

ES089G Example term paper topics

Select a mineral, rock, gemstone or other geological material and research its various uses, or specific applications throughout human history. If you choose to do this, you should describe the geological origins of the substance and outline (at least briefly) the history of how it came to be known to be useful for the applications you are discussing. I.e. what are its useful/desirable properties and when (and by whom) were they recognized?

Research the history of gemology and gemological techniques in general, or with respect to a particular gemstone.

Research the origins of the Bronze, or Iron ages. Where and when did these ages first begin; what event(s) define their beginning? Are other events of cultural significance commonly associated with these ages? Why did they begin where they did? What were the original natural sources of the metals and any other necessary materials? What processes were involved in refining the metal into a useable form? What was the most important factor controlling the time in history at which these metals were used by various peoples around the world: the distribution of natural materials, the development of technology, other factors etc.?

Research possible links between myths, legends and folklore or aspects of the paranormal, and scientifically recognized geological/geophysical phenomena or features. Of course, you will need to explain in detail how and why the connections that you are suggesting work with relation to established (i.e. generally accepted) scientific theories or facts (no science fiction please!).

Research the evolution of stone tool technology through the early history of hominids (*Australopithecus?*, *Homo habilis*, *Homo erectus*). What geological materials were used, and did this change through time? How were the tools fashioned? How were they used by different species? Are there any apparent trends in stone tool technology through this interval? To what factors may these trends be attributed? How do these earlier tools compare with those produced by more recent hominid species (*Homo sapiens* and *Homo neanderthalensis*)?

OR

Similarly compare and contrast the stone tool technology used by Neanderthals (*Homo neanderthalensis*) and contemporary modern humans (*Homo sapiens*). If there are any significant differences, to what can they be attributed (differences in stone resources, different life habits, physical limitations, brain power, inventiveness etc.)?

Research the topic of use-wear analysis as it relates to stone tools. Explain how/why microscopic wear features on stone tools can theoretically be used to determine the specific uses of ancient artifacts. Provide some interesting examples and case studies which generally support this idea.

Write a critique of geological concepts or processes as described or depicted in literature or film. In each case, identify the geological/geophysical feature/process/concept which is addressed or shown. State your opinion as to whether or not this depiction is consistent with the current state of scientific knowledge and then support your answer with references to the chosen piece of (fictional/non-fictional) literature or film, as well as references to relevant scientific literature.

The origins of many of the ancient civilizations of the Old World (e.g. Mesopotamia, Ancient Egypt, the Indus Valley Civilization) were closely associated with rivers. Select one or two ancient river civilizations of the Old World and identify how the properties and processes of their associated rivers gave rise to suitable (or perhaps even ideal) conditions for their establishment.

The Victorian Era (1837-1901) was among the most fruitful periods in history in terms of the development of geological thought. Identify some of the major geological concepts that originated during this time and any cultural influences or conditions that might have led to, or allowed, their discovery or formulation. What, if anything, was unique about the Victorian Era in this respect?