



First Steps into Archaeology: Archaeology for Young Children - Lesson Plan 2

Sand Pit Archaeology

This lesson plan is part of a series of 4 lesson plans focussed on teaching archaeology to young children. It is aimed at pre-school, and junior and senior infant classes in primary schools. This project is a joint initiative between the Heritage Office of Kilkenny County Council, the Kilkenny County Childcare Committee and Kilkenny Education Centre, and co-funded by the Heritage Council. For further information see www.kilkennycoco.ie/eng/Services/Heritage

■ Learning objectives

- To show pupils how an archaeologist finds out about the past through excavation
- To let pupils discover the similarity and differences in home settings between 'now' and in 'the past'
- To encourage children to think about what home life was like in the past.

■ Learning context

Archaeology is defined as 'the scientific study of former societies by the examination of the physical remains of those societies'. The word is derived from the ancient Greek words 'archaeo' meaning old or ancient and 'logos' meaning study.

The following table is a list of the recognised archaeological and historical time periods in Ireland (derived from the Northern European archaeological periods). Changes in time periods relate to social change, for example, the change from Stone Age to Bronze Age is determined by the discovery and use of bronze to make tools. Medieval periods are divided roughly by historic events, for example, the High Medieval is approximately defined as the time when Ireland was invaded by the Anglo-Normans (1169AD).

For reference some key events in Ireland and the world are given in the adjacent table.

Time period	From	To	Key events	Date
Prehistoric	7,500 BC	400 AD	Newgrange Passage Tomb Built	c. 3,000 BC
Stone Age - Mesolithic Period	7,500 BC	4,000 BC	The Great Pyramid of Egypt	c. 1,800 BC
Stone Age - Neolithic Period	4,000 BC	2,500 BC	Celts arrive in Ireland	c. 500 BC
Bronze Age	2,500 BC	600 BC	Jesus born	0
Iron Age	600 BC	400 AD	St Patrick arrives in Ireland	432 AD
Medieval	400 AD	1,540 AD	Vikings arrive in Ireland	794 AD
Early Medieval Period	400 AD	1,100 AD	Anglo-Norman Invasion of Ireland	1,169 AD
High Medieval Period	1,100 AD	1,300 AD	Potato brought to Ireland	1,587 AD
Late Medieval Period	1,300 AD	1,540 AD	Cromwell arrives to conquer Ireland	1,649 AD
Post-Medieval & Modern	1,540 AD	present	Tea is brought to Ireland	c. 1,800 AD
Post-Medieval Period	1,540 AD	1,700 AD	The Great Famine starts	1,845 AD
Early Modern Period	1,701 AD	1,800 AD	Titanic sails from Cork	1,912 AD
Modern Era	1,801 AD	present	Ireland gains independence from Britain	1,921 AD

Medieval originally referred to the Middle Ages which was the period between the so-called Dark Ages (recognised as the period of great unrest in Europe following the fall of the Roman Empire) and the Renaissance period (a cultural movement which started in Italy in the fourteenth century). The definition of medieval has changed over the years. In Ireland the term 'early medieval' is used to for the period from c. 400AD to 1169 AD (from the introduction of Christianity to the arrival of the Normans), while the term 'later medieval' represents the period from c. 1169-1550 (arrival of the Normans to the Dissolution of the Monasteries).

What tools do archaeologists use?

Archaeologists have to use particular tools to excavate their sites. Some of these tools are specialised. The type of tool used will depend on the size of the site, the nature of the ground and what they are expecting to find. When archaeologists study

■ Learning context (continued)

a site they use clues such as artefacts, building types etc to determine what time period the site dates back to.

