

Brú na Bóinne

Newgrange, Knowth & Dowth



Leaving Certificate Art History Education Pack

A teacher and student aid to interpreting the passage tombs,
archaeology and landscape of Brú na Bóinne World Heritage Site

Education Pack for Leaving Certificate Art History

Introduction

This education pack has been designed by the Brú na Bóinne guides as an aid for teachers and pupils of the Leaving Certificate Art History syllabus.



Map showing the position of the monuments within the bend in the Boyne

Brú na Bóinne Archaeological Complex

Brú na Bóinne is about eight kilometres inland from Drogheda and describes an area where the river Boyne meanders into a dramatic loop or bend. Brú na Bóinne – *The palace or mansion of the Boyne*– is the name given to one of the world's most important archaeological landscapes. Today about forty mounds can be seen within the complex, dominated by the three great passage tombs of Knowth, Dowth and Newgrange.

In recognition of the international importance of this archaeological landscape, the United Nations Educational, Scientific and Cultural Organisation (UNESCO), has designated the Brú na Bóinne area a World Heritage Site. Sites selected for World Heritage listing are deemed to be of outstanding universal value to humanity and are approved on the basis of their merits as the best possible examples of cultural or natural heritage. The passage tombs, associated monuments and Visitor Centre at Brú na Bóinne are in the care of the Office of Public Works.

Most of the information we have on the monuments at Brú na Bóinne is as a direct result of archaeological investigation. Excavations at Newgrange and Knowth began in 1962 by Professor Michael J. O'Kelly and Professor George Eogan respectively. Investigations at Newgrange lasted thirteen years, while those at Knowth lasted nearly forty.

Neolithic Life in Brú na Bóinne

When was the Neolithic period?

The earliest inhabitants of Ireland arrived around 8000 BC and were known as *hunter-gatherers* due to their nomadic lifestyle, hunting local wildlife such as red deer and wild boar, and gathering naturally occurring foodstuffs like nuts and berries. This was the Mesolithic period and lasted from approximately 8000 BC – 4500 BC. By 4000 BC the gradual introduction of farming techniques from Eastern Europe brought a huge change in lifestyle, this was the beginning of the Neolithic period and was from approximately 4000 BC – 2500 BC.

A changing landscape

At this stage in Ireland's history around 95% of the country was densely forested. In order to develop these new farming techniques, stone axes were employed to clear small areas of woodland. Mattocks and wooden ploughs were then used to till the land in preparation for the sowing of crops. Flint knives, scrapers, arrowheads and bone needles were used in day-to-day hunting and domestic work. Crops such as wheat and barley (which were used in porridge and bread making) were cultivated, while the domestication of livestock such as cattle, pigs and sheep or goats was also being developed. Clusters of houses began to emerge, built from upright timber poles faced in wattle and daub and thatched with straw or reeds, leading to the establishment of permanent settlements and a growth in population. Hunting, fishing and foraging continued to be practised and supplemented the farmed produce.



Reconstruction of a Neolithic settlement at Newgrange



View of the River Boyne from the Visitor Centre

The importance of the river

The river must have been an essential resource for this newly emerging farming society. The Boyne, acting almost like a Neolithic motorway, provided transport and communication. However, it also served as a fresh water source for cleaning and drinking while the seasonal migration of salmon would have been a very welcome additional source of food for these opportunistic people. The Boyne Valley provided an excellent environment for these settlements to acquire the wealth, skills and workforce that enabled these early inhabitants to construct their monuments.

Neolithic tombs

Megalithic tombs can be divided into 4 main classes: Court-tombs, Portal-tombs, Wedge-tombs and Passage-tombs. Brú na Bóinne is exclusively a Passage-tomb landscape, but here are some examples of other types of Neolithic tombs.



Court Tombs
Creggandevesky court tomb, Co. Tyrone



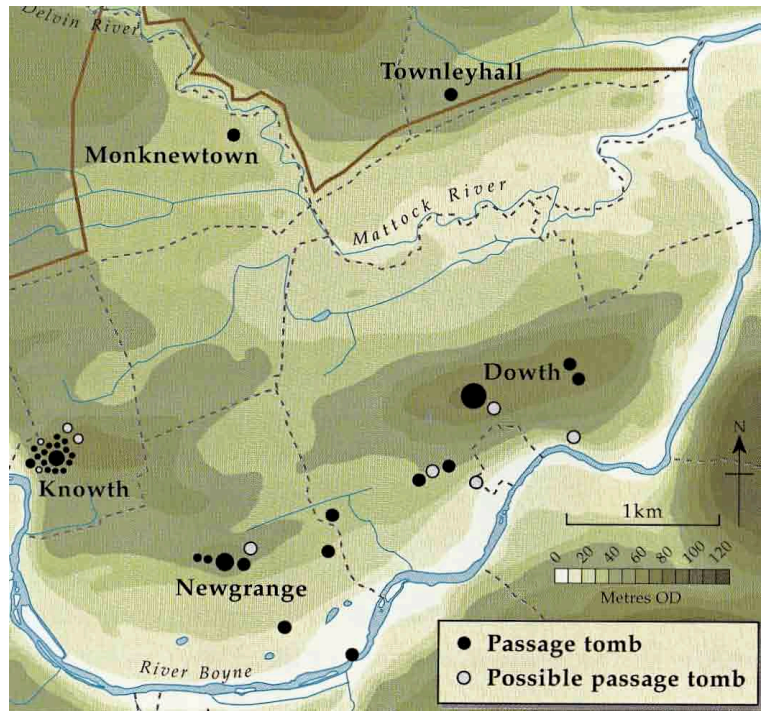
Portal Tombs
Kilclooney More portal tomb, Co. Donegal

Passage Tombs in Brú na Bóinne

As the Neolithic society flourished developing their domestic needs, their attentions soon turned to their spiritual needs.

