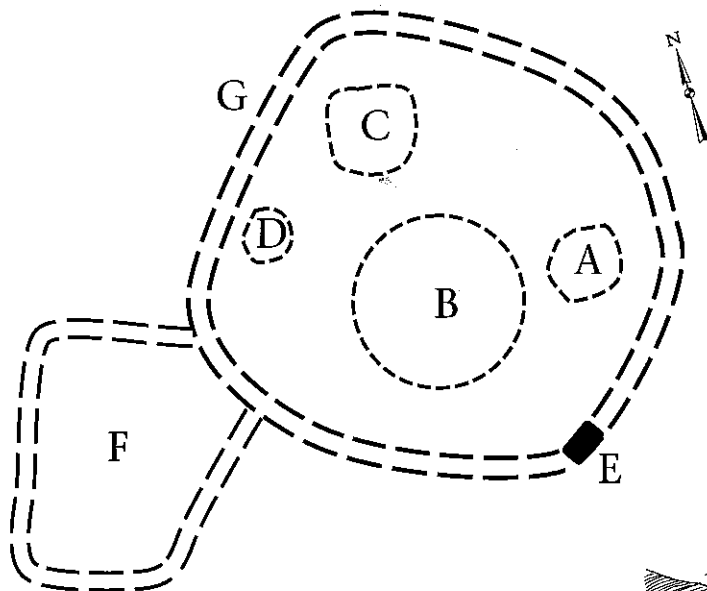


HOMES AND SETTLEMENTS

PLAN OF A BRONZE AGE SETTLEMENT



- A = Small circular hut for animals
- B = Larger dwelling house for people
- C = Wooden pen for holding animals
- D = Deep pit for bones and waste
- E = Entrance gate
- F = Crop enclosure
- G = Stone wall or bank and ditch with palisade

How do we know what these houses looked like? When archaeologists **excavate** a site, different marks and colours in the ground provide clues which help them to build up a picture of how things may have looked.

Other buildings on the site were built for keeping animals. The whole settlement was often surrounded by a **stone wall**, a wooden **palisade** or a **ditch and bank**. These helped to keep out wild animals or human enemies.



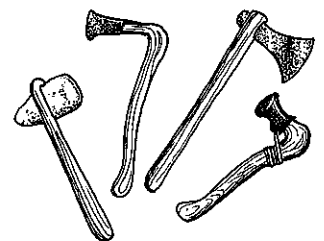
▲ *Artist's impression of a Bronze Age house. Outside on the left: using a quern stone to grind grain. Inside the house: spinning wool.*

This plan shows what archaeologists think a Bronze Age settlement may have looked like. The people would have lived in a one-roomed house. The houses were usually circular and measured about 5-7 metres in diameter.

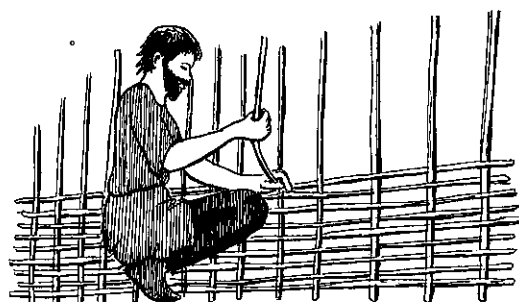
To build the house, upright posts were first driven into the ground to form a circular shape. Light branches were then woven around the posts. Interwoven branches like these are called **wattle**. The wattle walls were covered in a plaster called **daub** which was made of mud and straw. A thatched roof made from straw or reeds covered the house.

Hearths have been found inside some Bronze Age houses. These would have been used for cooking.

During the Bronze Age, many of the forests and woodlands were cleared by settlers who cut down trees to make space for houses or farmland.