- Mattock – a mattock is a digging tool similar to a pickaxe. Mattocks are used to break up hard ground before trowelling.
- Trowel - the most common tool used by archaeologist is a trowel. A trowel has a flat blade which is used to carefully scrape back layers of earth in order to expose archaeological finds or features.
- Shovels - Hand shovels are used to collect and carry away earth called spoil from the site to the spoil heap
- Small tools (e.g. wooden skewers) – specialist tools are used when delicate features are located by the archaeologist. Wooden skewers can be used to pick away small bits of earth from a skeleton
- Brushes – brushes are used to clean delicate items and are also used to prepare the surface of a site when it is going to be photographed.
- Sieves or screens – sieves or screens are used to examine samples of soil for smaller remains such as seeds, pollen and tiny molluscs (shells)
- Survey equipment – specialist survey equipment used on an archaeological site includes resistivity meters, magnetometers ground penetrating radar, Global Positioning Systems and Total Station
- Technical equipment – archaeologists use cameras, microscopes, measuring devices and computers.

What do archaeologists do?

- Research -Before an archaeologist begins a site survey, the area's background must be researched. Archaeological and historical research provides background information about who lived there, what structures may have been in the area, and how the landscape has changed over time.
- Site Survey – The area is assessed to determine if there are any unrecorded archaeological features within it, to record and collect artefacts found on the surface and to determine the archaeological potential (the nature, extent and significance of the site) of the site.
- Excavation - The portions of the site to be investigated are usually divided into smaller sections that are excavated until all the archaeological material has been investigated. The site is dug just with shovels, trowels, brushes and dental picks. Larger artefacts are left in place and are photographed and their location is mapped. All soil removed is carefully screened so that small artefacts are recovered. Recovered artefacts are labeled and bagged. Information on the artefacts is recorded including the soil layer from which they came, the excavator's names and a distinctive find number.
- Processing - Artefacts are taken to a laboratory to be cleaned, catalogued and conserved.
- Analysis - The archaeologist examines the artefacts to learn how they were made, how they were used and what period they date to.
- Reporting - A report containing all information gathered from the site must be completed and sent to the National Monuments Service of the Department of Arts, Heritage and the Gaeltacht.
- Preservation - Artefacts are conserved by a Finds specialist, which may involve cleaning or treating with chemicals before being sent to the National Museum or Ireland for long-term storage or display. These are typically displayed in the National Museum or local museums such as Rothe House in Kilkenny.

■ Linkage and Integration

- (i) Aistear
Exploring and Thinking - piecing together objects that are grouped together by an "old context"
Skills include experience in manipulating trowelling, handling objects & play
Wellbeing and communication
- (ii) Primary school curriculum
 - Geography* Skills and concepts: *A sense of place and space*
Strand: *human environment* - building awareness of the characteristics of a home environment.
 - History* Skills and concepts: *working as an historian* - time & chronology
Strand: *story* - expanding knowledge of past through story of lives long ago.
 - Science* Skills and concepts: *working scientifically* - questioning, observing, predicting, analysing, recording and communicating
Strand: *Materials* - properties and characteristics of materials.
- (iii) Archaeology in classroom
Module 3 – To experience the processes of archaeological excavation.

■ Learning activities and method

Activity 1 Story

Tell the story of Goldilocks and 3 bears

Then tell an amended version of the story – When the three bears go out for their walk whilst porridge is cooling, a volcano near their home erupts (use pictures and ask children for the sound effects). Their house gets covered with ash, and lava. The 3 bears have to move to a new house, as their house is now buried deep under the lava. Many years later archaeologists come along and dig up the lava and excavate the three bears house. They find all the things that the three bears left behind when they went out for their walk.

Activity 2 – Sand pit archaeological excavation

Children excavate the three bears house like an archaeologist

Bury the contents of the three bears house in a sand pit

- 3 beds – large, medium and small
- 3 chairs – large, medium and small
- 3 bowls – large, medium and small
- 3 spoons – large, medium and small

If required, divide the sandpit in to sections using strings, making sure that each section has some 'finds' in it.



The children excavate the three bears house by scraping away the sand in layers. The scraped-away sand is placed in buckets one trowel-full at a time. When a pupil finds an artefact, they are encouraged to use gentle trowelling and brushing to uncover it without damaging it. When it is fully uncovered, they put the artefacts in their finds tray,

Sieve the sand in the buckets for artefacts that might have been missed in the excavation process.



Suggested discussion

- The pupils bring their finds in their trays and place them on the post-excavation table
- What did we do when we excavated?
- What did we find?
- Who did it belong to?
- What is it used for?