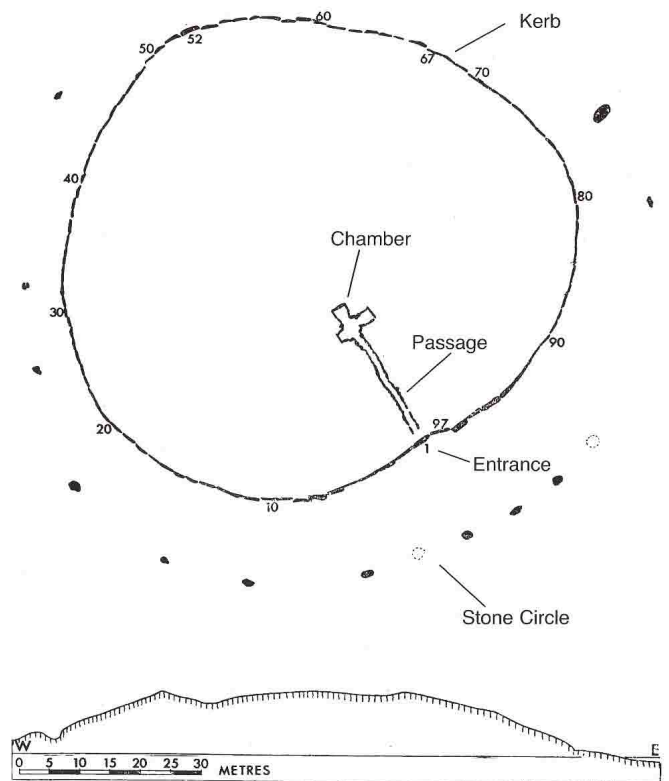
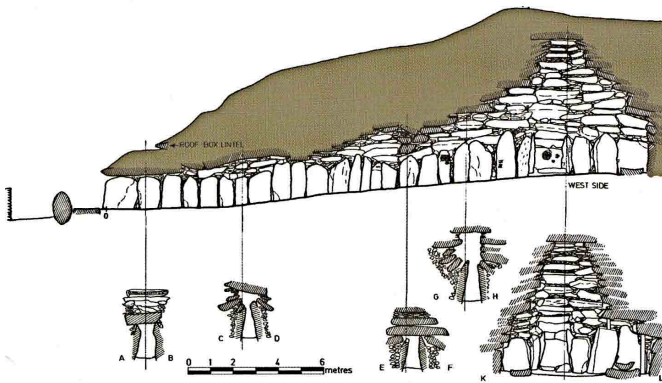
What is a passage tomb?

The majority of these monuments are known today as passage tombs, they are so called because the structure consists of a narrow passage ending in a small chamber where human remains were found. The passage and chamber is then completely covered in a cairn (circular mound of small stones). The cairn is then enclosed at the base by a series of large slabs known as kerbstones. There are 40 known passage tombs in Brú na Bóinne. Knowth, Newgrange and Dowth dominate the 37 smaller satellite tombs. However, these monuments were not all built at the same time, 4 distinct phases are evident spanning from approximately 3400BC - 2800BC.



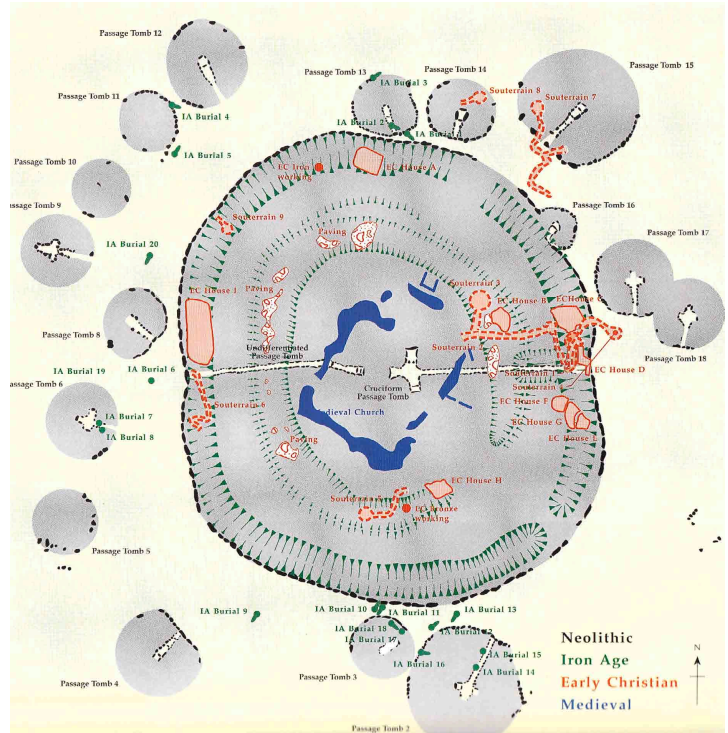
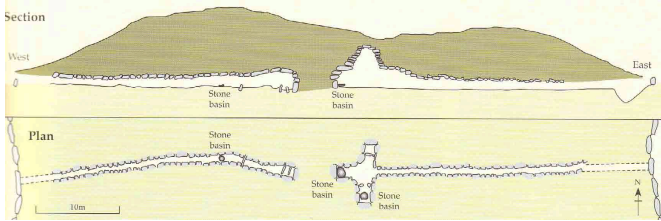
Map showing location of passage tombs in Brú na Bóinne