▲ *Both stone and bronze axes would have been used for cutting down trees.*



▲ *Weaving branches to make a wattle fence.*

HOMES AND SETTLEMENTS

1. Match the words in Column A with the definitions in Column B.

A

wattle
daub
excavate
palisade
artefacts
thatch
archaeologist
hearth

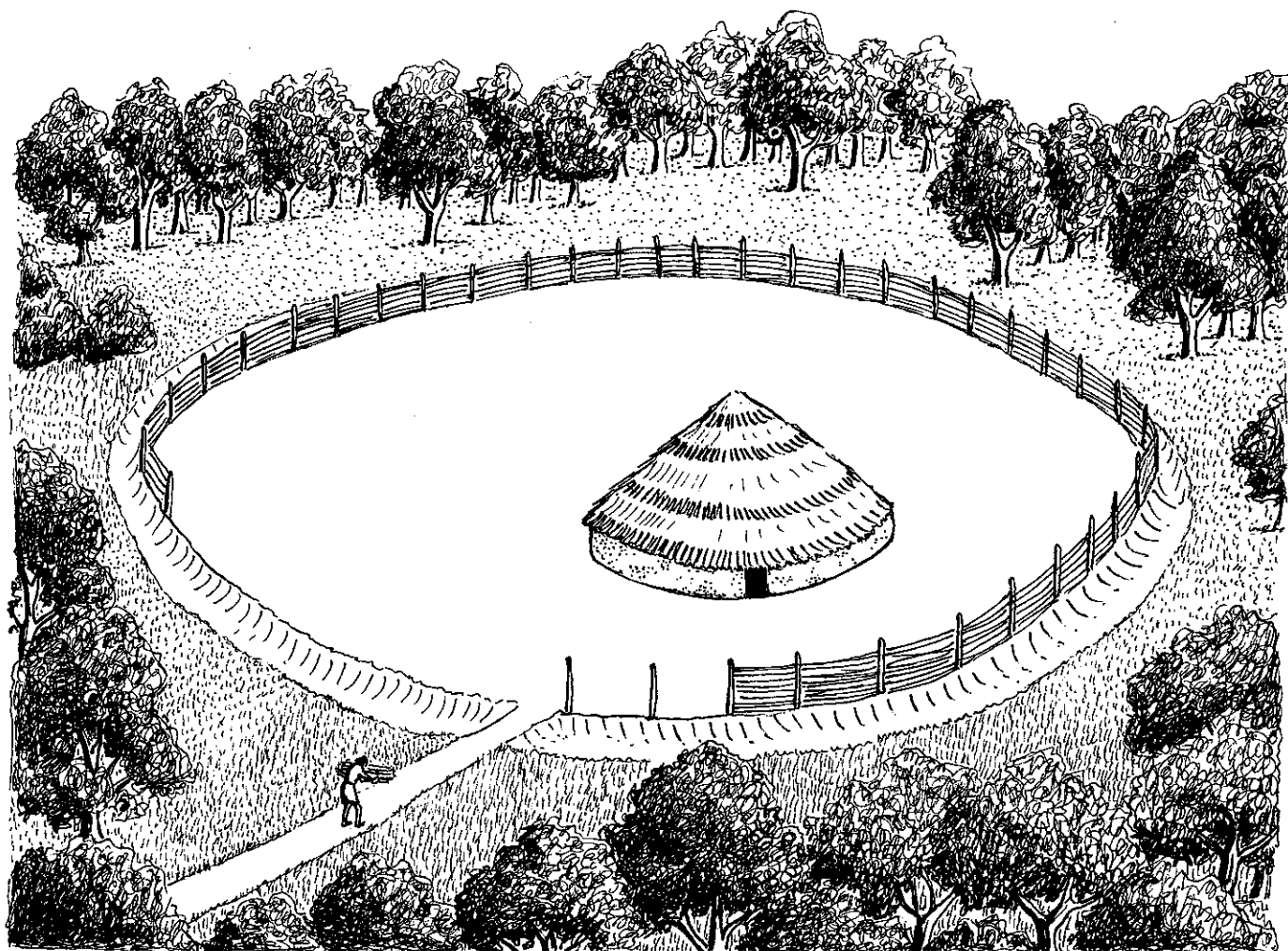
B

timber fence used for defence
a mixture of wet straw and mud
interwoven branches used to make walls
straw or reeds used for roofing
a person who studies ancient remains
a fireplace
to dig carefully
ancient articles made by people

2. The Bronze Age family is making a new settlement. They have built their own dwelling house but they need to:

- ◆ build a hut to store food supplies
- ◆ make an enclosure to keep their animals safe
- ◆ finish the settlement's defences
- ◆ decide on where to put an entrance gate

Help them finish their settlement by completing the picture.



FARMING, FOOD AND COOKING



▲ Cutting grain with a bronze sickle.

People had learned to rear animals and cultivate crops long before the Bronze Age. Excavation of ancient rubbish dumps found in and around settlements shows that Bronze Age people had a wide variety of food.

Archaeologists study the bones and teeth of animals found in the rubbish dumps.

From these remains, they can identify the animals. The evidence can show what age and size the animals were when they were killed. By studying tiny pollen grains and seeds found in excavations, archaeologists can tell what types of plants were grown.

As well as domestic animals and cultivated crops, some forest animals and birds and fish from rivers and the sea were part of the Bronze Age diet. They also ate wild fruit and nuts and herbs.

The evidence shows that they usually practised **mixed farming**. This means that these farmers raised animals as well as growing crops.

In the Bronze Age, the most important grain crops were **wheat** and **barley**. These would have been used to make bread, gruel and porridge. **Flax** may also have been grown. It could have been used for making cloth, as food, and to provide oil for lighting.

The land was prepared for planting using **wooden ploughs** and **wooden spades**. **Bronze sickles** were used to harvest the crops. The grain from the wheat and barley was ground into flour using stone **saddle querns**.

The main animals kept by Bronze Age farmers included **cattle**, **sheep** and **goats**. In places where there were forests in which they could forage for food, **pigs** were also kept.

At Chancellorsland in Co. Tipperary, the bones of a small dog were found. Horses were kept at some sites.

COOKING

Most cooking was done over open fires or hearths in the settlements. In many parts of the country, archaeologists have found mounds of burnt stones. These are cooking areas known as **fulachta fiadh**. They are often found in wet areas close to streams or other sources of fresh water.

To make a **fulacht fiadh**, a large pit was dug in a marshy area and lined with wood or stone. The pit filled with water, which was brought to the boil by dropping heated stones into it. Meat was then wrapped in straw and put into the boiling water. Hot stones were added to keep the water boiling for many hours until the meat was cooked.

Many **fulachta fiadh** have been found around the country and are written about in some of the old stories. They must have been very important to the Bronze Age people.

Some archaeologists have experimented with cooking a leg of mutton using a **fulacht fiadh**. They have found that it cooks the meat very well.



◀ At the **fulacht fiadh**.
Left: Hot stones are placed in the water to bring it to the boil.
Right: Meat wrapped in straw is placed in the boiling water.

FARMING, FOOD AND COOKING



▲ Using the ditch surrounding the settlement as a convenient rubbish dump.

1. Ancient rubbish dumps provide important information about the people who lived long ago. What information might the rubbish from your house tell about you and your family?

◆ Food _____

◆ Interests _____

◆ Other _____

2. When grinding the grains of wheat or barley, bits of the stone or sand from the quern often got mixed into the flour. What effect would this sand or stone have on the teeth when the flour was eaten? How might archaeologists have discovered this?

3. Besides cooking it in the *fulacht fiadh*, what other methods could Bronze Age people have used to prepare their food?



▲ Using a saddle quern to grind grain.

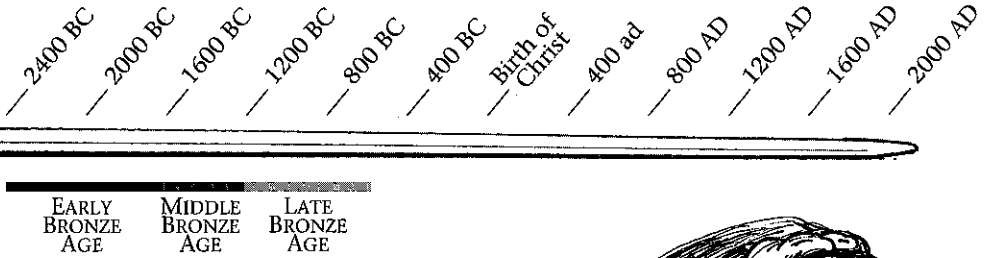
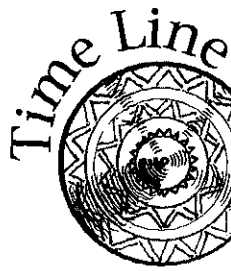
4. Here is part of a report written by archaeologist Martin Doody. It describes his excavations at Chancellorsland in Co. Tipperary. (Look up any words you don't understand.)

