1. How do geologists use the principles of relative dating to learn about the past?

Planet 2319 has been abruptly found close to Earth’s orbit! I cannot believe this planet was missed perfectly by each of Earth’s satellites that we did not know of its exitance! I will dig through the sequences of rock to learn more.

1. From my initial observance of this Ocean Planet the first, outermost layer is granite.
2. I dig further and under the thick layer of granite is a layer of ocean life. They remind me of a mutated version of Foraminifera or small, carbonate-shelled marine organisms (Earle, 2015)

As I continue to dig I hit two peculiar layers…

1. Sitting as the younger layer, there is porous volcanic rock cutting through a layer of flat olive-colored rock
2. There is the olive rock to make up the rest of the layer
3. Under all of this is an even layer of blue rock but fully encapsulated within the blue layer is a maroon chunk of circular rock. Hmm.. this seems familiar from the 4th layer.

I must summarize my findings before I move on to dating them. Layers of Planet 2319 are relatively flat apart from the inclusions and faults that create some discrepancies. There is a layer of life similar looking to shells below my outermost layer. A fault cuts through the 4th layer of rock, creating the 3rd layer of rock. The innermost layer of rock has an inclusion from a maroon rock layer. My layers altogether **include life in layers, faulting, and inclusions**.

Layer 1 is most obviously the youngest layer. The **principle of superposition** outlines how the youngers layer of rock remains at the top (Physical Science Department). “The best places to look [for granite] are pebbly ocean or lake beaches” according to Earle; therefore, the ocean planet makes sense. Moving down a layer, we can use the fossils of the life to date Layer 2. Foraminifera are a useful biozone fossil on Earth dating to the Triassic zone (Earle, 2015), so I am inclined to use this **fossil-based technique** to date Layer 2. The **principle of crosscutting** can be used to determine the relative age to layers 3 and 4. The fault that created layer 3 is younger than layer 4. The final layer is the oldest layer by superposition; however, the **principle of inclusion** must be used to determine its maroon-rock oddity. By inclusion, the maroon rock is older than the blue rock it is included in.

A sum of these principles of relative dating are used by geologists to learn about the past of Planet 2319.

Sources:

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