Newgrange

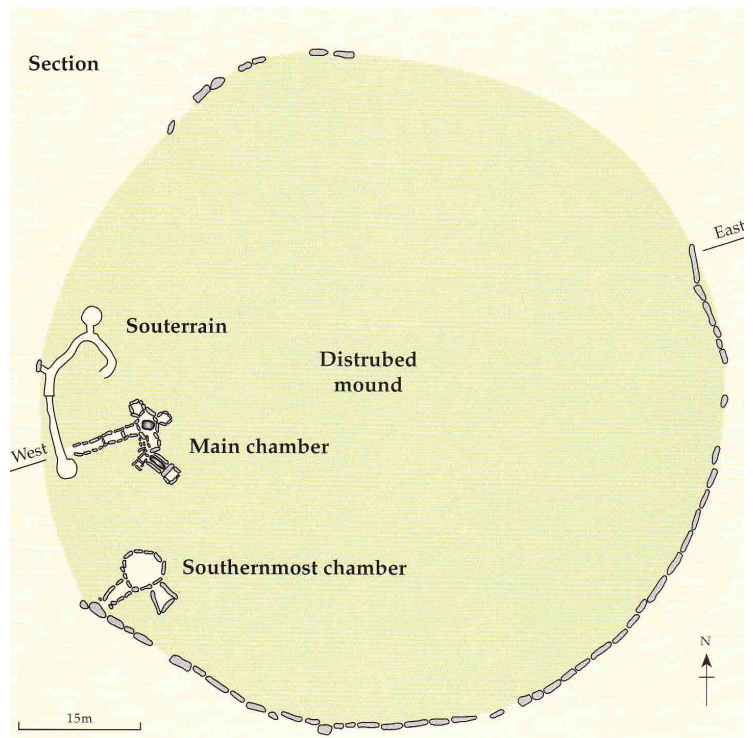
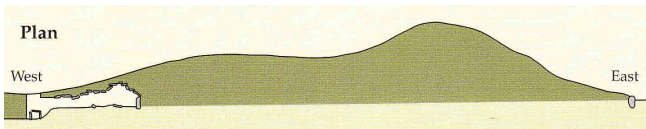


Passage Tombs in Brú na Bóinne

Knowth



Dowth



Newgrange



Newgrange before and after Reconstruction

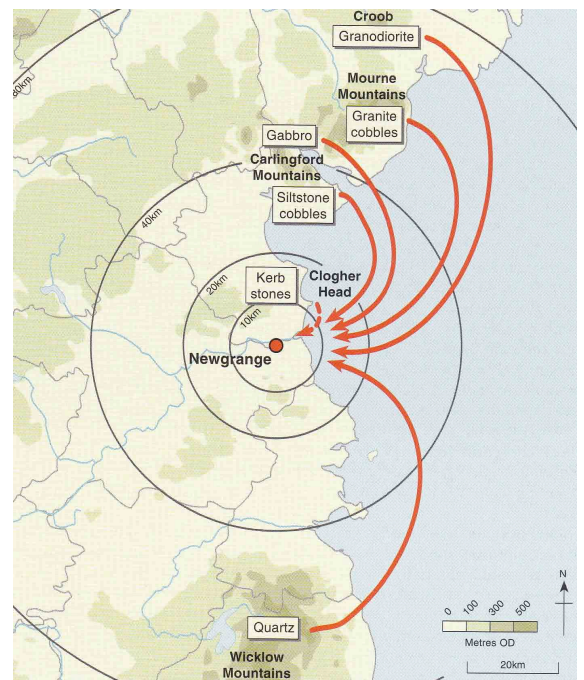


The passage tomb we know as Newgrange was constructed during the Neolithic period at approximately 3200BC. The cairn covers an area of just less than half a hectare and is around 11 metres high and has an average diameter of 80 metres. The cairn is encircled by 97 *greywacke* kerbstones and a further 450 similar stones make up the passage and chamber structure. The front section (now restored) is faced with a white quartz wall randomly interspersed with sea-rolled granite boulders. The tomb passage faces towards the Southeast and is 19 metres long. The passage is lined with *orthostats*, 21 on the right and 22 on the left. The chamber is cruciform or cross-shaped containing 3 recesses or side chambers. The right hand (Eastern) recess is the largest and most decorated, containing 2 stone basins. The roof of the chamber is a corbelled vault, which rises 6 metres above ground level. This is achieved when large slabs are placed one on top of the other narrowing like a dome as they ascend, until finally a single stone or *capstone* closes off the structure.

Materials and construction

Great effort and time was needed for the planning, gathering of materials and construction of these monuments. This is clearly evident from the vast distances the builders travelled to acquire the particular stone types. The majority of structural stones in the Boyne Valley tombs are *greywacke*. This stone type was quarried in the Clogherhead area, north of Drogheda and shipped along sea and river, then finally logrolled from a docking point on the Boyne up to the construction area at Newgrange. The façade at Newgrange consists of white quartz, which has its origins in the Wicklow Mountains to the South of the site.

The interspersed granite boulders were collected from the North shore of Dundalk Bay. The long distances involved suggest a similar sea-faring route may have been a more practical choice than travelling across land. The majority of the cairn consists of a river rolled stone acquired from the banks and terraces of the river Boyne around 1km below the monument. It is estimated that some 200,000 tonnes of material are present in the cairn.



Map showing source of building material used at Newgrange



Artists impression of men logrolling a large boulder

Today we cannot be certain of the building practices used by this Neolithic culture. Archaeologists have suggested various theories. It is most likely that logrolling, the erection of wooden scaffolding and earthen ramps were employed.

Newgrange

Functions of Newgrange

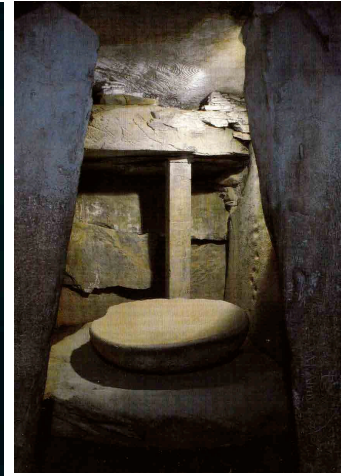
Generally Newgrange is referred to as a tomb, since cremated human remains were deposited onto the stone basins within the recesses of the chamber. Excavations at Newgrange revealed the remains of 5 individuals. Several artefacts were also found in the chamber, for example polished stone balls, stone and bone pendants and perforated stone beads.



