

Digging an Archaeological Test Pit

A Step-by-Step Guide

Excavating a Test Pit

A test pit is a small archaeological trench that is dug scientifically in a series of layers to find artefacts and cultural material that tell us what was going on in the past. Digging test pits is a very good way of investigating villages that are still occupied because the pits are small (usually 1 metre square) and tidy, and can be dug in areas of available land, even on small plots of land such as gardens. Digging a number of test pits in a village enables archaeologists to build up a map of the village that shows where people were living hundreds or even thousands of years ago — at times when there's no other way of finding this out. Creating maps like this for lots of villages will enable archaeologists to work out what the impact of events such as Viking raids, the Norman Conquest and the Black Death had on the lives of people in the past. By excavating a test pit, you are contributing to our knowledge our understanding of the past.

Excavating an archaeological test pit properly is straightforward if you follow the instructions in this **step-by-step guide**: by carrying out your excavation using the techniques described here, you will ensure that your work is conducted and recorded correctly, as it would be on a professional excavation. It will also mean that your discoveries will contribute to the University of Cambridge research into the development of historic settlements in the countryside since the end of the Roman period.

The key things to remember are:

- Take your time and proceed **carefully** at all times.
- Make sure you follow the step-by-step instructions in this handbook. The process of excavating the test pit is divided into 20 steps, which are summarized for quick reference on the back page of this **guide**.
- Remember and observe everything you were told in the **Instruction Session** and the **Health and Safety** briefing.
- Ask for help if you are uncertain what to do at any point — archaeologists from Access Cambridge Archaeology will be visiting your test pit frequently.
- You are working as part of a group, so remember to think about how to divide up the various tasks you need to do so that (1) no-one gets too tired, (2) you're using each other's talents most effectively, and (3) you're working quickly and efficiently as a team.

Step 1 Starting off

As soon as you've had your **Instruction Session**, collected your digging equipment, and been shown where to dig your test pit, begin by filling in the box at the bottom of the front of your **Digging an Archaeological Test Pit Excavation Record** booklet with the name of the village you're in, the address of the garden or field your test pit is in, the date, the number of your test pit and the names of everyone on your test-pit team.

Step 2 Measuring out your test pit

The next thing you need to do is measure out a right-angled square with each side measuring exactly one metre long. To do this you'll need some string, four fixing pins or nails, a sheet of A4 paper and a tape measure.

Start by pushing the first fixing nail into the ground. Use the end of the mattock (gently!) as a hammer if you need to. To form the baseline of your square, measure 1 metre along the ground from the first nail with a tape measure and push in a second nail in the same way as the first. Connect the two nails with a length of string.

Then tie another piece of string to your second fixing nail and use a piece of A4 paper (or this handbook) to make sure that the corner forms a 90-degree angle. Pull the string tight along the edge of the paper, measure 1 metre and insert a third nail. Take up the slack and tie the string to the third nail. Repeat the process to complete your square.

Check that your test pit really is square by measuring across the diagonals from corner to corner — the distance should be 1.41 m! Correct the shape of your square if necessary.

Step 3 *Surveying your test pit*

Next, you need to draw the Test Pit Location Map on the page inside the front cover of your **Digging an Archaeological Test Pit Excavation Record** booklet, so that anyone reading it will know exactly where your test pit was.

The first step is to establish a baseline. To do this, find any permanent feature or structure, near your test pit, which you can also locate on your Ordnance Survey map of the settlement. This might be the wall of a house or out building, the property boundary or a field corner. Draw this structure on your location sketch map with north at the top of the page. (You don't need to worry too much about drawing accurately to scale, because you will mark distance measurements on your map). If you have used a straight wall as your permanent structure, the line you have drawn forms your baseline. If you have chosen a single point, such as the corner of a building, you'll need to select another point and join the two points with a line — this is your baseline.

Then, measure the shortest distance between the corners of your test pit and the two ends of your baseline and draw the test pit on the sketch plan, marking the distances from the ends of the baseline. You can also draw in any features, like bumps in the ground, that may be interesting. You may find something when you excavate that relates to these features, so it's worth recording them. You must also mark which way is north on the plan (using the compass and referring to the Ordnance Survey map), and number each corner of the test pit from 1–4, going clockwise around the pit, with 1 and 2 on the north side.

