

Principle Of Cross Cutting Relationships

== Definition and basis == 90556c638e

Outline of geology
Geology of Pluto - Geologic structure and composition of Pluto
Geology of Charon - Geologic structure and composition of Charon
Principle of cross-cutting relationships - The following outline is provided as an overview of and topical guide to geology: 90556c638e

Cross-cutting relationships It is Cross-cutting relationships is a principle of geology that states that the geologic feature which cuts another is the younger of the two features. It is a relative dating technique in geology. It was first developed by Danish geological pioneer Nicholas Steno in *Dissertationis prodromus* (1669) and later formulated by James Hutton in *Theory of the Earth* (1795) and embellished upon by Charles Lyell in *Principles of Geology* (1830). Cross-cutting relationships is a principle of geology that states that the geologic feature which cuts another is the younger of the two features 90556c638e

Stratigraphy stratigraphy such as Principle of original horizontality, Law of superposition, Cross-cutting relationships, Principle of inclusions, Principle of faunal succession Stratigraphy is a branch of geology concerned with the study of rock layers (strata) and layering (stratification). It is primarily used in the study of sedimentary and layered volcanic rocks 90556c638e

Geology applies primarily to Earth, but can be applied to any planet or extraterrestrial body. 90556c638e == Geology == 90556c638e Several principles and laws come into play when using stratigraphy such as Principle of original horizontality, Law of superposition, Cross-cutting relationships, Principle of inclusions, Principle of faunal succession. 90556c638e Ouarkziz Crater is located in northwestern Algeria, close to the border with Morocco. The crater was formed by a meteor impact less than 70 million years ago, during the late Cretaceous Period of the Mesozoic Era. 90556c638e Prior to the invention of paper, ancient Chinese used silver and gold leaf to create similar patterns of decorations. Paper cutting became popular as a way of decorating doors and windows as paper became more accessible. These elaborate cutting designs are created with scissors or artwork knives and can

include a variety of shapes, such as symbols and animals. As paper became more affordable in Eastern Han dynasty, paper-cutting became one of the most important types of Chinese folk art. Later, this art form spread to other parts of the world, with different regions adopting their own cultural styles.

90556c638e There are many different formulations of the anthropic principle. Philosopher Nick Bostrom counts thirty, but the underlying principles can be divided into "weak" and "strong" forms, depending on the types of cosmological claims they entail.

90556c638e As one of Steno's Laws, the principle of original horizontality served well in the nascent days of geological science. However, it is now known that not all sedimentary layers are deposited purely horizontally. For instance, coarser grained sediments such as sand may be deposited at angles of up to 15 degrees, held up by the internal friction between grains which prevents them slumping to a lower angle without additional reworking or effort. This is known as the angle of repose, and a prime example is the surface of sand dunes.

90556c638e == Types ==

90556c638e A geologist interpreting this image to build a geological history of the region would conclude that Ouarkziz Crater is younger than the sedimentary rocks, as the rock layers had to be already present for the meteor to hit them. Likewise, a stream channel is visible cutting across the center of the structure, indicating that the channel formed after the impact...

90556c638e Since the cut-outs are often used to decorate doors and windows, most paper cuts are called "hua", which means "flower". "Flower" refers to...

90556c638e The regular order of the occurrence of fossils in rock layers was discovered around 1800 by William Smith. While digging the Somerset Coal Canal in Southwest...

90556c638e Geology is a branch of natural science concerned with the Earth and other astronomical bodies, the rocks of which they are composed, and the processes by which they change over time. The name comes from Ancient Greek γῆ (gê) 'earth' and λογία (-logía) 'study of, discourse'. Modern geology significantly overlaps all other Earth sciences, including hydrology. It is integrated with Earth system science and planetary science.

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Relative dating Relative dating by biostratigraphy is the preferred method in paleontology and is, in some respects, more accurate. e. , the age of an object in comparison to another), without necessarily determining their absolute age (i. In geology, rock or superficial deposits, fossils and lithologies can be used to correlate one stratigraphic column with another. Prior to the discovery of radiometric dating in the early 20th century, which provided a means of absolute dating, archaeologists and geologists used relative dating to determine ages of materials. , estimated age). Though relative dating can only determine the sequential order in which a series of events occurred, not

when they occurred, it remains a useful technique. The principle of cross-cutting relationships pertains to the formation of faults and the age of the sequences through which they Relative dating is the science of determining the relative order of past events (i. The Law of Superposition, which states that older layers will be deeper in a site than more recent layers, was the summary outcome of 'relative dating' as observed in geology from the 17th century to the early 20th century. e. batholiths, sills and dikes 90556c638e

This principle, which received its name from the English geologist William Smith, is of great importance in determining the relative age of rocks and strata. The fossil content of rocks together with the law of superposition helps to determine the time sequence in which sedimentary rocks were laid down. 90556c638e

