The Ancient World

How do historians and archaeologists find out about the past?

Firstly, a historian is someone who studies history, and an archaeologist is someone who studies human history through the excavation of sites and the analysis of artifacts. Historians use a range of sources (see Source Analysis PDF), and archaeologists use a range of **dating techniques**.

What are dating techniques?

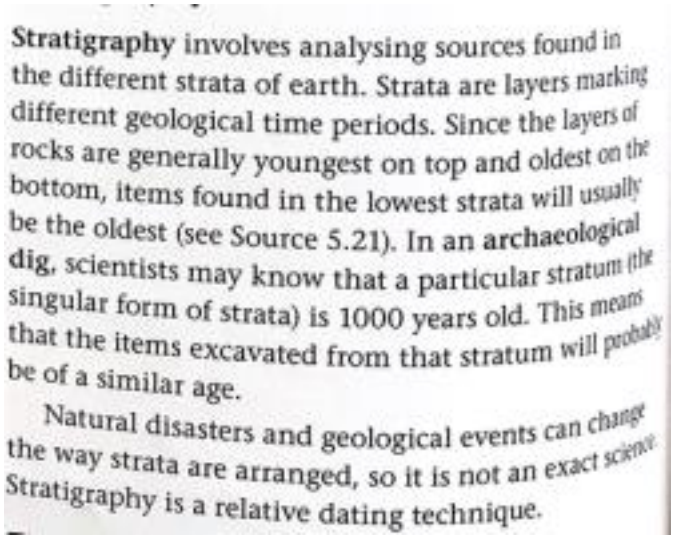
Dating techniques are methods of figuring out how old an object is. Read the excerpts below to find out more about certain dating techniques.

DNA analysis

All living organisms (except some viruses) contain deoxyribonucleic acid, or DNA. DNA holds the genetic code that determines how a living thing develops and operates. It is comparable to the ones and zeros that make up computer code and tell your software what to do. DNA is sometimes preserved in the remains of once-living organisms. Scientists can learn a lot from studying DNA. They can tell what type of organism it is. They can also tell how closely related it is to other species and to other individuals of the same species. For example, they can study the DNA of ancient remains and determine how closely related they are to modern humans.

Ice-core sampling

This technique works in a similar way to stratigraphy. Ice-core samples are long cylinders of ice that have been drilled from thick ice sheets. These samples are most commonly taken in the polar ice caps of Antarctica and Greenland, or from high mountain **glaciers** all over the world. As ice forms in the gradually increasing build-up of annual layers of snow, lower layers are older than upper layers. This means that an ice core contains ice formed over many years. Air trapped at various sections along an ice core, such as the one shown in Source 5.24, provides evidence of what the atmosphere was like at different periods in the past. Scientists can then form conclusions about the climate at a particular time.



Stratigraphy involves analysing sources found in the different strata of earth. Strata are layers marking different geological time periods. Since the layers of rocks are generally youngest on top and oldest on the bottom, items found in the lowest strata will usually be the oldest (see Source 5.21). In an **archaeological dig**, scientists may know that a particular stratum (the singular form of strata) is 1000 years old. This means that the items excavated from that stratum will probably be of a similar age.

Natural disasters and geological events can change the way strata are arranged, so it is not an exact science. Stratigraphy is a relative dating technique.

Answer the following questions about dating techniques on a computer or in an exercise book.

1. Which dating technique do you think is the most reliable or accurate. Provide evidence to support your answer and explain why you think that.
2. Do some research on your own (without just googling the answer) and try make an educated guess on the age of the sphinx. Support your answer with evidence and explain why you came to that answer.

Why is it important to preserve our own history?

There is a famous quote by a man called George Santayana about history. It is “those who do not remember the past are condemned to repeat it.” This means that if you do not learn or preserve our own history, you will end up repeating it. This means that things like wars, racism, and crimes against humanity will keep happening until everyone learns our history. That means that we need to keep our own history safe otherwise Indigenous people and Torres Strait Islanders will be killed like earlier in Australia’s history.