

Why is it a poor idea to use limestone for tombstones in a wet hot area like the Amazon rainforest?

- A) Because limestone weathers at a very fast rate
- B) Because limestone weathers at a very low rate
- C) Because limestone does not weather
- D) Because limestone is an ugly rock to be used in tombs

Ans: A

Why is Walther's rule important?

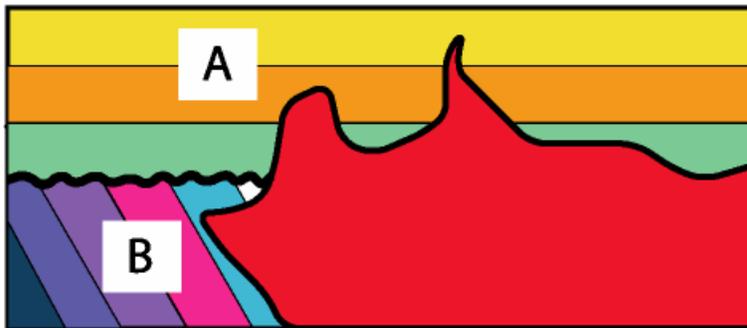
- A) Because present-day sedimentary environments are different from ancient sedimentary environments
- B) Because sedimentary environments located beside each other are not preserved in the fossil rock record and there has to be a way of working out what the ancient environments were like
- C) Because Walther's Rule relates ancient sedimentary environments preserved vertically in the sedimentary record, with present environments that are located beside each other
- D) None of above

Ans : C

Why is quartz one of the most weathering-resistant minerals?

- A) Because it crystallizes at temperature and pressure conditions very similar to those of the Earth's surface, making quartz resistant to chemical weathering
- B) Because the atoms that compose Quartz are bonded by covalent bonding, making quartz resistant to physical weathering
- C) A and B
- D) None of above

Ans: C

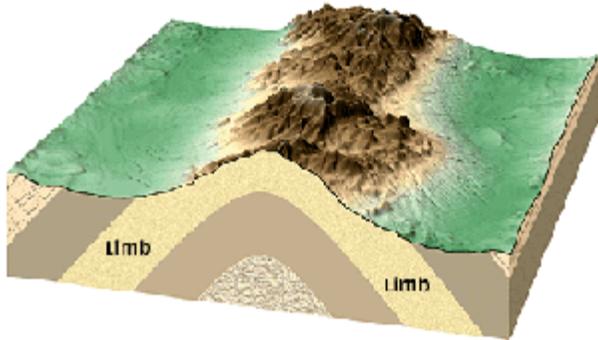


For the figure shown, what is the order of events?

I Deposition of beds A. II Deposition of beds B. III Magmatic intrusion. IV Angular unconformity

- A) I, II, III, IV
- B) II, I, III, IV
- C) II, IV, I, III
- D) II, I, IV, III

Ans: C



The figure above represents a(n) _____ which is produced by folding of _____ rocks under compression

- A) Antcline. Brittle
- B) Antcline. Ductile
- C) Syncline. Brittle
- D) Syncline. Ductile

Ans: B

The study of metamorphic rocks is useful to a geologist because

- A) Metamorphic rocks can tell us about the pressure and temperature conditions at the time they were formed
- B) Metamorphic rocks can tell us about the pressure and temperature conditions at the present time
- C) Metamorphic rocks can tell us about the sedimentary environments at the time they where formed
- D) Metamorphic rocks can tell us about sedimentary environments at the present time

Ans: A

Which principle is used to explain that the deeper rocks in a sequence are older?

- A) Principle of original horizontality
- B) Principle of cross-cutting relationships
- C) Principle of Superposition
- D) Principle of Uniformitarianism

Ans: C

Why is polished granite more resistant to weathering than rough granite?

- A) Because rough granite has less total surface exposed
- B) Because polished granite has more total surface exposed
- C) Because polished granite has less total surface exposed
- D) Because polished granite has a protective coat

Ans: C

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 - C) A and B
 - D) None of above
- Ans: C

A cube of 1 inch side has a total area of _____, while 8 cubes of ½ inch side each have a total area of _____

- A) 12 inch². 6 inch²
 - B) 6 inch². 24 inch²
 - C) 6 inch². 18 inch²
 - D) 6 inch². 12 inch²
- Ans: D

Why coral reefs are good agents against the accumulation of the greenhouse gas CO₂ (Carbon dioxide)?