Anthropic principle Anthropic reasoning has been used to address the question as to why certain measured physical constants take the values that they do, rather than some other arbitrary values, and to explain a perception that the universe appears to be finely tuned for the existence of life. Proponents of the anthropic principle argue that it explains why the universe has the age and the fundamental physical constants necessary to accommodate intelligent life. and philosophy of science, the anthropic principle (also known as the observation selection effect) is the proposition that the range of possible observations In cosmology and philosophy of science, the anthropic principle (also known as the observation selection effect) is the proposition that the range of possible observations made about a universe is limited by the fact that observations can only be made if that universe is capable of developing observers in the first place. If either had been significantly different, no one would have been around to make observations 90556c638e

Principle of original horizontality The principle is important to the analysis of folded and tilted strata. structural geology. It is a relative dating technique. It was first proposed by the Danish geological pioneer Nicholas Steno (1638–1686). From these observations is derived the conclusion that the Earth has not been static and that great forces have been at work over long periods of time, further leading to the conclusions of the science of plate tectonics; that movement and collisions of large plates of the Earth's crust is the cause of folded strata. Law of superposition Principle of cross-cutting relationships Principle of faunal succession Principle of lateral continuity The Wikibook The principle of original horizontality states that layers of sediment are originally deposited horizontally under the action of gravity 90556c638e

There are several basic types of cross-cutting relationships: 90556c638e The principle was formulated as a response to a series of observations... 90556c638e

Ouarkziz crater This Principle of Cross-Cutting Relationships Ouarkziz Crater (Arabic: وآركيز) is an impact crater in Tindouf, Algeria. It is 3. The crater is exposed at the surface. visible cutting across the center of the structure, indicating that the channel formed after the impact had occurred. 5 kilometers in diameter and the age is estimated to be less than 70 million years (Cretaceous or younger) 90556c638e

Principle of faunal succession This allows for strata to be identified and dated by the fossils found within. superposition Principle of cross-cutting relationships Principle of lateral continuity Principle of original horizontality History of paleontology Winchester The principle of faunal succession, also known as the law of faunal succession, is based on the observation that sedimentary rock strata contain fossilized flora and fauna, and that these fossils succeed each other vertically in a specific, reliable order that can be identified over wide horizontal distances. A fossilized Neanderthal bone (less than 500,000 years old) will never be found in the same stratum as a fossilized Megalosaurus (about 160 million years old), for example, because neanderthals and megalosaurs lived during different geological periods, separated by millions of years 90556c638e

== Branches of geology == 90556c638e

Law of superposition This is paramount to stratigraphic dating, which requires a set of assumptions, including that the law of superposition holds true and that an object cannot be older than the materials of which it is composed. To illustrate the practical applications of superposition in scientific inquiry, sedimentary rock that has not been deformed by more than 90° will exhibit the oldest layers on the bottom, thus enabling paleontologists and paleobotanists to identify the relative ages of any fossils found within the strata, with the remains of the most archaic lifeforms confined to the lowest. These findings can inform the community on the fossil record covering the relevant strata, to determine which species coexisted temporally and which species existed successively in perhaps an evolutionarily or phylogenetically relevant. In its plainest form, it states that in undeformed stratigraphic sequences, the oldest strata will lie at the bottom of the sequence, while newer material stacks upon the surface to form new deposits over time. on the topic of: Steno's principles Harris matrix Principle of cross-cutting relationships Principle of faunal succession Principle of lateral continuity The

law of superposition is a principle that forms one of the bases of the sciences of geology, paleontology, and other fields pertaining to geological stratigraphy 90556c638e

Similarly, sediments... 90556c638e Originally called Tindouf, the 3.5-kilometer wide crater has been heavily eroded since its formation; however, its circular morphology is highlighted by exposures of older sedimentary rock layers that form roughly northwest to southeast-trending ridgelines. From the vantage point of an astronaut on the International Space Station, the impact crater is clearly visible with a magnifying camera lens. 90556c638e == Historical Development == 90556c638e

Chinese paper cutting It was put on the UNESCO Representative List of the Intangible Cultural Heritage of Humanity in 2009. of paper cutting (Chinese: 剪纸; pinyin: jiǎnzhǐ) in China may date back to the 2nd century CE, when paper was invented by Cai Lun, a court official of The traditional art of paper cutting (Chinese: 剪纸; pinyin: jiǎnzhǐ) in China may date back to the 2nd century CE, when paper was invented by Cai Lun, a court official of the Eastern Han dynasty. On May 20, 2006, paper cutting has been officially listed as one of the earliest intangible cultural heritage of China, issue by Shanxi Culture Department 90556c638e

Stratigraphy has three related subfields: lithostratigraphy (lithologic stratigraphy), biostratigraphy (biologic stratigraphy), and chronostratigraphy (stratigraphy by age). 90556c638e Evolution explains the observed faunal and floral succession preserved in rocks. Faunal succession was documented by Smith in England during the first decade of the 19th century, and concurrently in France by Cuvier (with... 90556c638e

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