Artifacts found in the chamber at Newgrange



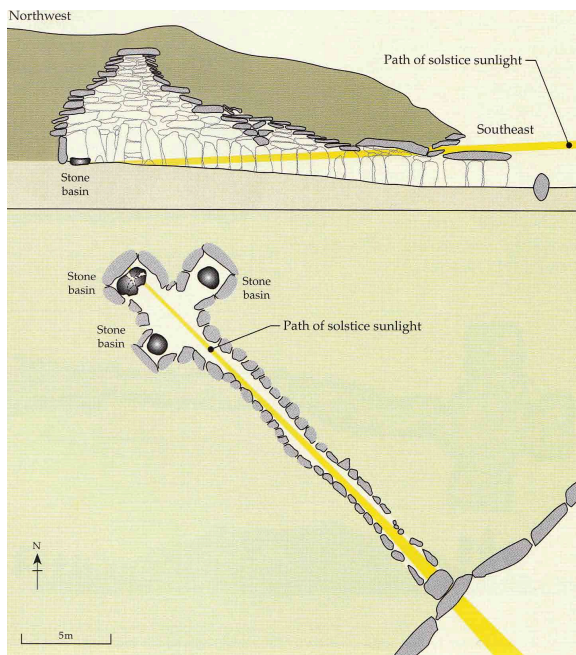
Chamber of Newgrange



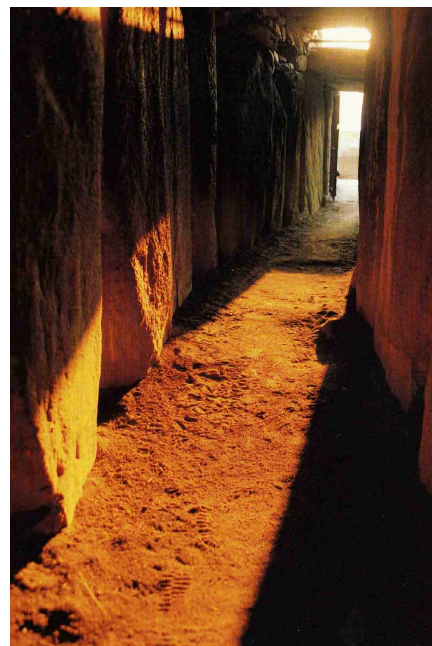
Stone basin in Newgrange for cremated human remains

The Winter Solstice

However we must not dismiss the possibility of other functions such as ritual, celebration and worship. The Monument may have been a focal point for any number of social gatherings and religious ceremonies; this theory is supported by the fact that Newgrange has a distinct solar alignment. The passage and chamber inside are aligned in a southeasterly direction, facing the rising sun on the Winter solstice. A small window-like opening above the doorway known as the *roof box* allows the mid-winter rising sun to penetrate the central burial chamber, thus dramatically illuminating it. This event can last for up to 17 minutes depending on weather conditions. The phenomenon is not limited to just one day, but can occur on any morning between 18th and 23rd of December. There is no shortage of speculation as to why this was done. Many believe that the sun was worshipped as a deity and just as it revives the earth and brings new life at springtime, it may have similarly revived the spirits of the ancestors within the tomb. We may never know what the exact function of these monuments were but we can safely say that this Neolithic society were not only skilled builders and astronomers but also had a respect for their dead and possibly an organised belief in an afterlife.



Side and upper cross-section of sun illuminating Newgrange



Sun shining through the roof box



Roof box and entrance stone of Newgrange



Corbell vaulted roof of Newgrange

Neolithic Art in the Boyne Valley

Neolithic art is one of the most mysterious and discussed aspects of the Brú na Bóinne complex. Many examples of *megalithic* art (art associated with the large structural stones of the tombs) are to be found on the three great tumuli of Newgrange, Knowth and Dowth and on many of the 37 smaller satellite tombs within the landscape. This type of art generally consists of a series of geometric and abstract motifs, which are picked or incised onto the surface of the stones. However, not all Neolithic art is megalithic art. Some falls into the category of *Portable* art, which occurs on artefacts such as jewellery, pottery and maceheads. The precise function of the ornament, if indeed any, is unknown. Whatever the significance might have been, there is no doubt that a great deal of skill, time and energy was needed to produce the carvings and art pieces especially when we consider that only stone tools were available at that time.

When it comes to the interpretation of Neolithic art, the following quote from Dr Muiris O’Sullivan in his book *Megalithic Art in Ireland* is well worth remembering, particularly in the light that the meaning of this art is unknown...

“The literature concerning the meaning of passage tomb art tells us more about the authors than the artists. It is the people looking at the symbols that invest them with meaning, which is related to their personal interests and the information at their disposal (i.e. .it is subjective). For this reason the convinced interpreter is unreliable. In earlier centuries, some commentators perceived the art as ancient linguistic symbols, which they tried to compare with known scripts. Others preferred interpretations linking the art with astronomical phenomena. By the first half of the twentieth century, it was common to see abstract human faces in the designs (anthropomorphism). There followed a reactionary period, especially in the 1970s, when the meaning of the ornament became less of an obsession, giving way to an analysis of technique and basic content. Nevertheless the question on the lips of the general public is still, what does it mean?”

Megalithic art at Newgrange

Professor Michael J. O’Kelly in his book *Newgrange: Archaeology, Art and Legend* identifies **10** categories or motifs used by the Neolithic artists of the Boyne Valley,

5 of these are *Curvilinear*



1. Circles



2. Spirals



3. Serpentineform



4. Arcs or crescents



5. Dot in circle

5 of these are *Rectilinear*



1. Chevrons or zigzags



2. Lozenges



3. Starshape or radial
(with central dot)



4. Parallel lines



5. Offset or
comb device

Neolithic Art in the Boyne Valley

Technique and Style

Two main techniques were used in applying the art -

Incision: This involved the drawing of a pointed implement along the surface of the stone, scratching or etching out designs.