“Preliminary pollen analysis has been carried out by Dr David Weir of Queen’s University, Belfast, who has examined samples from the ditches and a nearby silted-up pond. Initial results suggest remarkably good preservation in the ditches. Barley and flax pollen have been identified. The results in general suggest a rather wet environment, with grass species predominating, with some alder and nettle present.”

Give three pieces of information which Dr Weir’s evidence suggests about this Bronze Age site.

1. _____
 2. _____
 3. _____

CLOTHING AND JEWELLERY



We are not certain what people looked like or what clothes they wore in the Bronze Age. Artefacts or objects from this period may help us to get an idea of how people dressed or the things which were important to them in their daily lives.

CLOTHING

There is no evidence for footwear or head gear dating from the Irish Bronze Age. However, part of a **woollen cloak** and a **horse-hair ornament** with woven tassels were found at Cromaghs, Co. Antrim.

Some small, double-edged sharp **blades** with fine edges were found which may have been used as **razors**. Bronze **tweezers** may have been used by men and women. These artefacts

suggest that Bronze Age people took an interest in their appearance.

JEWELLERY

Gold is a soft metal which can be easily shaped, twisted or cast into objects. It is almost indestructible. It was used for making highly decorated objects for personal jewellery. The many gold objects found show the great skill and artistry of Bronze Age goldsmiths.



Archaeologists divide the Bronze Age into three parts:

- ◆ the **Early Bronze Age** (2400 BC to 1600 BC)
- ◆ the **Middle Bronze Age** (1600 BC to 1200 BC)
- ◆ the **Late Bronze Age** (1200 to 600 BC)

The earliest gold objects included **discs** and crescent-shaped **collars** called **lunulae**.

By the Middle Bronze Age, goldsmiths were making twisted ornaments called **torcs**. These were of many different sizes so they may have been worn on the ears, neck, arms, waist and legs.

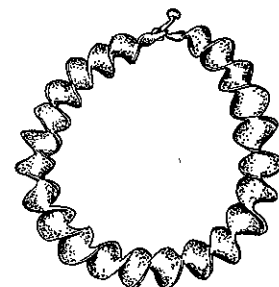
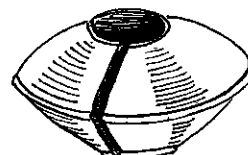
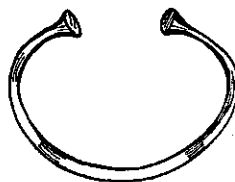
In the Late Bronze Age, objects such as bracelets, dress fasteners and neck rings were made from solid gold bars. More delicate pieces such as collars, boxes and discs were made from sheet gold.

Other materials were also used in making jewellery. At Derrybrien in Co. Galway, 500 amber beads were found in a bog. Since amber is not found in Ireland, this shows that the Bronze Age people traded with other people in Europe.

A collection of objects found together is called a **hoard**. These hoards can tell us about the tools people used and the objects they valued.

CLOTHING AND JEWELLERY

1. Archaeologists always label their finds very carefully. Help the archaeological team to put the correct label with its artefact.



- A. An Early Bronze Age lunula made by hammering a sheet of gold
- B. A bracelet from the Late Bronze Age made from a solid gold bar
- C. A torc from the Middle Bronze Age made from a strip of twisted gold
- D. Amber beads found in a bog at Derrybrien, Co. Galway
- E. A Late Bronze Age hair ornament made from fine gold wires

2. A WORD HOARD

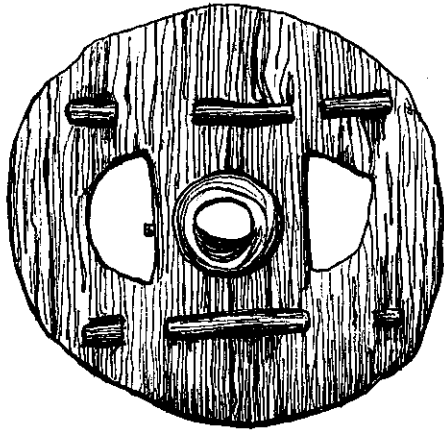
Use the clues to find the words which are hidden in this word hoard. The answers may read from the left, right, top or bottom.

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S | S | C | D | I | S | C | F | C | T | R | E | L |
| N | A | R | T | E | F | A | C | T | L | O | K | O |
| M | M | C | C | A | U | L | D | R | O | N | O | O |
| K | B | S | T | A | T | U | S | P | L | G | G | T |
| K | E | Q | W | S | R | H | A | Z | I | O | B | L |
| A | R | C | H | A | E | O | L | O | G | I | S | T |
| H | F | O | D | G | D | L | L | J | L | O | O | W |
| V | W | L | A | E | R | D | N | B | L | U | R | L |
| G | O | L | D | R | A | P | T | H | D | K | Y | R |
| M | W | A | R | D | O | O | G | S | H | L | J | Z |
| K | E | R | D | F | H | D | T | O | R | C | T | D |
| L | R | G | F | H | O | R | S | E | H | A | I | R |
| D | C | R | E | S | C | E | N | T | T | D | O | S |

- ◆ A person who looks for evidence of people who lived long ago.
- ◆ Lunulae are shaped like this.
- ◆ Twisted gold ornament.
- ◆ Precious metal used to make jewellery.
- ◆ Bronze Age beads were sometimes made of this.
- ◆ A number of artefacts found in an unexpected place.
- ◆ Cloaks were made from this material.
- ◆ Huge cooking pot.
- ◆ An item from a past age.
- ◆ Something used by a worker.
- ◆ An ornament at Cromaghs was made of this.

TRAVEL AND TRANSPORT

There were many technological developments during the Bronze Age. Metalworkers became more skilful in making stronger metals and better tools. People began to travel from place to place to trade their goods and raw materials.



▲ A wooden wheel for a cart.

HORSES AND CARTS

Horses were domesticated from the beginning of the Bronze Age. Archaeologists cannot tell whether they were ridden or used as draft animals for pulling carts. They have found parts of a harness which dates from this time, but this could have been used for either oxen or horses.

