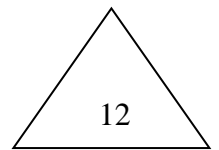


First Aid for Finds

- Most material found on site will come under the heading of Bulk Finds – building materials, stone, pottery, slag, etc.
- Some items will be classified as Small Finds – delicate or important objects such as coins, painted glass, metal tools or ornaments, bone tools etc.
- It is important for artefacts to be identified quickly so that conservation can begin as soon as possible. This involves sorting and identifying materials and then cleaning them appropriately (wet or dry methods) so that it is possible to see what the artefact is made from, and what treatment it will need.
- Only in cases when artefacts will go immediately for specialist analysis (scientific dating, residue analysis, etc.) does cleaning not take place. In most cases where scientific analysis is undertaken, specialists prefer to clean artefacts under laboratory conditions to avoid contamination.
- On site, Small Finds have their own Small Find Number, which is shown in a triangle on labels and bags. Before it is taken up from the earth, each small find should be recorded in three dimensions, and possibly also photographed in situ.
- Bulk find material is placed in Finds trays, with their context number.
- Make sure you do not put heavy items such as bricks on top of delicate things like glass or shell.
- **ALWAYS ENSURE THE CONTEXT AND FIND NUMBER ARE KEPT WITH THE ARTEFACTS**
- As each context tray comes in, it must be checked:
 - Separate out organic from inorganic materials.
 - Separate out glass, metal, pottery, building materials, etc.
 - Deal with organic materials first.



Finds Classification and Recording

- Finds records should include as a minimum:
 - **Site Code**
 - **Trench**
 - **Context No.**
 - **Small Finds** - No. / Special Finds Type (where applicable)
 - **Quantity**
 - **Tracking** - Kept / Re-deposited / Transferred (e.g. to a specialist)
 - **Weight** - Kept / Re-deposited (grams)
 - **Building Material** – Masonry / Brick / Roof tile / Floor tile / Mortar / Plaster / Other (with more detail where possible)
 - **Ceramics** – Prehistoric / R-B / Early Mediaeval / Mediaeval / Post-Mediaeval
 - **Glass** – Window glass / Vessel glass
 - **Metals** – Ferrous (Fe) / Copper Alloy (Cu) / Lead (Pb) / Other
 - **Organics** – Bone/Shell/Horn/Charcoal/Wood
 - **Other materials** – e.g. Flint flake / Flint worked / Flint burnt / Clay pipe / Slag / Stone artefacts

Threats to Finds

- When an object is lifted from the soil, where it has been in a relatively stable environment, changes will affect it and can easily destroy it, e.g.:
 - Light – colours fade, chemicals break down.
 - Temperature – heat or cold can crack the objects.
 - Moisture – objects will dry out and crack, or become damper and start to decay.
 - Biological change – moulds, fungi, insects and animals (including us) can attack the object.
- There are several important factors to remember when conserving organic artefacts:
 - They are made of tissues that were once living, and will react with air, water and heat more than inorganic artefacts.
 - In transformation into artefacts, the tissues have been subjected to processes that are in themselves destructive – heat; water soaking; pressure damage; dyes, etc.
 - In use as artefacts, more damage will have incurred – rubbing; breakage; drying or soaking; contact with other materials.
 - Organic artefacts are a food source for fungi, moulds, bacteria and animals, vertebrate and invertebrate.
- It is important to try to minimise any damage caused by changing of the environment, so that the object can survive.

Relative Humidity (RH)

- This is the percentage of moisture held in the air – 1% is very dry, 99% is very humid. Changes in RH can be very detrimental for artefacts.
- The worst scenario is when the RH fluctuates up and down. This causes stress in the structure of the cells and crystals that make up the material.

Conservation Methods

- Various methods are available but none should be applied without expert advice. They include:
 - freeze-drying.
 - coating with wax (e.g. PEG).
 - gamma irradiation.
 - treatment with fungicides and insecticides.
- *NONE OF THESE ARE 100% FOOLPROOF*

Treating Organics

- **Bone:**
 - Robust bones can be gently washed and air dried.
 - If the bones are soft or flaking, leave to dry before attempting to clean them.
- **Shell:**
 - Do not wash.
 - Dry brush the worst of the dirt from them.
- **Wood:**
 - Cover immediately with damp foam and black plastic.

