

Text Dependent Question Types: Science

Below are nine different question types that map the domain of possible text dependent questions and model the kinds of information a close reading of the text should uncover.

“RIGHT THERE” QUESTIONS

Ask for explicit information drawn from the text itself:

“Identify the different concerns of physical geology versus historical geology.” “According to the article, what is a fossil?”

TEXT STRUCTURE QUESTIONS

Look at how the text and its component parts are arranged:

“What is the relationship between the opening paragraph and the next two?” “How does the opening sentence of the paragraph on historical geology hint at its various branches of study?”

SEQUENCE QUESTIONS

Identify and analyze the steps in an explanation or argument:

“What branches of historical geology does the author weave together to tell a story about the Earth’s history? How does she use transitional language in that paragraph to connect her ideas?”

CLARIFICATION QUESTIONS

Ask for further explanation of particular portions of the text:

“Why did the author include the anecdote about the Grand Canyon? What is it meant to illustrate?” “How do fossils reflect two different aspects of physical geology?”

PARAPHRASING QUESTIONS

Request condensed summaries of particular passages:

“Paraphrase the explanation given of the different branches of physical geology.” “Compare and contrast the activities of physical versus historical geologists.”

“Geology”

U*X*L Encyclopedia of Science

Geology is the scientific study of Earth. Geologists study the planet — its formation, its internal structure, its materials, its chemical and physical processes, and its history. Mountains, valleys, plains, sea floors, minerals, rocks, fossils, and the processes that create and destroy each of these are all the domain of the geologist. Geology is divided into two broad categories of study: physical geology and historical geology.

Physical geology is concerned with the processes occurring on or below the surface of Earth and the materials on which they operate. These processes include volcanic eruptions, landslides, earthquakes, and floods. Materials include rocks, air, seawater, soils, and sediment. Physical geology further divides into more specific branches, each of which deals with its own part of Earth’s materials, landforms, and processes. Mineralogy and petrology investigate the composition and origin of minerals and rocks. Volcanologists study lava, rocks, and gases on live, dormant, and extinct volcanoes. Seismologists use instruments to monitor and predict earthquakes and volcanic eruptions.

Historical geology is concerned with the chronology of events, both physical and biological, that have taken place in Earth’s history. Paleontologists study fossils (remains of ancient life) for evidence of the evolution of life on Earth. Fossils not only relate evolution, but also speak of the environment in which the organism lived. Corals in rocks at the top of the Grand Canyon in Arizona, for example, show a shallow sea flooded the area around 290 million years ago. In addition, by determining the ages and types of rocks around the world, geologists piece together continental and oceanic history over the past few billion years. Plate tectonics (the study of the movement of the sections of Earth’s crust) adds to Earth’s story with details of the changing configuration of the continents and oceans.

INFERENCE QUESTIONS

Solicit conclusions that stem from evidence within the text but not explicitly stated:

“Based on the description, what branches of geology can be inferred to exist even though they are not mentioned?” “What is the chronological boundary between the two categories of geology (e.g. when does historical geology end and physical geology begin?)”

ORGANIZING QUESTIONS

Examine the text and sort information based on relevant criteria:

“List the different branches of study in one category of geology and the kind of geologist associated with each.” “Earthquakes are caused by shifts in the Earth’s tectonic plates. What branch or branches of geology would investigate these events?”

ACADEMIC VOCABULARY & KEY PHRASES QUESTIONS

Focus on how specific word choices contribute to the meaning of the text:

“Based on the context of the sentence, what is the meaning of the word *dormant*?” “How does the meaning of the word *configuration* factor into the description of plate tectonics?” “What words and phrases from the article help the reader understand the meaning of *domain*?”

PURPOSE QUESTIONS

Investigate the text’s function and deeper meaning:

“What ideas from the article can be used to explain the purpose of the study of geology.” “Geologists study the past, present, and even the future of the planet. What conclusions can be drawn about the specific activities of geologists?”