BRONZE AGE BOATS

Large areas of forest were being cleared during the Bronze Age to make way for settlements and farmland. However, Ireland still had very dense

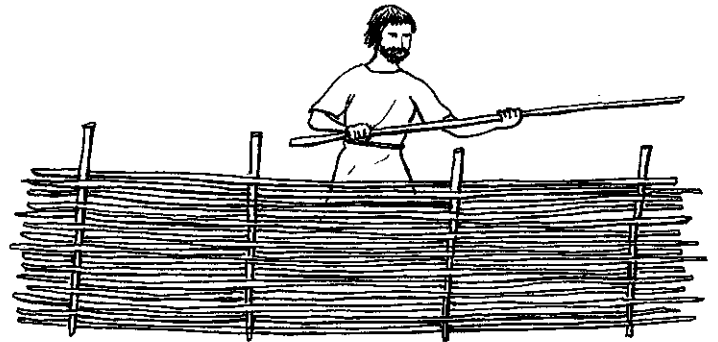
forests which were home to animals such as wolves and bears. With so many rivers, streams and lakes, travel by water was very important.

Bronze Age travellers may have used leather-covered boats. These were like the currachs which are still used in the west of Ireland today.

Dug-out canoes were also common. These were made by hollowing out a large tree trunk. The trunk was split lengthways and then hollowed out by scraping away the wood with a tool called an axe.

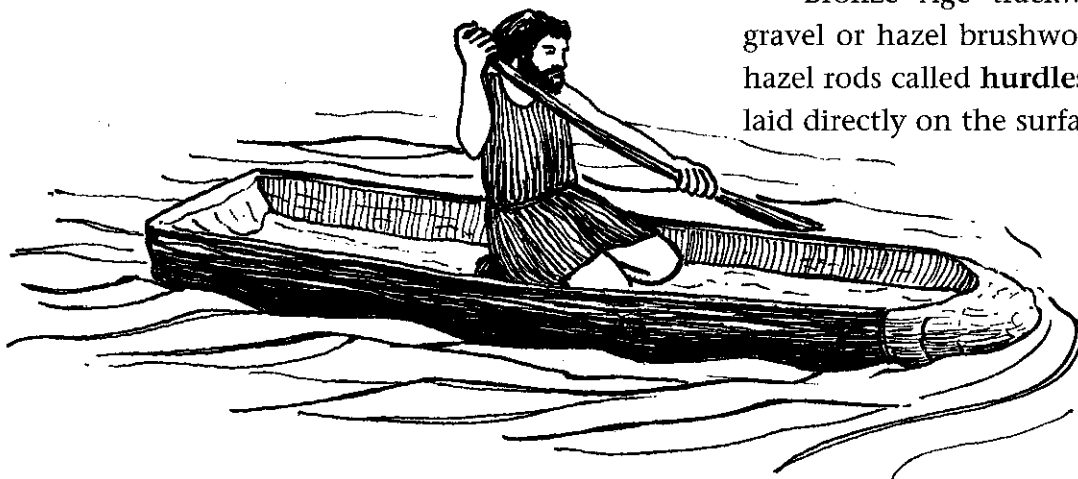
WOODEN TRACKWAYS

Even before the Bronze Age, people had devised ways of crossing vast areas of bog and marshland. Trackways (sometimes called **toghers** in Ireland) were made of huge timber planks which were laid on a base of thick branches. Some toghers were strong enough to support the weight of animals and carts. Building them required skilled craftspeople and an organised work-force.



▲ A man weaving a hurdle for a trackway.

Bronze Age trackways were also made of gravel or hazel brushwood or of panels of woven hazel rods called **hurdles** (see picture). These were laid directly on the surface of the bog.



TRAVEL AND TRANSPORT

WHAT ARE THEY TALKING ABOUT?

Read these imaginary reports from the Bronze Age. Give each report a title, based on the evidence in the reports. Then, write a sentence or two of your own to complete the report. You may want to draw your own picture of each description.



1. _____

“It is going to be interesting watching it work. Until now, it’s been like a pet in our settlement. But father says it’s old enough to earn its keep. When I offered it some grain, it came right over to me. But it wasn’t at all happy when we tried to put on the yoke! I thought it was going to bolt and run away. We knew we had to be both firm and kind if we wanted to train it to pull the plough. But we know we will succeed – and when we do...

_____”

2. _____

“It took hours to fell it. But we all worked together and finally, it came crashing down. Splitting it lengthways was just as difficult. Then we started to scrape away the inside. The axes were getting blunt and many workers had blisters on their hands. We worked in teams and eventually managed to hollow it out. Then we got to work on the outside to make it smooth. It really is a beauty! In a few weeks, when the wood is seasoned, we’ll drag it into the water and then...

_____”

3. _____

“It’s getting more and more difficult to get across this marshy area. With all this rain, it’s becoming more waterlogged every day. Our neighbours from the next farmstead finally managed to make it to our settlement. Now, we are planning what to do. We have agreed to work together. There are few trees in this area, so we will have to use what is available. Some of us will cut the hazel rods and others will start weaving the hurdles. We need to do this because...

_____”



MINING AND METALS

■ COPPER AND BRONZE

People in the Near East were probably the first to discover that **copper** could be used to make tools and other objects. In Ireland, copper artefacts began to replace stone ones around 4,500 years ago.

Pure copper is a fairly soft metal. But when copper is combined with tin and heated, an **alloy** (a mixture of two metals) called **bronze** is formed.

Bronze is a much stronger material than either copper or tin. It can be used for making better, longer-lasting tools.



▲ Working in a Bronze Age copper mine. Extra light is provided by burning pine chips.

■ MINING

Ireland has large supplies of copper. It was not difficult for Bronze Age people to find it because it turns a glistening green or blue colour when it is exposed to the air.

When a source of copper was found, the miners began to take it out of the rock using a method called **fire-setting**.

First, a huge wood fire was lit in front of the copper-bearing rock. The great heat of the fire made the rock crack and break when cold water was thrown against it. The rock was then knocked out with stone hammers called **mauls**. The broken rocks were sorted and crushed.

The copper now had to be separated from the rock in a process called **smelting**. The crushed rocks were mixed with charcoal and heated until they were red-hot. This caused the copper to melt and flow out. The copper cooled into big lumps called **ingots**. The copper ingots were later heated and cast into tools or weapons by the **smith**.