- Do not lift unless you have supports ready – wood is often not as strong as it looks.
- Do NOT clean it. This is a specialist job.
- Excavated wood will start to decompose in ordinary daylight within TEN MINUTES.
- Wood can look robust when excavated – it isn't. The cell walls (lignin) will usually be OK, but are held up in life by cellulose packing the cell centre. Cellulose is a sugar that dissolves in water and is eaten by insects, moulds and fungi. Once the wood starts to dry out, nothing supports the cell walls anymore, and the artefact will collapse. The water in the cells must be replaced with a wax (usually PEG – polyethylene glycol) that supports the cell walls, as was done with the *Mary Rose*.
- Wood begins to deteriorate IRREVERSIBLY within 10 minutes of exposure to air and light
- **Get help!**

Rule of thumb:

- IF THEY ARE WET, KEEP THEM WET
- IF THEY ARE DRY, KEEP THEM DRY

This is especially important with materials such as leather, wood and textile

If in doubt, don't wash.

- Most organic materials, including bone, can be extremely fragile, so great care must be taken when handling them.
- DO NOT HANDLE anything that is going to be C14 dated, or is likely to be subject to scientific analysis. Very gently spray the object with **distilled** water to remove grit that might damage the surface. Keep the object out of sunlight. Wrap the object in damp polyurethane foam or place in water in a sealed and marked bag, covering with black plastic where necessary.
- Place the bagged object in a rigid box with sufficient support to make sure it doesn't rattle about. Put it in the fridge. Make a note on the finds record of what you have done and where the object is.

Unless destined for analysis, other organics may be:

- Cleaned GENTLY in clean water.
- Dried slowly – bone actually gets tougher when dry, but dry too fast and it will crack.
- Bagged carefully, providing support where necessary. Mark the bags.
- Kept cool and dry.

Other organic objects

- Robust bone
- Dry wood or leather – don't wash, handle VERY carefully
- Dry horn (NEVER get horn wet – it dissolves)
- Shells (please don't wash oyster shells, it smells terrible!)

Finds processing - inorganics

It is important to decide what the artefact is made from before starting to clean it:

Inorganic materials - ceramics

- Most ceramics are quite robust and can be washed unless destined for analysis, but **DO NOT WASH**:
 - Prehistoric ceramics;
 - Saxon period ceramics;
 - Anything with painted or inlaid decoration;
 - Plasters, mortars, etc.;
 - Anything destined for analysis.
- **Problems with ceramics**
 - **Glazes** – layers of glass fused to the ceramic body for decorative effect or to render the body impervious. Glazes can flake off (spall) especially in low-fired older ceramics.
 - **Slips** – layers of liquid clay applied to the body – can be rubbed away if cleaning is too vigorous.
- **Types of ceramic body**
 - **Terracotta** – low-fired red to black wares; may be burnished and have impressed or incised decoration - **DO NOT WASH**
 - **Earthenware** – well-fired, red, buff or black; WASH if slips and glazes are stable
 - **Stoneware** – well-fired buff-grey; WASH
 - **Porcelain** – high-fired white; WASH
- **Washing ceramics**
 - Use a SOFT brush and clean water.
 - Clean both faces and all sides.
 - Do not scrub too hard – you may wash away the artefact!
 - Dry slowly, out of sunlight.
 - Mark each piece with the site code and context number.
 - Weigh body sherds, record details of rims, bases, handles, decorated sherds.
 - Bag carefully, and MARK the bags.
 - Enter the details in the Finds Record.
- **Storing ceramics**
 - Most ceramics can be bagged and stored in low RH without too many problems BUT fragile prehistoric or other low-fired wares will need wrapping to protect them. Make sure nothing will crush the sherds. Pay particular attention to any decorated sherds.
- **Building Materials**
 - Tile, brick, stone, cement, concrete, mortar, plaster, daub.
 - **Don't wash** the mortar, daub, cement or plaster – you may, when the artefact is THOROUGHLY dry, lightly dry brush.
 - You can probably wash the tile, brick and concrete as for pottery.
 - Dry as for pottery, bag and record.