Step 4 *Plastic sheeting*

Unfold your plastic sheeting and lay it out flat at least 2 m from the edge of your test pit. This is where you'll put the spoil that you dig out of your test pit. It needs to be away from the edge of the test pit because if it was too close the spoil might fall back into the test pit which can be dangerous (even a small amount of soil can be very heavy). Also, if you put the spoil heap too close to the test pit, you might find it difficult to find a clear space to stand on to work!

Step 5 *Beginning context recording*

Before you begin to dig, you need to start filling in the first **Context Record Sheet** (on page 3 of your **Digging an Archaeological Test Pit Excavation Record** booklet). You will dig your test pit by removing a series of 10 cm thick layers: each layer is called a context or spit, and you use the **Context Record Sheets** to record what you can see before you dig it (in the left-hand column) and after you've dug it (in the right-hand column).

Fill in the 4 boxes in the top left-hand corner, including the context number for the first context — the layer which includes the surface — which is context number 1. (You'll have been told what the Site Code is in the Instruction Session.)

Step 6 *Context Record Sheet boxes 1–4*

The next step is to draw a neat **Context Plan** of the surface of your test pit, using the 10 cm square gridded box on your **Context Record Sheet**, so that each centimetre (cm) on your plan represents 10 cms in the test pit. (For this first context, the plan may just show grass.) See the diagram below for the key of Drawing Conventions illustrating how to represent the different types of material that you find.

Draw your **Context Plan** from the south with north at the top — draw an arrow in the box above your plan to show what direction north is in on it (NB make sure that all of your subsequent **Context Plans** are drawn from the same position as the first,

Gravel		St	Stone
Charcoal		S	Shell
Brick		P	Pottery
Tile		B	Bone
Mortar		G	Glass
Plaster		M	Metal

Drawing conventions for context recording (see Steps 5 & 16).

so that each **Context Plan** has the same orientation and can be compared with the others). Make sure the numbers on the corners of the test pit that you drew on your **Locational Map** correlate with those marked on the corners of your context plan. Use box 4 on the **Context Record Sheet** to describe what you've drawn and for any explanatory notes.

Finally, take a photograph of the surface of the test pit before you start digging. On the laminated photographic record sheet, use a non-permanent marker pen to fill in the site code, the number of your test pit, and the number of the context, on the sheet in non-permanent marker pen, and place this so it is visible in your photograph. You will complete the rest of the first context sheet after you have finished excavating the first 10 cm layer/context.

Steps 7&8 *Preparing a finds tray*

Take an empty finds tray and line it with a sheet of newspaper ready to put any finds (i.e. anything man-made) in. Using a permanent marker pen, label a medium-sized re-sealable plastic finds bag with your site code, test-pit number, and context number, and put it in this finds tray so everyone will know which context the finds have come from.

Step 9 *Beginning to dig! De-turfing*

So — now you start digging! If you are excavating in a grassed area (which most test pits will be), you will first need to de-turf the top of your test pit. Using a spade, carefully cut the surface to create squares of grass a spade's width across. Then push the spade firmly under the grass so that you can lift off a square of turf about 5 cm thick.

You should look at the underside of the turf and record what's in it (these are 'inclusions') in box 5 of the **Context Record Sheet**. Write 'X' in the relevant box if any of the listed soil inclusions can be seen. If you notice any other sorts of inclusions that aren't listed (e.g. clay), write them into the blank boxes at the bottom of the table. You then need to estimate the overall percentage of these inclusions and the average size of particles, and fill in the appropriate boxes in the table. If you notice any finds attached to the turf as you lifted it off, put them into the finds tray.

The turf squares should be carefully laid in a square in the same order they were in before you removed them from the test pit, making it easier to fit them neatly back into place at the end of the excavation. Keep them away from the place where you will be emptying your spoil. De-turfing should remove about half of your first 10 cm context.