■ BRONZE AGE MINES

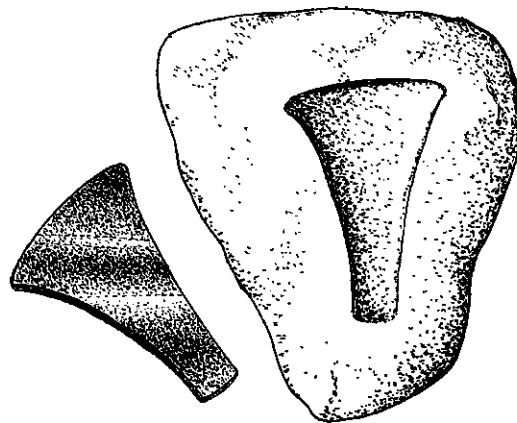
Archaeologists have found some of these Bronze Age copper mines. Two important ones were discovered at Ross Island near Killarney, Co. Kerry and on Mount Gabriel, near Mizen in Co. Cork.

Evidence of a work camp at Ross Island shows that the mining was well organised in the Bronze Age. Close by, farmers grew crops and reared livestock which helped to feed the miners.

Excavations also show that the copper was **smelted** in shallow pit furnaces on the site at Ross Island.

■ MOULDS

In the early Bronze Age, smiths used simple **stone moulds** to make **axeheads** and simple tools. They could use the same mould again and again. Later, they also used **clay moulds** to make more elaborate objects such as **socketed axes** and **spearheads**.

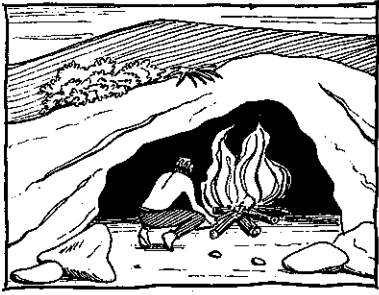


▲ Stone mould from Co. Down, with an axehead found in Co. Antrim which had been cast in the mould.

Being able to produce many copies meant that the smiths could supply an increasing demand for bronze objects. Because of the large amount of bronze used, tin was probably imported from places such as Cornwall to keep up with the demand for bronze.

Gold was also used by the Bronze Age metalworkers to produce elaborate ornaments.

MINING AND METALS



1. Describe what is happening in these pictures. Some clues are given to help you get started.

CLUE: HUGE WOOD FIRE



CLUE: COLD WATER



CLUE: MAUL



CLUE: CRUSHING

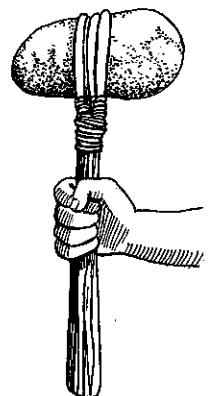
CLUE: CHARCOAL



CLUE: MOULD



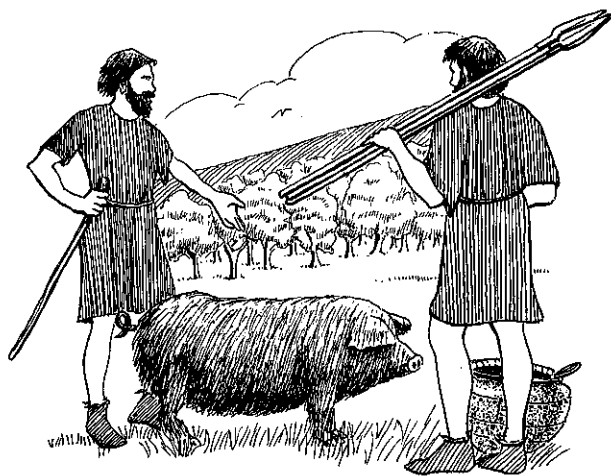
2. You are a Bronze Age farmer who has just started using bronze tools. You meet a neighbour who is still using stone tools. Tell your neighbour why bronze tools are better for the jobs you have to do.



TRADE AND EXCHANGE OF GOODS

During the Bronze Age, goods and ideas were exchanged back and forth between Ireland and the continent of Europe.

Even before that, during the Stone Age, archaeologists have discovered that stone axes made in the northern part of Ireland had found their way to other parts of the island and to Britain.



▲ Exchanging a pig for a bronze cauldron and bronze spearheads.

There is no evidence of coins or money dating from the Bronze Age. So people probably acquired things through gift-giving or **barter**, trading one thing for another.

Knowledge of metals and metal-working spread slowly throughout Europe. Irish smiths and craft workers became experts at working with metals such as gold and bronze. A lively trade in these and other objects developed. Gold pieces made by Irish craft workers have been found in Britain as well as on the continent of Europe.

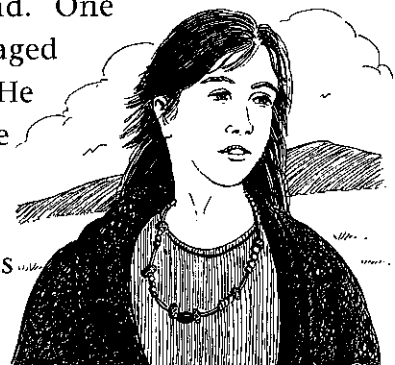
IMPORTS

Just like today, things which were not available in Bronze Age Ireland had to be **imported**. For example, tin was needed to make bronze. It probably came from Cornwall in south-west England.

One interesting example of a Bronze Age import was discovered at the Mound of the Hostages in Tara, Co. Meath. Here, a number of

burials were found. One was a boy aged around 14 or 15. He was the only one with a valuable necklace around his neck. It was made of

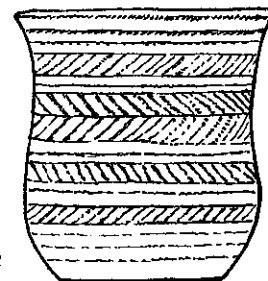
- ◆ **bronze** – which probably came from Ireland
- ◆ **amber** – which could have come from Scandinavia
- ◆ **jet** – which was probably from eastern England
- ◆ **faience** – which possibly came from the Mediterranean area



▲ An artist's idea of the boy wearing the beautiful necklace of bronze, amber, faience and jet found at Tara.

POTTERY

Pottery also provides archaeologists with evidence of Irish contacts with other places. Beaker pottery has a distinctive kind of decoration. It has been found at Bronze Age sites in Ireland as well as in Britain and Western Europe.



▲ Beaker pottery had distinctive decorations.