➤ Soft building materials

- Once well dried and lightly brushed, check each piece very carefully for:
 - paint traces;
 - impressions (such as wood lintels);
 - inclusions.
- Record these. Package the material in acid free paper and if there is any trace of colour, make sure the bag is further wrapped in black plastic. Mark and record.

Inorganic materials - Stone and flint

- Flint is quite robust, and can be washed unless it is destined for analysis.
- Mark and record tool forms, cores etc. Weigh debitage.
- Bag tool forms separately.
- Mind the edges of tool forms – they can easily be broken.

Other stone

- Take care with other forms of stone, especially when wet. They can be very soft or very brittle –especially shale and jet. If they are dried too fast, salts in the stone can crystallise and split the stone apart.
- Record all working marks, decoration, etc.
- Bag and box carefully. Mark and record.

Stone – special cases

- **Shale and jet** – maintain high RH (but if already dry, don't re-wet it).
- **Marble and alabaster** – **DO NOT WASH**; store in low to medium RH; a black plastic cover will prevent algae attack.
- **Amber** – maintain medium RH; will need a conservator quickly.
- **Coral** – pack the object in damp earth in a sealed polythene box and send to a conservator immediately.

Glass

- Glass can be a nightmare. **DO NOT WASH** medieval glass – it will fall apart. Roman soda glass may be washed carefully, **UNLESS** it is painted or gilded. Iridescence on glass means it is about to collapse – be warned!
- Keep wet glass wet, dry glass dry (low RH). Bag carefully with support where necessary. Refrigerate if the glass seems at all unstable. Mark and record.

Metals

- Some metals are very toxic, especially if they are decaying – copper, lead, etc.
- **DO NOT WASH ANY METAL**
- Allow to dry slowly. If permitted, brush gently to remove dirt. **DO NOT** remove rust or patinae.
- **Treatment of metal objects**
 - Most metals require careful handling, to prevent cracking and decay. They can flake apart very easily, even when they initially look robust. Even gold can decay if it contains impurities.
 - Package the artefacts carefully to avoid crushing, make sure they are as **DRY** as possible, using silica gel. All packaging must be **ACID-FREE**.

➤ Corrosion

- Metal corrosion is usually caused by the reaction of the metal with oxygen and other elements.
- Corrosion products (especially iron rust) can preserve the shapes of artefacts within them, or contain pseudomorphs – impression of material the rust formed around. These can be revealed by X-ray and/or by careful cleaning under laboratory conditions.
- Some forms of corrosion (blue-green patinae on copper alloys) can actually help to preserve the artefact within, and should never be removed except by a trained conservator.

➤ Composite Objects

- Sometimes difficult choices have to be made – for example, an iron (low RH) knife blade with a wooden (medium RH) handle.
- On the whole, it is best to go for the low RH option, as ongoing corrosion of the iron could well destroy the wood.
- There are no hard and fast rules – each object must be assessed on its own merit.

➤ Coins

- Do NOT rub at the coin to try to see what it is! They are often very fragile.
- Do NOT handle without gloves.
- Dirt and grit can be removed, once the coin is dry, very gently with a cotton bud.
- Package each coin separately in acid-free paper and a rigid container. Mark and record.

➤ Packaging

- Different metals must be packaged separately in acid-free materials. Delicate objects such as brooches must be supported
- Try not to touch metal objects with your fingers – you might get poisoned, and the sweat on your fingers, which is acidic, will corrode the object. THIS IS ESPECIALLY IMPORTANT FOR COINS.

➤ Storing metals

- They need to be kept cool and dry, so it is normal to use silica gel to soak up atmospheric moisture in metal packages.
- Indicator strips or gel will tell you if the material is becoming damp.
- Pollution in the air damages metal artefacts, so keep bags and boxes sealed.
- Metals need low RH when stored:
 - Iron - below 15%.
 - Copper (alloys) – below 35%.
 - Everything else – around 55% without fluctuations.
 - OR if already wet, 100% (i.e. immersed in water).
- Storage materials for metals:
 - Should always be acid-free and inert. This means there can be no chemical reaction between the packaging and the artefacts – food packaging materials can be used.

- Must be robust – do not use paper bags, old cardboard boxes, tins, thin plastic bags.
- Plastic storage bags must be sealable, and in most cases, need to be perforated to allow air to circulate and prevent the growth of moulds on the artefacts.