Step 10 *Digging the context*

Once you've removed the turf, you'll need to start digging out your test pit in a series of 10 cm thick layers (contexts), using the mattock, spade, trowel, shovel and hand shovel. The equipment you choose to use will depend on what your test pit is like — they're all different! Harder layers may take longer to dig, and large numbers of finds may take time to process, but you should aim to complete each 10 cm context in one hour.

If the soil in your test pit is hard, you can excavate it by gently loosening it with a mattock and then shoveling the loosened soil out. **NEVER raise the mattock above your waist (you'll simply tire yourself out and may hurt yourself or someone else with it) and don't hold it with the metal end upwards (as if it's loose it may slip down the handle and hurt your hand).**

To use the mattock most effectively: hold the handle and drop it **gently but firmly** into the soil using the weight of the tool to do most of the work for you! You're aiming to embed the blade no more than about 5 cm into the soil. Once you've done this, lever it up or pull it towards you to loosen the soil.



Using a mattock safely and effectively.

As soon there's enough loosened soil in the bottom of your test pit to get in your way, use the shovel to get it out of the pit and into a bucket to be sieved. **At all times, keep the bottom of the test pit as level and horizontal as possible** — but you should dig **around** any large stones, bricks or rocks until you reach their base during the normal course of the excavation. If you pull objects like this out prematurely you will disturb the context below. Small plant roots may be cut off.

NEVER pull a find out of the ground: instead, excavate the soil around it and when it's completely exposed gently lift it up and place it in your finds tray. A find that is still partly buried when you have finished a context should be left in place until you have moved on to the next context. (Remember to draw it on your next **Context Plan**.) Finds that are firmly buried in the sides of your test pit should also be left in place.

Step 11 *Dealing with the spoil*

Tip the contents of each bucket of soil into the sieve a bit at a time (holding the sieve over the plastic sheeting). It's a lot easier to sieve small amounts, and you'll be able to spot any finds more easily if there's less in the sieve. **Take care when lifting buckets of heavy soil.**

Sieve all of the soil as it is excavated and **keep anything and everything that you think might be manmade or interesting for some other reason.** These are your finds! Pottery, bone and metal are the most common finds in test pits and you should keep stone if you think it's been used by someone.



Sieving the contents of a test pit.

IF IN DOUBT, KEEP IT!!! (It's a lot easier to throw something irrelevant away later than it is to dig through the spoil to find something important that's not been kept!)

Once all the finds have been taken out of the sieve, tip the residue out onto the plastic sheeting. (Try not to spread the soil out too much as this will make it harder to shovel up when you back-fill.) Put more soil into the sieve and continue!

Step 12 *Processing your finds*

Finds should be cleaned, recorded and put in the labelled finds tray to dry. Once you have finished your first context, make sure you **don't mix up the finds from different contexts.**

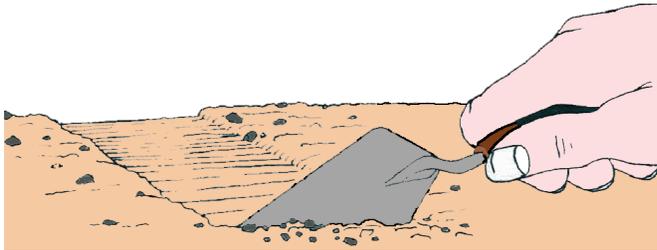
Fragile finds should never be washed. Keep an eye out for paint on stonework or wall plaster and also for Early Anglo-Saxon or prehistoric pottery (this usually looks like old biscuit or dried mud!), which can all be damaged by washing. Similarly, apart from carefully removing excess soil with a dry toothbrush, do not wash metal or organic finds (e.g. textiles or wood).

Most other finds can be washed and left to dry in the finds tray on site. Non-fragile pieces of pottery, bone or stone should be gently washed with clean water and a toothbrush. Avoid hard scrubbing of finds as this can damage them. If the water gets too dirty, replace it with clean water (as a rough guide, if you can't see down 5 cm (or a finger's length), the water needs changing!)

Once your finds have been identified by an Access Cambridge Archaeology expert, they should be recorded in box 7 on the **Context Record Sheets** (using the **Context Recording Continuation Sheet** at the back of the **Record Booklet** if necessary). Once they're dry the finds can be put into the clearly labelled finds bag (this might not be possible until after the end of the day's digging).

