

HANDOUT: Layer It On - Build Your Own Stratigraphy

Different grains build different rock layers.








Sediment	Gravel (> pea size) $\geq 2\text{mm}$ 	Sand (~pinhead size) 0.05 – 2mm 	Silty Mud (~table salt size) 	Clayey Mud (< = flour size) 
	Rock	Conglomerate 	Sandstone 	Siltstone 

Table 1. Several sedimentary rocks and their sedimentary grain components. Source: Wikimedia Commons

Rock layers are composed of different types and sizes of grains. In Table 1, you can see different sedimentary rocks and their corresponding sediment type and sediment size. The different grain sizes contribute to a variation in porosity and permeability in sedimentary rocks. During this activity, you will use food (grains, beans) to build your own *stratigraphy* = layered sequence of rocks.



Photo by Sabrina Ewald

Can you recognize different rock layers in Bryce Canyon National Park?

The sediments at Bryce Canyon National Park left were deposited over millions of years as part of environments ranging from aquatic to shallow marine in this region of Utah. The deposition of these sediments created a sequence of many different geologic formations that now look like layers in a cake!

Fun Fact – Bryce Canyon contains formations also found in the Grand Canyon! The parks have a similar stratigraphy.

Activity: Build your own layered subsurface rock formation!

- Using the simulated grains, construct your own subsurface rock formation in the plastic container provided.
- Be sure you have at least 6 layers in your container. You can choose any combination of the simulated grains provided to you.
- Observe how some grains moved in the void space of other layers. Why would this happen?
- How does your container of layers compare to the image of Bryce Canyon?