- A) Because coral reefs form only at tropical water
 - B) Because coral reefs take CO₂ from the atmosphere to make limestone, dropping CO₂ levels in the atmosphere
 - C) Because coral reefs introduce CO₂ to the atmosphere to make limestone, increasing CO₂ levels in the atmosphere
 - D) None of above
- Ans: B

_____ weathers slower than _____ because it is formed shallower in the Earth at lower temperature and pressure conditions.

- A) Olivine. Pyroxene
 - B) Pyroxene. Quartz
 - C) Pyroxene. Potassium Feldspar
 - D) Pyroxene Olivine
- Ans: D

Why are mountains not a good environment to create sedimentary rocks?

- A) Because mountains are far away from oceans where most of sedimentary rocks are built
 - B) Because they are being constantly eroded, and the products of erosion that have the potential to build sedimentary rocks are taken away by rivers
 - C) Because mountains have ice in their peaks that cover the rocks below it preserving the rocks from being eroded
 - D) None of above
- Ans: B

If you find sediments with high content of Quartz and clay minerals, what is their intensity of weathering?

- A) Low
- B) Medium
- C) High

D) None of above

Ans: C

Well-sorted sediments are associated with a _____ sedimentary environment

A) Desert

B) Lake

C) Beach

D) River

Ans: C

Symmetrical ripples are associated with _____

A) Beaches

B) Dunes

C) Rivers

D) Deserts

Ans: A

Bedding sequences, or the vertical arrangement of beds in the sedimentary record, are important because:

A) They are useful to determine ancient erosional environments

B) They are useful to determine ancient depositional environments

C) They are useful to determine present erosional environments

D) They are useful to determine present depositional environments

Ans: B

It is highly probable that the levee system in New Orleans failed because

A) Sand liquefied and moved below the levee

B) The water pressure directly broke the levee

C) The levee liquefied under the water pressure

D) None of above

Ans: A

In what sedimentary environment we live in Baton Rouge?

A) Desertic

B) Beach

C) Fluvial

D) Glacial

Ans: C

In general the grain size in a clastic sedimentary rock is a measure of

A) Distance travelled

B) Stream velocity

C) A and B

D) None of above

Ans: C

The majority of sedimentary cover in the world is fine grained because:

- A) The majority of sediments come from granite that has low feldspar and micas content, which in are converted into clay minerals
- B) The majority of sediments come from basalt that has high feldspar and micas content, which in are converted into clay minerals
- C) The majority of sediments come from granite that has high feldspar and micas content, which in are converted into clay minerals
- D) The majority of sediments come from basalt that has low feldspar and micas content, which in are converted into clay minerals

Ans: C

Evaporite is a _____ sedimentary rock

- A) Clastic
- B) Chemical
- C) Biochemical
- D) Bioclastic

Ans: B

Limestone is a _____ sedimentary rock

- A) Clastic
- B) Chemical
- C) Biochemical
- D) Bioclastic

Ans: C

Sandstone is a _____ sedimentary rock

- A) Clastic
- B) Chemical
- C) Biochemical
- D) Bioclastic

Ans: A

The main factor(s) controlling metamorphism are

- A) Temperature
- B) Pressure
- C) Fluids
- D) All of above

Ans: D

Slate is a _____ metamorphic rock

- A) Low grade
- B) Intermediate grade
- C) High grade

D) Coarse grade

Ans: A

Gneiss is a _____ metamorphic rock

A) Low grade

B) Intermediate grade

C) High grade

D) Coarse grade

Ans: C

In metamorphism, directed pressures make crystals grow _____ to the direction of the highest pressure, this can _____ the original bedding of the parent rock

