



History of Waste Worksheet

Exeter, Romans and Waste



The Romans arrived in Exeter around the year 50AD. For the next 30 years Exeter was a Roman garrison town called *Isca Dumnoniorum*. As many as 5000 Roman soldiers lived here at one point. Exeter became a large and important town and trading route, with an enormous *bathhouse* (built about 55AD, located in the current Cathedral Green) and marketplace lined with shops (called a *forum*). The Romans built a large stone wall to contain and protect the town of Isca. Parts of the wall can still be seen in Exeter to this day.

Archaeology is the name for the study of the past using evidence dug up or discovered underground. Much of the stuff that is found is waste, or things that people have thrown away. **Archaeologists** can find out lots about people who lived in ancient times by looking at what they have thrown away.



Lots of *digs* or archaeological *excavations* have been done in Exeter to learn more about the Romans. They have dug up lots of pieces or *sherds* of old Roman kitchenware, plates and some special containers called *amphorae*. They were found to contain remains of common food and drink from Roman times, including wine and olive oil. They also contained a grape syrup called *defrutum* and a fermented fish sauce like Worcestershire sauce called *garum*.

Metals like tin and copper were important in ancient times as they could be used for weapons or tools. The Romans travelled widely, trading food and drink from the Mediterranean for metals, minerals and other useful items. Archaeologists have found evidence that metals mined in Devon and Cornwall were used across the Roman Empire.



This map shows the Roman Empire in the year 117AD.

(Picture from Wikimedia Commons)

https://commons.wikimedia.org/wiki/File:Roman_Empire_Trajan_117AD-pt.svg



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Definitions and word bank

Romans	The Roman Empire lasted from 700BC to 476AD. The empire was huge. It included most of Europe, North Africa and parts of the Middle East and Asia. It was governed from Rome. The Romans invaded Britain in 43AD because they wanted Britain's precious metals, gold, tin and iron, and its cattle.
Isca	The Roman name for Exeter.
Bathhouse	The Romans loved keeping clean and had bathhouses where they could bathe in warm water.
Forum	The centre of Roman towns which was a market square surrounded by shops.
Archaeology	The study of the past using items found today.
Archaeologist	People who study archaeology.
Excavation	Archaeologists dig up the ground in places they think they will find old remains.
Sherds	Broken pieces of pots (different to shards, which are broken bits of glass).
Amphorae	Roman storage vessels, flasks or pots.
Defrutum	A sweet syrup made from grapes and used like sugar.
Garum	A strong tasting fish sauce made from fermented anchovies, similar to Worcestershire sauce.

Questions:

Answer the questions below using full sentences.

When did the Romans arrive in Devon?

What was Exeter called by the Romans?



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How many Romans lived in Exeter?

What is the name of the study of the past using remains dug up from underground?

What was found underneath the Cathedral Green in Exeter?

What did archaeologists discover in an excavation in 1989?

How did archaeologists know what was stored in the old Roman pots?

What do you think was being traded between the Romans and Ancient Britons?

There is lots more information and some more worksheets about the History of Waste on our waste and resources education website:
<https://zone.recycledevon.org/history-of-waste/>.



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Extended Reading

Fermented Roman Fish Sauce (Garum) Recipe –

This is a very smelly process - Don't try this at home!

(From Historical Italian Cooking website:

<https://historicalitaliancooking.home.blog/english/recipes/how-to-make-garum/>)

Ingredients

3.5kg small fish (anchovies, sardines, mackerel)

1kg salt

Method

Cut mackerel into small pieces (the same size as the smaller fish) and layer them with the anchovies, sardines and salt in a large glass jar with a tight-fitting lid (e.g. Kilner jar or similar), alternating between layers of fish and layers of salt. Cover and close the lid of the jar. Leave to ferment.

After 3-4 days in a warm place, stir the contents well.

Stir 3-4 times a day for the next 2-3 months.

You will be left with a liquid (called liquamen) and solid residue (allec).

Separate them with a sieve, store in the fridge and use the sauce within a couple of months.

The Romans added the liquid sauce to food to add flavour and it was exported widely across the Roman Empire, including to the port of Isca (Exeter).

Romans and concrete

Roman concrete is really strong! More than one thousand years after the end of the Roman Empire many structures made with Roman concrete are still standing. Modern material scientists can learn from the Romans about how to make concrete stronger.

It turns out that Romans used ash from volcanoes to make their concrete ultra tough. They mixed it with seawater, as they observed that when ash from volcanoes entered the sea in areas like Pompeii in Southern Italy, it became much longer lasting. Modern scientists are now using this technique to make concrete that will stand the test of time!