BRONZE AGE AXES

Axes which seem to have been cast from the same mould have been found throughout Ireland. Archaeologists are not sure how these axes came to be deposited in various places. They may have been traded or bartered for other goods.



▲ A socketed axe (left) from the Late Bronze Age and a flat axe (right) from the Early Bronze Age.

BRONZE AGE TRADE GAME

INSTRUCTIONS

Make 4 photocopies of this workcard. Cut out to make 40 cards. Mount your cards on heavy paper and colour them in, if you wish.

Play with 3 or 4 people.

Deal out 5 cards to each player. Extra cards are left, face down, in the centre of the table.

Aim: Make as many pairs as possible by matching what you have with what you need.

Example: The Bronze Maker has bronze items to trade. The European Trader needs bronze tools. So this is a match.

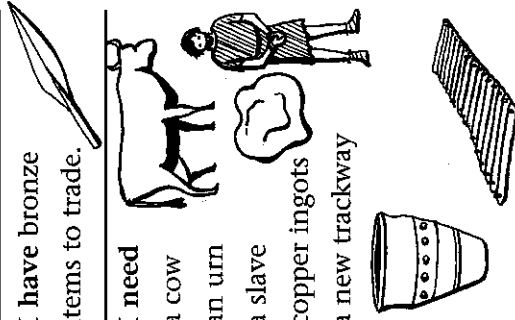
Procedure: See whether there are any matches in your hand. Put matches on the table in front of you.

The dealer begins play by picking a card from the pack on the table. If he/she makes a match, put it down and draw again. If not, play passes to the left of the dealer. Play continues until one player has no cards left or until time is up. The winner is the person with the greatest number of matches.

BRONZE-MAKER

I have bronze items to trade.

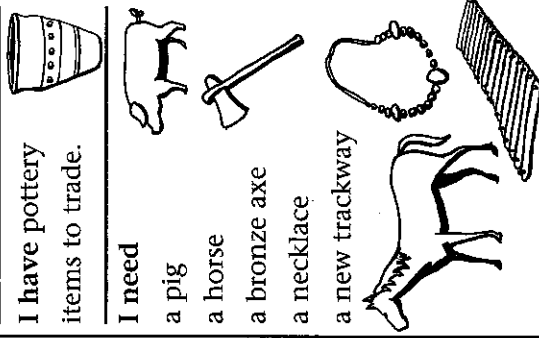
I need
a cow
an urn
a slave
copper ingots
a new trackway



POTTER

I have pottery items to trade.

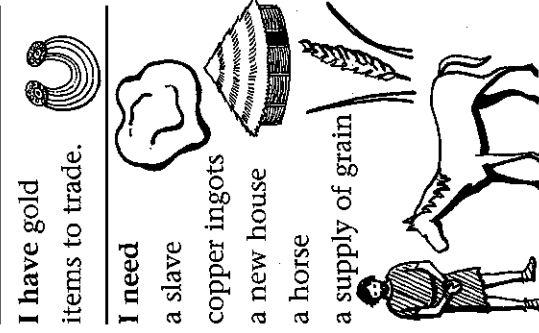
I need
a pig
a horse
a bronze axe
a necklace
a new trackway



GOLDSMITH

I have gold items to trade.

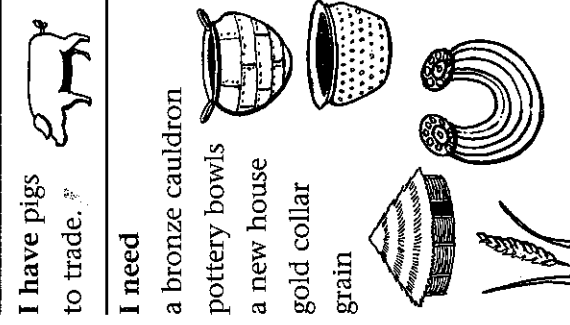
I need
a slave
copper ingots
a new house
a horse
a supply of grain



PIG FARMER

I have pigs to trade.

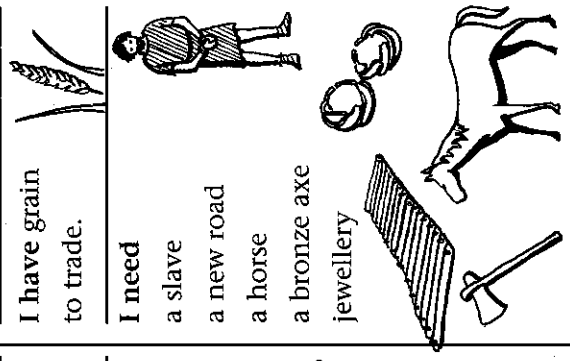
I need
a bronze cauldron
pottery bowls
a new house
gold collar
grain



GRAIN FARMER

I have grain to trade.

I need
a slave
a new road
a horse
a bronze axe
jewellery



CATTLE AND HORSE FARMER

I have cattle and horses to trade.

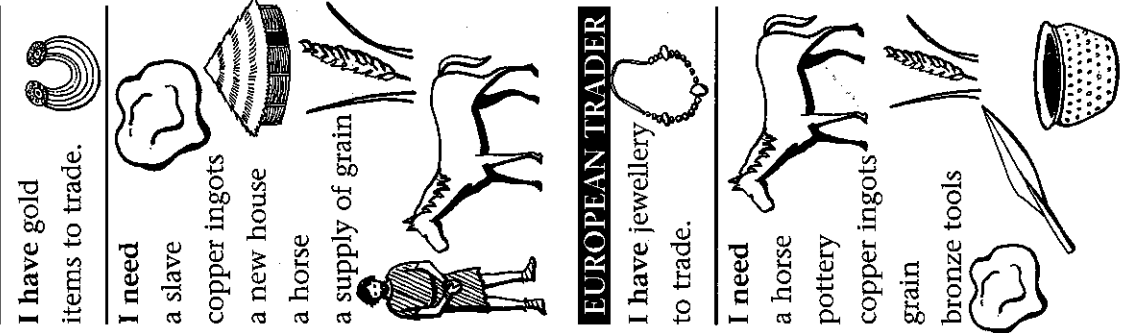
I need
a new plough
a pig
a pottery urn
a supply of grain
a better road



EUROPEAN TRADER

I have jewellery to trade.