Steps 13&14 *Digging the context*

Carry on following steps 10–12 until you get down about 10 cm. Use your tape measure or ruler to make sure you don't excavate more than 10 cm at



How to hold and use your trowel to clean the surface of your context.

a time. Also, try to keep the sides of the test pit as straight as possible so that your next context will also be exactly 1 metre square (avoid excavating an inverted pyramid!).

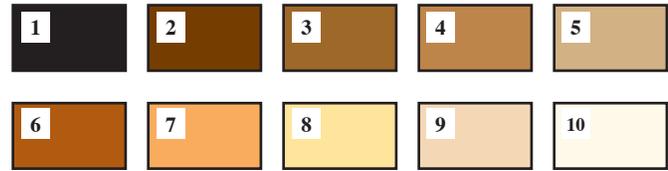
If you find layers of stonework or evidence of floors such as a layer of mortar, cobblestones or tiles, call one of the Access Cambridge Archaeology experts.

Test pits can also contain changes in the colour or consistency of the soil caused by something happening in the past. It's very important that you recognise these changes and don't dig through them. This isn't easy, so again it's vital that you take your time and keep constantly on the watch. The soil in your test pit will naturally change colour as you dig deeper, but if you notice a patch of soil that looks different from the surrounding material at the same level it should be accurately drawn on your **Context Plan** at 1:10 scale. Don't proceed any further until an Access Cambridge Archaeology archaeologist has advised you how to excavate this feature.

When you've got down 10 cm, use your trowel to scrape away any remaining soil to leave the bottom of the test pit clean, flat (apart from any large rocks etc. that you've decided to leave) and horizontal. Use the side of the trowel rather than the point and draw it firmly towards you, keeping the excavated test pit surface as level as possible. When all the test pit is level and clear of spoil, have a good look for any features.

Step 15 Finishing a context (steps 5–7)

When you've finished digging the context (unless you encounter other features, context 1 will finish at 10 cm down from the surface, context 2 will finish at 20 cm down, context 3 at 30 cm etc.), fill in boxes 5, 6 and 7 on your **Context Record Sheet**. For box 6 fill in the number(s) from the colour chart (at top



Colour chart for describing soil colour in Context Record Sheets box 6.

of this page) closest to the colour of your context. Finally, check through the **Recording Task Checklist** (top right of the **Context Record Sheet** page) to ensure you haven't forgotten anything.

Step 16 Starting the next context

After you have excavated a context, start filling in the next **Context Record Sheet**, including boxes 1–4 (as described in step 6 above). Draw a plan of the exposed surface of the test pit, then repeat steps 5–16 to dig the next context. Remember to keep the finds from each context separate from the others.

Continue this pattern of 'recording then excavating then recording' again (steps 5–16) for up to 12 contexts until any of the following occur:

- You hit bedrock!
- You hit 'natural' — the term used for layers that have never been disturbed by humans.
- You find a feature that a Access Cambridge Archaeology archaeologist tells you to leave intact and stop digging.
- You reach 1.2 metre in depth.
- You run out of time!

Once any of (a)–(e) above happen, make sure you've finished the context you're on up to the end of step 15, then move on to step 17.

Step 17 Recording the last context

Turn to the **FINAL Context Record Sheet** (page 14 in your **Record Booklet**). Fill in your test pit details in the top right-hand corner boxes, and then draw your final context plan in the gridded square, just as you have done for all the other contexts. This is the bottom of your test pit (but of course it's also the top of the next context down, which you're not going to dig).



A completed test pit with sides and bottom cleaned, ready to have the sections drawn. You can see 3 changes in appearance of layer (dark brown & stone-free at the top, mid brown & stony in centre, and dark brown & stony at bottom). Brick and stone visible in the section should be drawn.

Step 18 Section drawing

Next, you need to draw all 4 sections (sides) of your test pit. By doing this you will record any changes in the appearance of the layers you've dug through, and you'll also be able to record the position of anything that you've left embedded in the side of the test pit.

