

An Introduction to Geoarchaeology: Teaching Guide

This 'Teaching Guide' describes the materials and approaches associated with the 'An Introduction to Geoarchaeology: Living with Volcanoes' teaching pack developed by Alison Jolley, Department of Archaeology, University of Sheffield (alisonjolley@gmail.com) for A-level Classical Civilisation, Geography, Archaeology and Geology. This guide is intended to be read as an aid in the preparation for teaching the pack. The total preparation period (including the reading of this guide and familiarising yourself with the teaching pack materials) is not expected to exceed two hours.

Aside from the specific objectives mentioned in the teaching slides (see below), there are larger, guiding aims for the teaching pack:

- Compare and contrast geographical and archaeological settings and materials.
- Summarise the landscape history of Pompeii ca. 79 AD, incorporating both geographical and archaeological findings.
- Introduce geoarchaeology and its foundational concepts.
- Explore the benefits and challenges of interdisciplinarity.

The teaching pack has an approximate run time of 90 minutes. See the table below for a breakdown of each section.

Teaching Pack Section	Slide or Question Numbers	Expected Run Time (min.)
Powerpoint Part 1	Slides 1-15	15
Case Study Part 1	Questions 1-4	30
Powerpoint Part 2	Slides 16-23	10
Case Study Parts 2 and 3	Questions 5-7	30
Recap and Summary	Slides 24-26	5

Teaching Slides (.pptx/.pdf)

The teaching slides are a powerpoint presentation that introduces all of the background concepts relevant for successfully completing the case study questions. They are broken up into two major segments: archaeological/geoarchaeological approaches and materials (followed by part 1 of the case study) and volcanic geography and deposits (followed by parts 2 and 3 of the case study). There are also three final slides that summarise the key points from part 3 of the case study (group synthesis using sticky-notes) and the teaching pack as a whole.

The objectives for the teaching pack are as follows:

By the end of this lesson, you should be able to:

- Describe some archaeological approaches and how geoarchaeology builds on them.
- Describe the two major types of volcanoes and some related volcanic deposits.
- Interpret geoarchaeological materials.
- Use these interpretations to help you explain what it was like before and during the eruption at Pompeii.

The majority of the information that should be communicated to the students is written directly on the slides. Key terms (see below) are **bolded and coloured red**. In some occasions, there is additional instruction or information in the 'Notes' field within the powerpoint file. Please feel free to use your own words as you communicate the information that is on the slides/notes field. Asking the students questions throughout the powerpoint is highly recommended.

Information relating to the descriptions of images used on the slides is contained within the 'Notes' field, in *italics*. The full list of all of the references used for content and images in the slides is written on hidden slides at the end of the powerpoint. All images used are fair use and have predominantly been sourced from [Wikimedia Commons](#).

Case Study Questions (.docx/.pdf)

The case study questions are intended to be active/practical and completed in groups of 3 or 4. Students discuss answers with their groups and then write their final answers on the question sheet. An answer key and prompt guide for the case study questions is provided in a separate file and described below. Students are generally more engaged with the questions when the instructor sets up and recaps each individual question before and after they work on it.

Part 1 follows the archaeologically/geoarchaeologically focused teaching slides and Parts 2 and 3 follow the geographically focused teaching slides. Questions 1-6 (Parts 1 and 2) are accompanied by reference figures (see below) and hand samples. Question 7 (Part 3) is a synthesis question that asks students to summarise the implications of their findings from questions 1-6.

In question 7, each group assigns two questions to each group member (two students will have one question if they are in a group of 4). Each question should only be assigned to one person. The group members then summarise what each question's findings mean for how people lived in Pompeii on one sticky-note. This should take less than 10 minutes. The group then re-convenes and after sharing their sticky-notes, arranges them into two blocks, one for before the eruption and one for during the eruption. They may add connecting phrases or sentences on additional sticky-notes if they wish. They should then have produced a cohesive synthesis of how people lived in Pompeii (before and during the eruption), using all of their own findings. If there is time, give them a few minutes to wander around and look at the other groups' syntheses before progressing to the powerpoint summary.

Case Study Questions Answer Key (.docx/.pdf)

This document lists the answers for the case study questions and may be used for both preparation and teaching the activity. Students generally need a considerable amount of support with the questions and it is helpful for them if the teacher wanders around asking and answering questions. The answer key will also help with setting up and recapping the questions before and after the students complete them, which has been found to increase student engagement.

Case Study Figures (.pptx/.pdf)

The case study figures make up the majority of the reference material required for the case study questions. One copy of them (5 pages total) should be provided per group, in colour if possible.

The full list of all of the references used for content and images in the slides is written on hidden slides at the end of the powerpoint. All images used are fair use and have predominantly been sourced from [Wikimedia Commons](#).

List of Key Terms (.docx/.pdf)

The key terms for the teaching pack have been defined on a one page list. Each student should receive their own copy. The key terms match with the words in the teaching slides that are **bolded and coloured red**.

Additional Reference Material (and Hand Samples)

List of materials needed:

- OS Map from any location (to contrast with geologic and geomorphologic maps mentioned in the teaching slides)
- Obsidian (to pass around when artefact provenience studies are mentioned in the teaching slides)
- Highlighters (for question 1 to help pick apart the literary passage)
- Sample 3 (for questions 5 and 6): approximately 70% of range of lapilli sized clasts (sub-rounded to rounded) with approximately 30% sand
- Sample 4 (for questions 5 and 6): range of all sizes; approximately 25% of larger lapilli sized clasts (sub-rounded), approximately 40% sand, approximately 35% ash or dry silt/clay (if ash is unavailable)
- Sticky-notes, large (for question 7)