A) Parallel, erase

B) Perpendicular, erase

C) Parallel, conserve

D) Perpendicular, conserve

Ans: B

The presence of fluids during metamorphism

A) Accelerate chemical reactions

B) Slows chemical reactions

C) Accelerate burial of the rocks

D) Slows burial of the rocks

Ans: A

Metasomatism, as opposed to metamorphism, occurs when

A) The chemical composition changes by fluid transport of ions within the rock

B) The chemical composition does not change by fluid transport of ions into or out of the rock

C) The chemical composition changes by fluid transport of ions into or out of the rock

D) None of above

Ans: C

The principle of original horizontality is not always applicable in a large scale because

A) Sedimentary rocks are always deposited horizontally and this is noticeable in large-scale structures such as the Mississippi delta

B) Sedimentary rocks are not deposited horizontally and this is noticeable in large-scale structures such as the Mississippi delta

C) A and B

D) None of above

Ans: B

Why do we use radioactivity to date rocks?

A) Because the decay rate (the rate for which an element is converted into another by radioactive decay) for each radioactive element is constant

- B) Because the decay rate (the rate for which an element is converted into another by radioactive decay) for each radioactive element is variable
 C) Because the radioactive elements are used to produce nuclear energy
 D) None of above
 Ans: A

Hiatus means

- A) An Eon in the Geologic Time Scale
 B) A Period in the Geologic Time Scale
 C) A period of time when deposition occurs
 D) A period of time when no deposition or erosion occurs
 Ans: D

To relatively date sedimentary rocks we use

- I. Fossils. II. Cross-cutting relationships. III Principle of superposition IV. Radioactive decay
 A) I and II only
 B) III and IV only
 C) I, II, III and IV
 D) I, II and III only
 Ans: D



For the figure above, we assume that the _____ bed is the oldest of beds A, by using the principle of _____

- A) Yellow, superposition
 B) Orange, uniformitarianism
 C) Green, uniformitarianism
 D) Green, superposition
 Ans: D



For the figure above, we assume that the _____ is younger than beds A, by using _____

- A) Angular unconformity, cross-cutting relationships
- B) Magmatic intrusion, fossils inside the rocks
- C) Angular unconformity, radiocarbon dating
- D) Magmatic intrusion, cross-cutting relationships

Ans: D

A disconformity

- A) Is similar to an angular unconformity, only that for the disconformity the angle is zero
- B) Is similar to an angular unconformity, only that for the disconformity the angle is ninety degrees
- C) Is similar to an angular unconformity, only that for the disconformity the angle is sixty degrees
- D) None of above

Ans: A

If a rock contains one quarter of the parent radioactive element and three quarters of the daughter element, and if no element have leaved or entered the rock, it means that

- A) One half-life has elapsed
- B) Two half-lives have elapsed
- C) Three half-lives have elapsed
- D) Four half-lives have elapsed

Ans: B

Strike-slip faults are typically associated with _____ plate boundaries

- A) Convergent
- B) Divergent
- C) Transform-fault
- D) None of above

Ans: C

For a reverse fault, the direction of maximum directed pressure is _____ and the direction of minimum directed pressure is _____

- A) Vertical. Vertical
- B) Horizontal. Vertical
- C) Horizontal. Horizontal
- D) Vertical. Horizontal

Ans: B

Folds occurs in _____ rocks

- A) Ductile
- B) Brittle
- C) Mafic
- D) Felsic

Ans: A

A typical type of rock associated with faults is called

- A) Fault conglomerate
- B) Gneiss
- C) Mylonite
- D) Fault breccia

Ans: D

A typical type of rock associated with folds is called

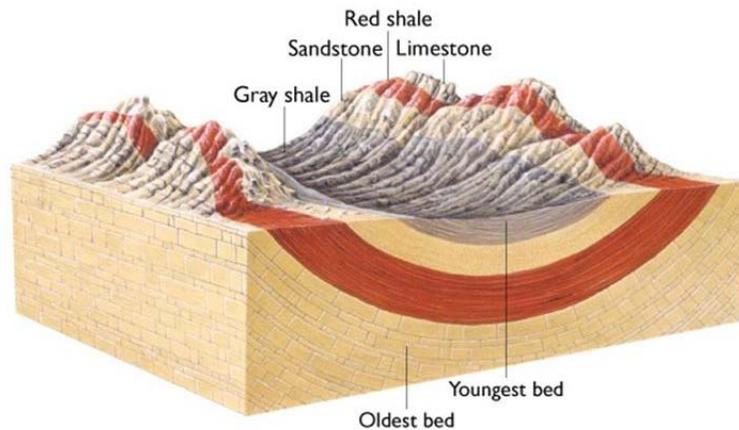
- A) Fault conglomerate
- B) Gneiss
- C) Mylonite
- D) Fault breccia