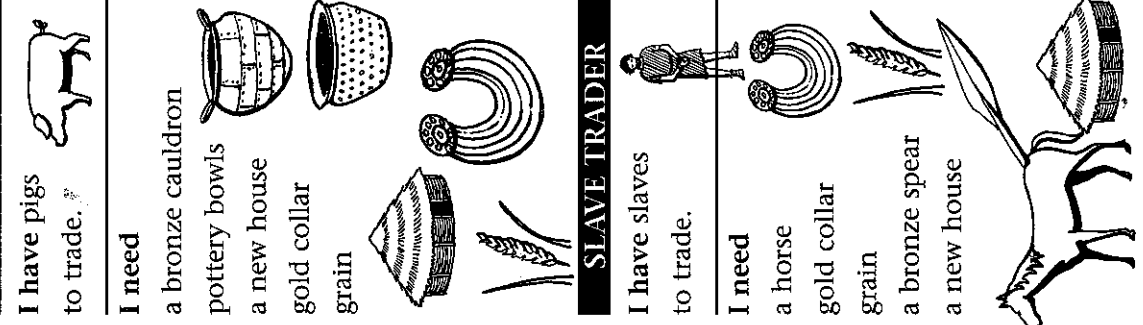
I need
a horse
pottery
copper ingots
grain
bronze tools



SLAVE TRADER

I have slaves to trade.

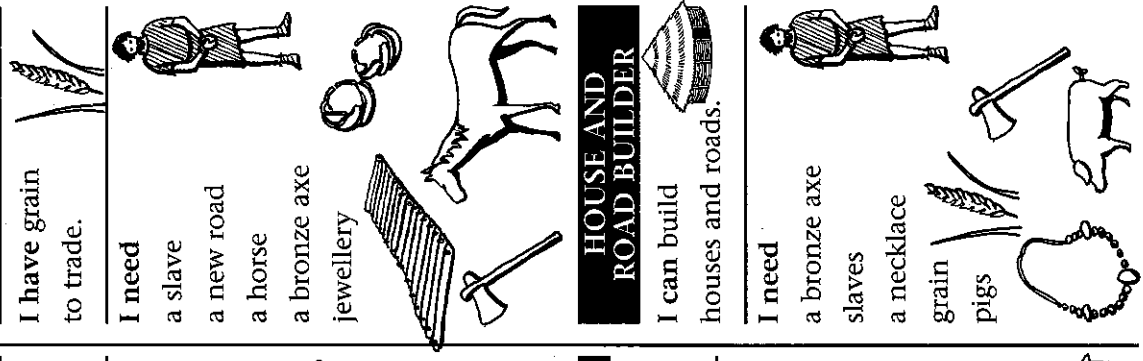
I need
a horse
gold collar
grain
a bronze spear
a new house



HOUSE AND ROAD BUILDER

I can build houses and roads.

I need
a bronze axe
slaves
a necklace
grain
pigs



RITUAL AND RELIGION

BRONZE AGE BURIALS

Archaeologists sometimes discover ancient human skeletons. When they do, they try to get as much information as possible from the find. They examine everything very carefully. The archaeologist wants to answer questions about many things. How did the person die – were they killed in some way or did they die from a disease? How was the body buried? Was anything buried with the body? Were there other bodies in the grave?



▲ *The remains of a crouched burial with pottery vessel in a stone-lined cist grave.*

Most Bronze Age people probably died before the age of forty. Great honour was shown to many of their dead. It is likely that these people believed in a life after death and in supernatural powers.

The Bronze Age lasted from around 2400 BC to 600 BC – around 1,800 years. Over so many years, the dead were buried in different ways at different times. Sometimes, the body was burnt before being buried with the ashes placed in an urn. At other times, the body was buried unburnt. When the body was placed in the grave, it was often left in a crouched position.

Many graves contain decorated pottery vessels, arrowheads, daggers, beads and pins.



BRONZE AGE MONUMENTS

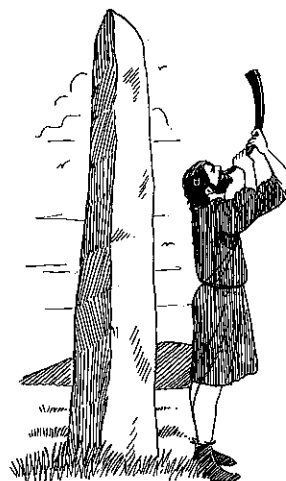
Many examples of Bronze Age monuments can still be seen around the countryside.

◆ **Standing stones** are often several metres high. They may have marked the locations of ancient ceremonies and gatherings.

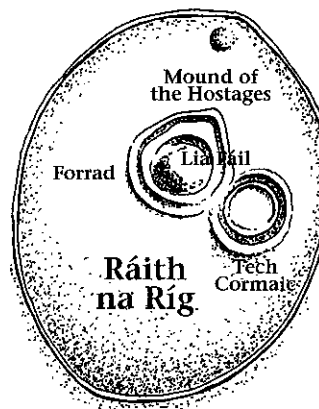
◆ **Stone rows** consists of up to six stones in a line. They usually run from north-east to south-west.

Archaeologists think they could have been used to record things like the longest and shortest days of the year.

◆ **Stone circles** are usually found in upland areas. They sometimes contain a single burial. Like stone rows, they may have been used to mark astronomical events.



Large earthen enclosures with ditches inside them may have been used for gatherings and rituals. Some examples are found at Eamhain Macha (Navan Fort), Co. Armagh where a large ceremonial Bronze Age complex was found. The Hill of Tara in Co. Meath and Rathgall in Co. Wicklow may have been places of assembly.

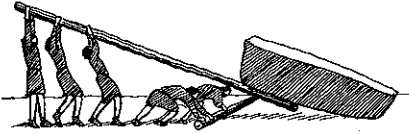


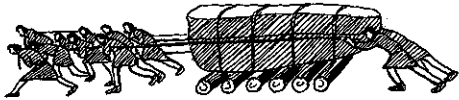
◀ *Plan of the large enclosure, Ráith na Ríg, at Tara, Co. Meath.*

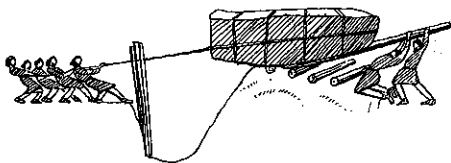
RITUAL AND RELIGION

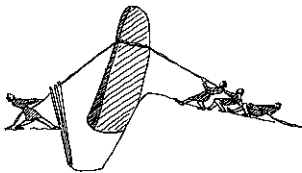
1. Erecting the standing stones

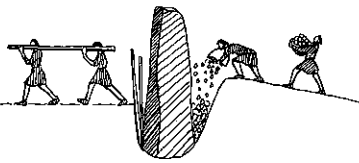
Use the spaces to describe what is happening in each of the pictures.



