Part 3: Identifying a site

Archaeologists study the remains of the past and then try to reconstruct the way people lived. They can do this because people leave an amazing assortment of material behind them.

How people lose things

• They lose things in gardens, fields, garbage tips, ash heaps, disused houses and even trodden into earth floors.
• In early societies people often flattened the ground over their old homes and then built new ones on top. Layers of rubbish accumulated over the centuries.
• Before banks existed people hid their valuables under the ground and sometimes did not collect them.
• Sometimes, in order to satisfy a god, people deliberately threw things into rivers, swamps and springs.
• During volcanic eruptions, earthquakes and wars people sometimes fled from their towns and villages, leaving everything behind and never returning. Deserted settlements became overgrown with vegetation or covered with sand and dirt.
Look carefully at the simplified sketch below. It shows how something man-made can disappear over time.

Not everything that's lost survives over the centuries. What archaeologists can find depends on:

- the original material—wooden objects deteriorate more quickly than objects made from other substances.
- the effect of the climate—a hot, dry climate is more likely to preserve objects than a hot moist one.
- the condition of the soil—an acid soil causes glass to peel off in layers, erodes limestone and plaster, leaches the potassium from bones and can dissolve some metals.
- protection from the air—objects are better preserved in air-tight containers, sealed tombs and underground caves.
How do archaeologists know where to look?

There are five major ways of locating material remains.
1. Fieldwork
2. Chance discoveries
3. Aerial photography
4. Geophysical surveying
5. Written records and oral tradition.

Fieldwork

Early archaeologists usually relied on this method.

Even today archaeologists spend a large part of their time simply walking over an area and carefully observing all minor changes on the surface. Sometimes small objects can be noticed lying, half-buried in the soil. Many sites have been located in this way.

Chance discoveries

Remains of the past are sometimes located when roads are being built, sewage and gas pipes laid, foundations of buildings excavated or agricultural land ploughed.

The Roman city of Herculaneum, buried when Mt. Vesuvius erupted in AD 79, was discovered when a peasant dug a well and found marble objects in it.

Read the following extract from a newspaper.
Lost city of the pharaohs holds tantalising secrets

Cairo, Thursday: It is being described as the lost city of the pharaohs, the most significant find in Egypt in more than a generation, and the discovery took place more or less by accident. Workers installing a sewerage system in a squalid village near the Sphinx as part of an international effort to stop corrosive ground water undermining the ancient monument, have chanced upon the ruins of a pharaonic settlement.

Dr. Zahi Hawass, the director of antiquities for the Sphinx and Pyramid area, says the discovery of the lost town, which dates from the pharaonic period some 4,000 years ago, is much more important to Egyptology than all the gold in Tutankhamen's tomb.

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Aerial photography

Aerial photography can pick out details of sites which are hidden below the surface.

This can be done in three ways:

- **Shadows**—if the photograph is taken during periods of low light (early morning and evening) the hollows are filled with shadows and the bumps are highlighted.

[Diagram of shadow and highlight areas]
- **Crop-marks**—buried features affect the depth and the moisture content of the soil. This shows up in photos as variations in the height and colour of crops.

![Cropmark site](image)

- **Soil marks**—where soil has been ploughed, variations in the colour and nature of the top-soil may indicate structures below the surface. One of the most dramatic examples of this was in north-eastern France, where remains of Roman villas showed up white against the dark brown soil.

![Soilmark site](image)
Geophysical surveying

This technique, which uses a range of prospecting devices, is used when more details are needed about a site. Perhaps the aerial photograph is not clear enough or the exact position of the site on the ground is hard to work out from the photograph.

The main types of geophysical surveying are:

- Resistivity surveying—an electric current is passed through the ground by means of a probe and the resistance to the current is measured. If there is a wall buried beneath the ground then the current will meet greater resistance than it does in the surrounding soil.

- Magnetic surveying—a magnetometer takes readings of the magnetic particles in the soil. Features such as walls or ancient fireplaces cause the normal magnetic alignment of particles to change. This method can also be used in underwater archaeology.

The results of magnetic surveying
Written records and oral tradition (stories passed on from one generation to the next)

Archaeologists often use written records, myths or stories to locate sites. In the last lesson you read about Heinrich Schliemann who excavated at Troy. He found the site of the ancient city by following the descriptions of Homer, the Greek poet, in his epic poem, the *Iliad*. All kinds of written material can give archaeologists clues about where to dig. Sometimes it's something as simple as a place name that provides a clue.

The combination of fieldwalking, aerial photography and geophysical surveying all work together to help the archaeologist. Written records or traditional stories can give more support.

Now that you have some idea of the methods used by archaeologists to locate sites, try this activity.

The methods of locating sites are numbered 1-5.
1 Fieldwork
2 Chance discoveries
3 Aerial photography
4 Geophysical surveying
5 Written records and oral tradition

Each statements below relates to one of these five methods of locating sites. Beside each statement place the number of the method to which it applies. The first one has been done for you.

An even well-drained sub-soil is best for resistivity readings.

The countryside was examined from the top of the hill.

The legend of Theseus and the Minotaur mentioned a city called Knossos.

The hollows were easily discernible by the deep shadows which they cast during the late afternoon.

Solid features under the surface contain fewer magnetic minerals compared with their surroundings.

The hiker reported the strange markings he had seen from his camp.

All work in the quarry was stopped and the archaeologists were called in.
There were obvious variations in the height and colour of the crops in the field.

The repaving of the main square in Florence had to be halted.

A small stone axe was found half way up the mound.

The new freeway was eventually diverted around the area.

Dark patches, lines and circles could be identified.

A graph can be plotted which shows the extremes of resistance in the soil.

Fired clay, such as pottery, hearths and ovens create small changes in the earth’s magnetic field.

The low light accentuated the hills.

An inscription bearing the name of a pharaoh called Tutankhamen meant that his tomb was probably located somewhere in the Valley of the Kings.

You will find the answers at the end of the set.

Exercise 6

How do archaeologists identify suitable sites to excavate?
Write at least one page in your own words.