Turn to the **Section Drawings** page in your **Digging an Archaeological Test Pit Excavation Record** booklet (facing the **Final Context Record Sheet** page). Draw and label what you see on each side of your test pit, with 1 cm on the plan representing 10 cm in your pit. The numbers on the top corners of each **Section drawing** should correlate with the numbers at the corners of your **Context plans** and **Test Pit Location Map**. This will enable anyone in the future to see which **Section drawing** represents which side of the test pit. Make sure you draw a line to show the bottom of your test pit (i.e. if your test pit has gone down 70cm, the line showing the bottom will be at 7cm on the section) and cross-hatch the non-excavated area below this.

Step 19 Backfilling

Use the **Final Context Recording Task Checklist** to make sure you've completed everything as required. Then put any large rocks back in the test pit, and shovel all the spoil back in on top. Firmly tread

the spoil down every 20 cm or so as you go. When you've got all the spoil back in the test pit, carefully replace the turfs of grass you removed right at the beginning on top of the backfilled test pit so it is level with the surrounding ground and the edges all match up neatly with no gaps or overlaps. Tread turfs down gently to help them spread out and close gaps between them. You may find there's a little bit of a mound left where your test pit was at the end: this is normal and it will go as the removed spoil settles over the coming weeks. Leave the test pit site as neat as possible.

Step 20 Finishing

Clean all your equipment (scraping any mud or soil off) and take your equipment, finds, **Record Booklet** and **Handbook** back to Access Cambridge Archaeology staff at the excavation base.

And so.... you've completed your test pit excavation, making a unique contribution to archaeological research at Cambridge.

Over the following weeks, you should write up your test pit excavation following the guidelines you have been given.



Your test-pit site ought to look at least this neat when you have finished backfilling and re-turfing.

Quick Reference Test Pit Digging Guide

Step	Where to work	What to do
1	Booklet	Fill out all boxes on the front cover of your Digging an Archaeological Test Pit Excavation Record booklet.
2	On marked test pit site	Measure out your 1 m square test pit with tape, string and nails.
3	Around test pit	Measure and draw a location sketch plan to record test-pit location.
4	Near test pit	Lay out your plastic sheeting at least 2 m away from test pit.
5	Booklet	Fill in details on top right-hand side of the first Context Record Sheet page in your Digging an Archaeological Test Pit Excavation Record booklet.
6	Booklet	Complete recording steps 1–4 on the Context Record Sheet , including drawing a plan of the surface of the pit in the gridded square at 1:10 scale.
7	Beside test pit	Line an empty finds tray with newspaper.
8	Beside test pit	Label a plastic resealable finds bag in permanent marker pen with the site-name, test pit number and context number, and place it in the finds tray.
9	In test pit	(Before first context ONLY) Remove turf (if present) with spade, in squares as neatly as possible.
10	In test pit & on spoil heap	Use mattock to loosen soil in test pit, and the shovel to put it into bucket. Keep the bottom of the test pit as level as possible and the sides straight. Try not to get soil on the grass.
11	On spoil heap	Sieve every bucketful of soil (holding the sieve over the plastic sheeting). Pick out of the sieve anything you see that looks man-made (these are your finds) and tip the residue onto the spoil heap on top of the plastic sheeting.
12	Beside test pit	Clean any finds and place them in the finds tray to dry (only put them in the finds bag when they are dry).
13	In test pit	Continue until you have removed 10 cm from the whole surface of the test pit.
14	In test pit	Use your trowel and hand shovel to remove all loose soil from the exposed surface and leave it level.
15	Booklet	Fill in the rest of the Context Record Sheet by filling in boxes steps 5–7.
16	Booklet	Begin your next context by starting a new Context Record Sheet , i.e. by returning to step 5.
Repeat steps 5–16 (omitting step 9) for context 2 and all subsequent contexts until you have finished your test pit, then go on to step 17.		
17	Booklet	Fill in the details on the top left hand side of the FINAL Context Record Sheet page in your Digging an Archaeological Test Pit Excavation Record booklet and complete all 7 recording steps.
18	Booklet	Fill in all parts of the final Section Drawing Sheets .
19	In test pit	Back-fill your test pit and replace turf AS NEATLY AS POSSIBLE .
20	In test pit	Tidy site, collect up and clean your equipment and return with everything to the excavation base.