Activity 3 - Post excavation drawing

Children describe (colour, feel, size etc) and draw an artefact that they found on their excavation sheet. Completed sheets are compared with artefacts and children bring them home to continue telling the story.

■ Assessment

Children should be able to discuss artefacts that they found and relate them to belonging to the past or present.

■ Resources & Materials

Excavation equipment

- Sand box
- Play sand
- Watering can with rose (to dampen sand if necessary)
- Buckets for removing sand from tray
- Sieves for sand
- Excavation kit: trowel (or spoon), small brush, excavation record sheet* (and clipboard), pencil, ruler, eraser, finds tray (a seedling tray, or a biscuit tin)
- Furnish the three bears house with toy furniture (beds, chairs etc), plus 3 bowls of different sizes (can be made with clay)

*see Teaching Resources below

Method *(Prepare the excavation at a quiet time)*

- (i) Prepare excavation sheets with the name of the excavation and the child's name, colours or symbols.
- (ii) Divide the sandbox into section grids with strings
- (iii) Insert artefacts in sand box, ensuring that each section has some artefacts in it
- (iv) Bury the artefacts under a layer of sand.
There should be sufficient artefacts that each pupil will excavate a few.
- (v) Fill the sandbox to half/three quarter height.
If the sand is very dry, dampen it slightly with water from a watering can (to prevent sand blowing into eyes).
- (vi) Place small buckets around the sandbox for transfer of sand during excavation
- (vii) Place a larger bucket as a spoil bucket for sand to be sieved (older children)
- (viii) Label the section grid where the child will dig with the pupils name and section name (e.g. Kate, A, & Tom, B & Pat, C, etc.) If children are too young to read, give them a coloured dot sticker to indicate their place to dig
- (ix) Prepare excavation kits and label them with pupils name (younger children to place found items on the table)
Trowel (or spoon), brush, record sheet (and clipboard), pencil, ruler, eraser, find tray (seed tray)

■ Teaching Resources

General information about Ireland's archaeology and history

- <http://www.itsabouttime.ie/primary/05links.htm>
- http://www.digitkids.ie/teaching_resources
- <http://www.askaboutireland.ie/learning-zone/primary-students/>

For images of old and modern things

- <http://www.google.ie/imghp?hl=en&tab=wi>

For images of food carbonised by volcano, see Pompeii

- http://www.bbc.co.uk/history/ancient/romans/daily_life_gallery_08.shtml

Excavation sheets downloadable from

- http://www.digitkids.ie/teaching_resources

■ Extension activities

(i) *Excavation of a kitchen*

To set the scene tell an easily imagined story about a birthday party, where the child's party was abandoned, because a volcano occurred whilst the children were out playing. No one was hurt, but the family had to move away. Many years later, archaeologists excavate the house and find the kitchen set up for a party:

- Wood for fire
- Toys as old presents
- Food, and birthday party food
- Tins; pots (these can be made of clay)
- Candles; candle stick holder;
- Drinking tankard or cups
- Wooden spoons,
- Food use toy food
- Any old domestic object that is safe. Experiment!!

Within the kitchen arrange artefacts in a context:

- a hearth for cooking
- a food storage place
- an eating place (could be a mat on floor)
- a place to store cooking implements
- a place to stack wood for the fireplace
- a place for crockery, bowls and cutlery

(ii) *Other excavation themes*

Excavations can be done again and again using other setting familiar to the children.

- Different rooms in a house can be excavated: bedroom, living room, play room etc.
- Different buildings can be excavated: a church, a school classroom etc.
- Different settings can be excavated: a playground, a farmyard etc

(iii) *Puzzles*

Photograph and print out the photos of the old artefacts, and also find and print out photos of modern items that match (e.g. tankard and tea cup). The children match the printed out the photos of the old artefacts with the matching modern items (e.g. tankard and cup). Discussion of what each item was and who found it.

(iv) *Imaginative play*

Children use imaginative thinking in discussing what objects used for? Also to imagine what happened to the objects when they got old and buried.