Picking or Pocking: This was the predominant technique used by the artists and involved using a sharp point, possibly of flint or quartz, holding the implement like a chisel or punch and hammering out designs on the surface of the stone.

Dr. Muiris O' Sullivan identifies 2 styles of art -

Standard style: Lightly picked or incised decoration

Plastic style: A sculptural quality is obtained (for example the entrance stone to Newgrange). This style enhances the architectural impact of the monuments.

Portable Art at Newgrange and Knowth

The following images are of Neolithic art pieces that are *non-megalithic*, (i.e. not confined to the large structural stones of the monuments) this art is known as **Portable Art**



The Knowth Macehead



Phallus- shaped stone



Decorated stone pot



Polished stone balls and pendants

Neolithic Art in the Boyne Valley

Theories Of Art

Although no one today can be certain about the meaning of this art, several theories remain prominent.

A) Script theory:

This theory suggests that the carvings are a form of ancient script or writing, much like the Egyptian hieroglyphs



Chamber stone from Newgrange



Decoration from Dowth

B) Anthropomorphic theory:

This theory suggests that some of the carvings are abstract representations of human faces



Passage stone L19 at Newgrange



'Guardian stone' Knowth Western Chamber

C) Astronomical Theory:

This theory suggests that the art represents solar, lunar and stellar images and cycles



Kerbstone 15 at Knowth



Kerbstone 52 at Knowth

D) Altered states of consciousness theory:

'It has also been claimed that the motifs common to megalithic art throughout western Europe are those that arise today during altered states of consciousness, whether drug-induced, naturally occurring or brought on by some activity like the frenetic dancing of a shaman.' - Muiris O' Sullivan



Kerbstone 52 at Newgrange

Photographs, images & diagrams courtesy of Department of Environment, Heritage & Local Government, the Office of Public Works - Brú na Bóinne Visitor Centre, G. Stout, National Museum of Ireland, the O'Kelly Archive and Knowth Excavation Programme.

Comparisons with other Cultures

The following art symbols from other cultures may offer some more ideas as to the meaning of the Neolithic carvings of the Boyne Valley.

