**GC A4 Relative Age**

Script

Instructions: Advance the PowerPoint slides at every new paragraph and anywhere you see “/”

[1] The Geologic Column—Relative Age

[2] At first glance, many people might look at this and see—well, just a rock. / But actually the various layers shown here tell a very specific story. And when scientists look at these layers, they try to decipher the exact sequence of events that created this unique formation. / When we talk about relative age, we are trying to figure out the history of the rock.

[3] Remember that sedimentary rock layers are deposited horizontally. / Younger layers are deposited on top of older ones. / and earthquake faults and magma intrusions are younger than the layers of rock they cut across.

[4] Using these principles, let’s see if we can figure out the order of the events that created two specific rock formations.

[5] In this illustration, A, B, D, and E represent different rock strata. C represents an intrusion of magma up through cracks in the rock layers. You may wish to pause the video while you try to decipher the relative age of these features.

[6] We know from the principle of superposition that the first layer to be deposited was the bottom layer.

[7] Then layer 2 was deposited on top.

[8] The third layer came next…

[9] …followed by the top layer.

[10] So far, this seems pretty easy.

[11] Some time later, the green layer experienced some erosion, creating this dip.

[12] And at some point, an intrusion of magma came up through cracks in all four layers of rock

[13] What we can’t be sure of, just by looking at this diagram, is which one of those happened first.

[14] Did the erosion happen first / and then the intrusion / or / did the intrusion happen before the erosion?

[15] Unlike our diagram, real rocks would probably contain other clues that would help geologists figure out which happened first. If we assume the erosion happened first, / that would make the magma intrusion the youngest or most recent of all the features in this formation.

[16] Let’s try another one. Here we see several layers, two different sections of a magma intrusion, and an earthquake fault. Can you describe the events that would have created this rock formation? Which do you think happened first—the earthquake or the magma intrusion? Pause the video if you wish to figure out what you think.

[17] Here’s the order of events that would have created this formation: / the bottom sedimentary layer was deposited.

[18] Then the second layer was deposited on top.

[19] And the third layer was deposited on top of that

[20] Then magma pushed its way up through cracks in all three layers of rock

[21] Next, an earthquake happened, creating a fault line through all the layers, and through the magma intrusion as well, causing everything to the right of the fault to drop.

[22] Eventually the empty space created by the drop began to be filled in by new sediment

[23] By applying these principles to the clues found in the rocks, we can figure out a lot about the history of specific rock formations.

[24] In the next presentation, we will learn about the discovery and contents of the Paleozoic layers.