Ans: C

Faults commonly occur in rocks _____ because at those pressure and temperature conditions the rocks behave _____

- A) At depth. Brittle
- B) Near the surface. Brittle
- C) At depth. Ductile
- D) Near the surface. Ductile

Ans: B



The figure above represents a(n) _____ which is produced by folding of _____ rocks under compression

- A) Antcline. Brittle
- B) Antcline. Ductile
- C) Syncline. Brittle
- D) Syncline. Ductile

Ans: D

In a _____ fault the block above the fault plane moves downward

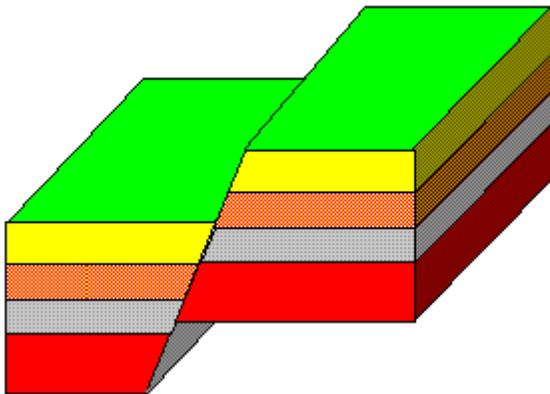
- A) Normal
- B) Strike-slip
- C) Reverse
- D) Abnormal

Ans: A

In a _____ fault the block above the fault plane moves upwards

- A) Normal
- B) Strike-slip
- C) Reverse
- D) Abnormal

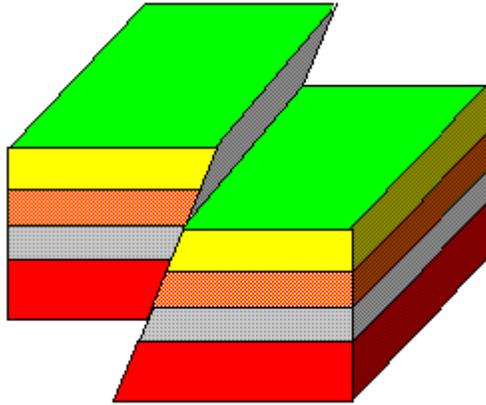
Ans: C



For the fault shown above, the direction of maximum directed pressure is _____ and the direction of minimum directed pressure is _____

- A) Vertical. Vertical
- B) Horizontal. Horizontal
- C) Vertical. Horizontal
- D) Horizontal. Vertical

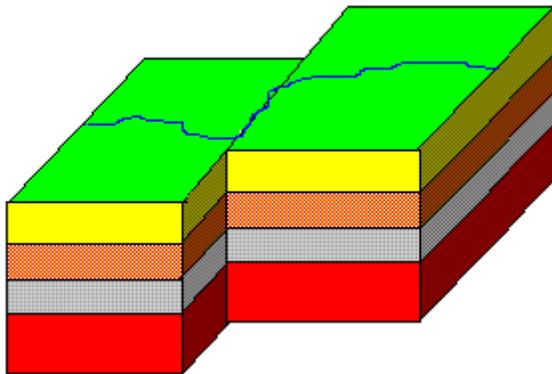
Ans: C



For the fault shown above, the direction of maximum directed pressure is _____ and the direction of minimum directed pressure is _____

- A) Vertical. Vertical
- B) Horizontal. Horizontal
- C) Vertical. Horizontal
- D) Horizontal. Vertical

Ans: D



For the fault shown above, the direction of maximum directed pressure is _____ and the direction of minimum directed pressure is _____

- A) Vertical. Vertical
- B) Horizontal. Horizontal
- C) Vertical. Horizontal
- D) Horizontal. Vertical

Ans: B