

Multiple Choice: Porosity and Permeability

Directions: Answer the multiple choice questions.

Questions

1. Which rock layer has the highest permeability?

- A
- B
- C

2. Which rock layer is most like conglomerate or sandstone in terms of groundwater permeability?

- A
- B
- C

3. Which rock layer has the lowest permeability?

- A
- B
- C

4. Which rock layer would be a confining bed for a confined aquifer?

- A
- B
- C

5. Suppose a layer of granite was usually very solid and impermeable but that it developed medium-sized well-connected fractures. Which rock layer(s) would it be most like in terms of permeability?

- A only
- A and B
- C only

Answers

1. A

Correct Feedback: Correct. Rock layer A has the highest permeability because it allows the highest amount of water to pass through it. The water that passes through the rock layer is indicated as the specific yield.

Incorrect Feedback: Incorrect. The rock with the highest permeability will be the rock that allows the most water to pass through it, as shown by the specific yield in the diagram.

2. A

Correct Feedback: Correct. Rock layer A has a high permeability, as do conglomerate and sandstone, because their pore spaces are large and well-connected.

Incorrect Feedback: Incorrect. Conglomerate and sandstone have large, well-connected pores, and so they have very high permeability. Try again, and select the rock layer that has the highest permeability.

3. C

Correct Feedback: Correct. Rock layer C has very low permeability because it allows very little or no water at all to pass through it.

Incorrect Feedback: Incorrect. Select the rock layer that has very little or no water at all passing through it.

4. C

Correct Feedback: Correct. Rock layer C has very low permeability because it allows very little or no water at all to pass through it.

Incorrect Feedback: Incorrect. Select the rock layer that has very little or no water at all passing through it.

5. A and B

Correct Feedback: Correct. If the rock has medium-sized fractures that are well-connected, then it will be similar to rock layers A and B in terms of permeability.

Incorrect Feedback: Incorrect. If the rock has medium-sized fractures that are well-connected, then it will be similar to rock layers A and B in terms of permeability.