Traditional Aboriginal art symbols from Papunya Central Desert, Australia



Rainbow or cloud



Bottom right of Entrance stone, Newgrange



A Man



Kerbstone 86, Knowth



Two men sitting



Kerbstone 4, Knowth



Campsite, stone, well or fire



Chamber stone at Dowth

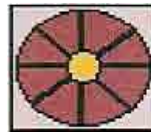


Sitting down place



Basin stone at Knowth Eastern chamber

Traditional symbols from the Native American Great Plains



Hogan symbol
A symbol for a permanent home



Symbol from Dowth kerbstone



Medicine man's eye symbol
A symbol for one who is wise, watchful, knowing



Lozenge symbol from Newgrange passage



Mountain range symbol
A mountain range



Chevron symbol from Newgrange chamber



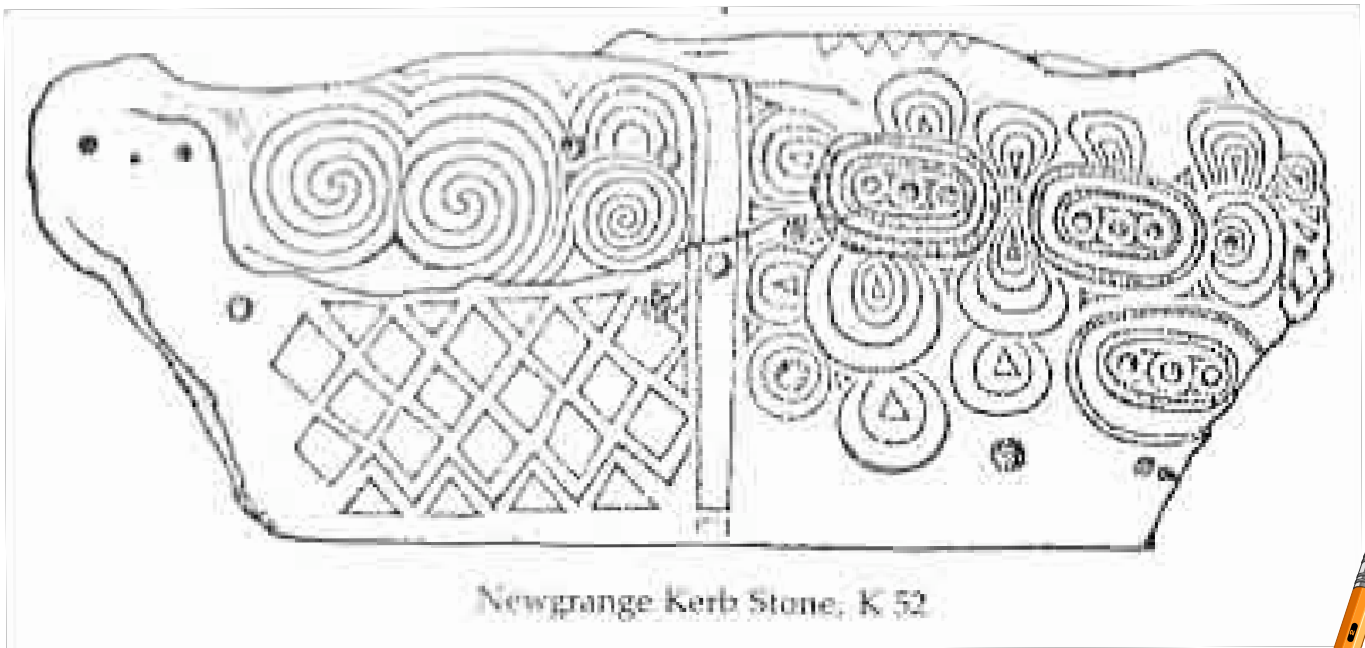
Sun ray symbol
A symbol for constancy



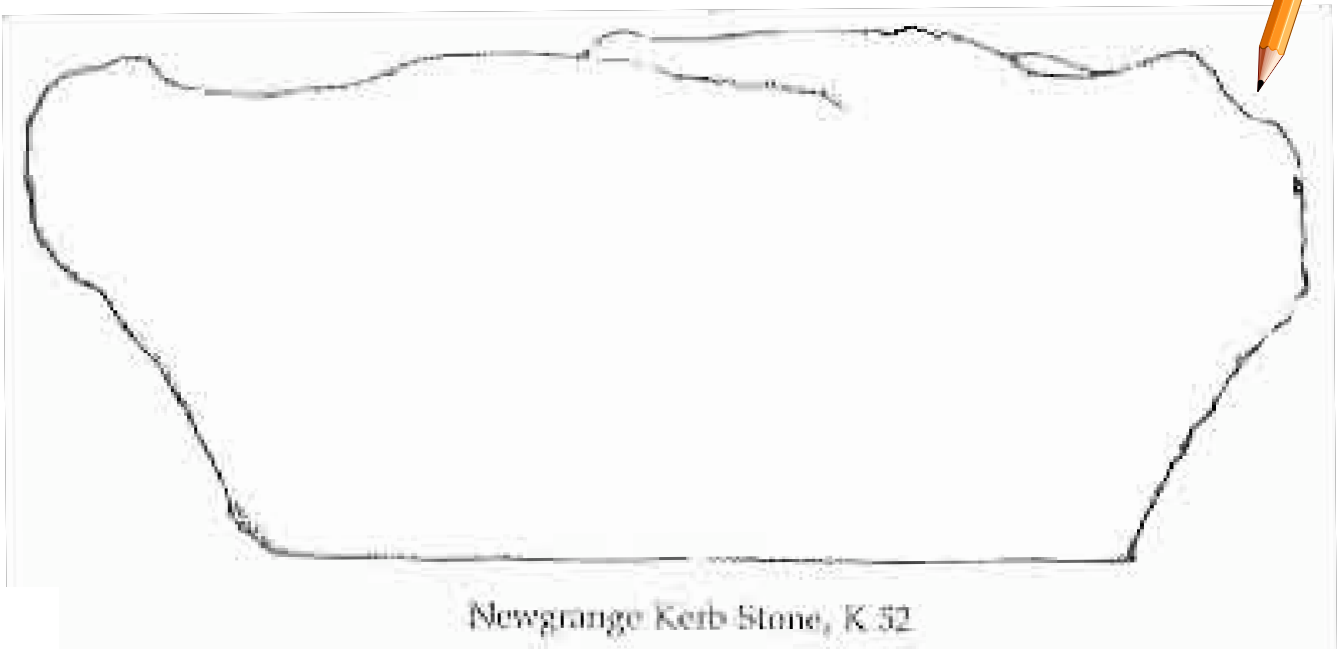
Solar symbol from Knowth Eastern chamber

NEWGRANGE KERBSTONE 52

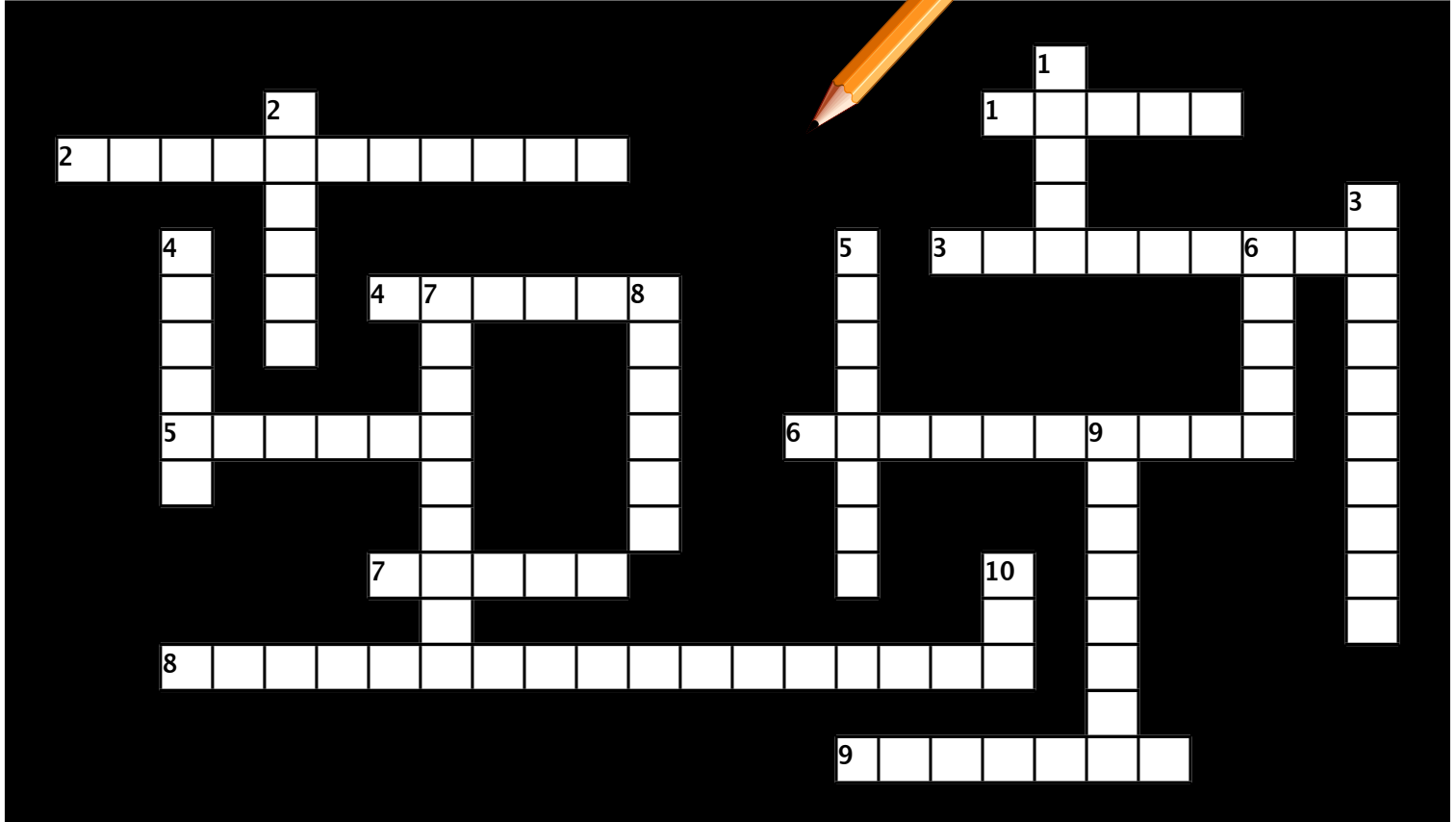
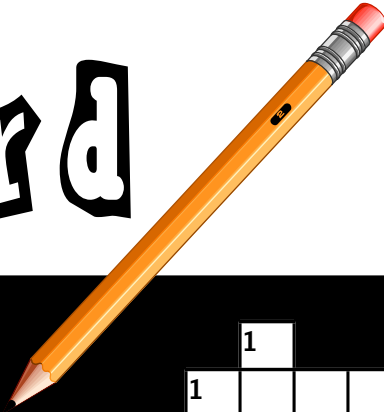
Kerbstone 52 is on the Northwestern side of the mound, directly opposite the entrance stone. Archaeological investigations were carried out to establish if there was a second tomb concealed behind this stone. These investigations proved inconclusive, though it is interesting to note that an earlier mound was discovered proving that this area was of ritual significance even before the great mound and chamber at Newgrange had been constructed.