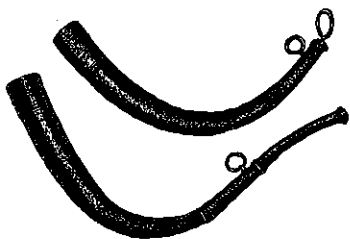






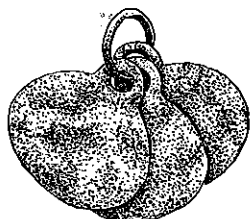




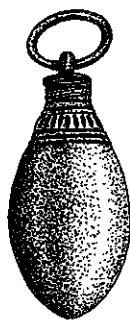


▲ Bronze horns

2. The drawings show some musical instruments from the Bronze Age. They were probably used at special ceremonies. Write about one of these ceremonies. Say how the instruments may have been used.



▲ Rattle pendant

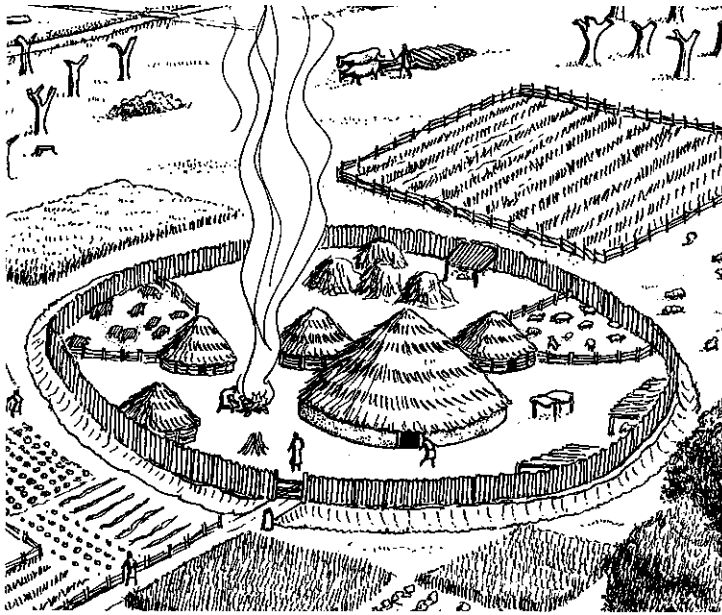


▲ A crotal, a type of bell

MODEL-MAKING

■ A BRONZE AGE SETTLEMENT

Make your own Bronze Age settlement. Look carefully at these drawings and try to construct what you see.



WHAT MATERIALS DO YOU NEED?

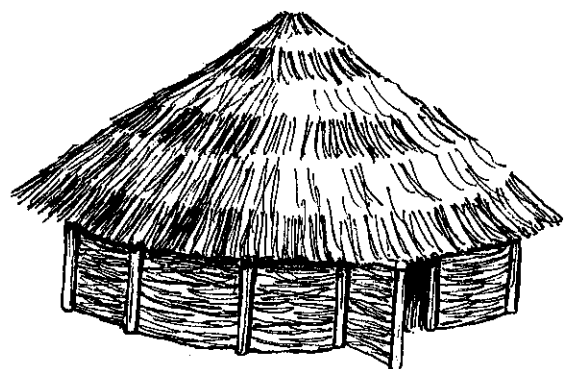
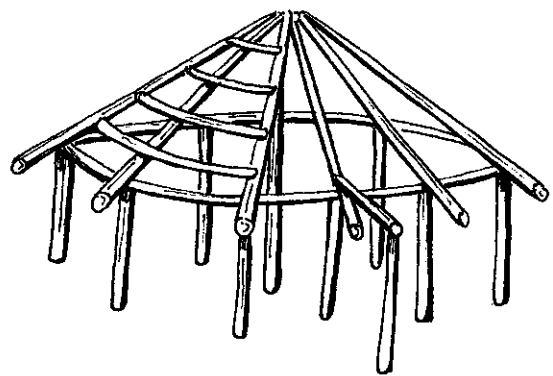
a piece of chipboard 1.5m square
 paper drinking straws
 twigs and lollipop sticks
 close-mesh chicken wire
 straw
 dried moss
 dried sand
 string
 modelling clay or papier-mâché
 copydex glue

HOW DO YOU MAKE IT?

1. Pretend you are looking down on this Bronze Age site. On the chipboard, draw outlines for the enclosing fence with your pencil. Remember to raise the area inside the fence using clay or papier-mâché. This will let you secure some twigs in the ground for building the houses later.
2. To make your own "wattle" fencing, stand some twigs in a large circle about 12 cm apart.

Weave in between them with paper drinking straws or chicken wire. Secure the perimeter fence to the base using clay and glue.

3. The walls of the houses will be approximately 10 cm in height, a little smaller than the outside fence. The diameter of the huts should be about 30 cm. The centre point of the roof should rise to 20 cm. Use twigs or cut your chicken wire to the right size and weave the wall using paper straws. Use clay to represent daub.
4. Use a cone-shaped piece of card for the roof. Cut the straw in 5 cm lengths and tie little bundles of it tightly with string. Place copydex on the card and arrange the straw roof, starting at the end and working to the centre.
5. Place the dried moss around the outside areas. Use the sand for pathways within the enclosure. Use glue to secure them to the base.
6. Finish your Bronze Age settlement by painting the fences to look like natural timber.



MODEL-MAKING

BRONZE AGE ARTEFACTS

It's easy to make your own Bronze Age artefacts.

HERE'S WHAT YOU WILL NEED.

- modelling clay or plasticine
- light mesh wire for strengthening
- wooden sticks for shaping the clay
- paints
- clear varnish

STUDY THE PICTURES CAREFULLY.

1. First, draw the implement you want to make on a separate sheet.
2. Use your modelling clay to copy the shape. Remember to strengthen the clay on the inside with wire mesh.
3. Leave your work to dry. Then paint it a suitable colour.
4. Use the varnish to harden the clay and give a better finish.