Study the design of the stone carefully. Can you reproduce the patterns on this space below?



CROSSWORD



Clues

Across:

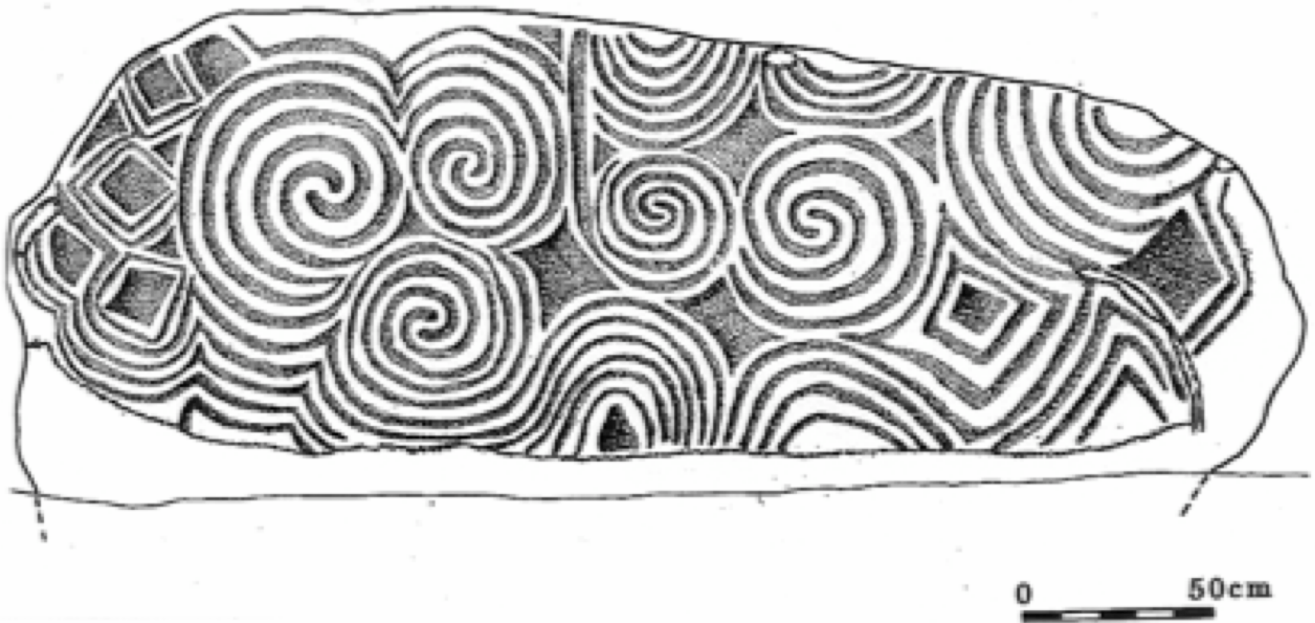
1. Knowth, Newgrange and _____. (5)
2. The name of the Visitor Centre and the ancient name for where the passage tombs are built. (3,2,6)
3. The majority of structural stones at Newgrange are a type of stone called _____. (9)
4. The initials of the organisation that designated Brú na Bóinne a World Heritage Site in 1993. (6)
5. Tool used by archaeologists to smooth or make even soil surfaces. (6)
6. The remains of the dead were placed on a _____ within the chamber. (5,5)
7. A typical crop grown by Neolithic farmers. (5)
8. A way of telling how old an archaeological artefact is. (5,6,6)
9. Type of small stone boulders that came from the Dundalk bay area of Co. Louth. (7)

Down:

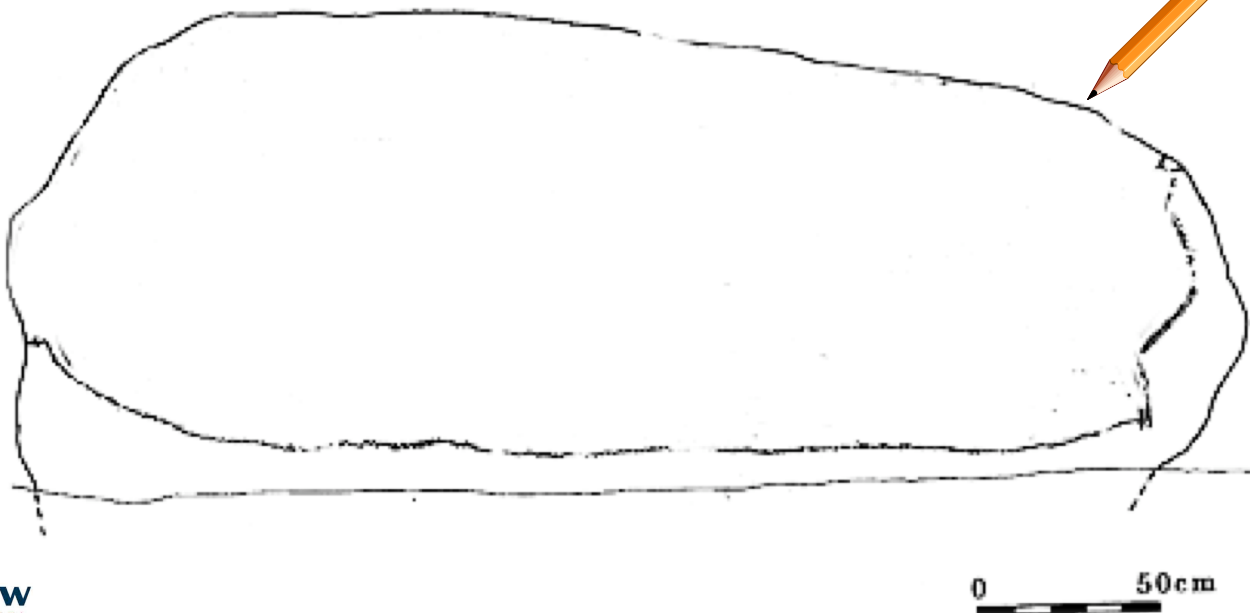
1. The river _____ flows through the Brú na Bóinne landscape. (5)
2. A migrating fish found in the river Boyne. (6)
3. In Greek this term means of large stone. (10)
4. The front of Newgrange is faced with a white stone called _____. (6)
5. On the mornings of the Winter _____, the sun shines into the chamber at Newgrange. (8)
6. A circular mound of stone covering a passage and chamber. (5)
7. The archaeological period during which the Boyne Valley passage tombs were built. (9)
8. Director of excavations at Newgrange from 1962 to 1975, - Michael J. _____. (6)
9. A significant item found on an archaeological dig. (8)
10. Another word for excavation. (3)

NEWGRANGE ENTRANCE STONE

The Entrance Stone at Newgrange is regarded as one of the masterpieces of European Neolithic art. The artist who carved it used a flint or quartz point and picked out the designs. We know that the stone was carved where it still stands i.e. after it was moved into position. We are unable to translate or understand the meaning of the art or to even know if it had a meaning. However, most people believe that for those who built the monument the art had a magical or religious significance. To go inside the chamber 5000 years ago, one had to cross over the Entrance Stone. Perhaps it acted as a physical barrier or threshold between this world and the world of the spirits.

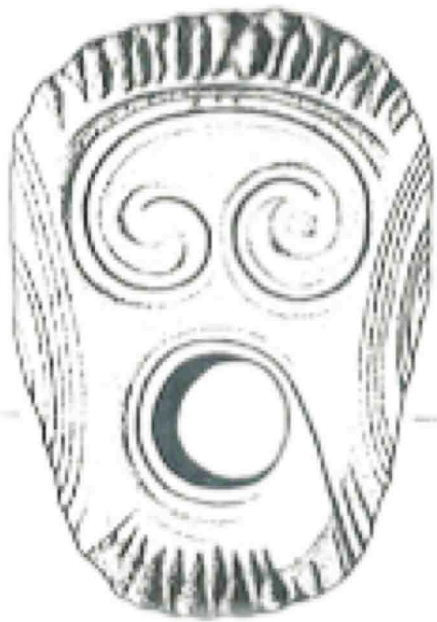


Study the design of the stone carefully. Can you reproduce the patterns on this space below?

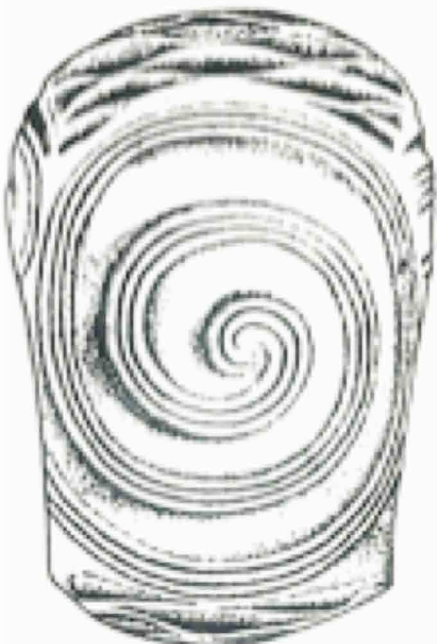


Knowth Macehead

The Knowth macehead is so beautifully carved that it must have been an extremely precious ceremonial object. Made of flint, it is generally considered to be the single finest piece of Neolithic craftwork in Western Europe. It measures 79mm in length, weighs 324.5gms and could be held in the palm of your hand! See if you can duplicate the intricate designs on the blank version provided.



Front View



Side View

