

THE BARRINGER METEORITE CRATER

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Teacher Lesson 4 - Extension: When Was Upside Down the Right Side Up?

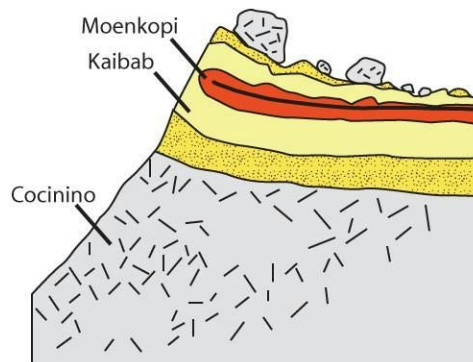
Overview

One piece of evidence that Daniel Barringer used to support his impact theory was that the rocks on the crater rim and in the surrounding plain appeared to have been deposited in the opposite order of the underlying bedrock. You may have seen in previous simulations that crater excavation caused by an impact usually ejects target material uniformly in a circular deposit around the crater.

Hear Dr. Carolyn Ernst describe the inverted stratigraphy at the crater:

Slideshow: <http://www.barringercrater.com/education/evidence/slideshow.php>

Video with Dr. David Kring <https://vimeo.com/117826669>



Hands-On Extension

Layer flour (thick layer on the bottom), medium to thin layers of colored sand, and cocoa (on top) in a clear plastic shoebox box or container so that the layers can be seen as a cross-section. (You'll get the best results with the box filled up about $\frac{3}{4}$ full.)



Drop a golf ball or heavy sphere from a height of 1-1.5 meters to create a 90° angle (straight down) impact.

Observe.



Where did the ejecta come from? Is the order of layering reversed?

Activity design by Lollie Garay in collaboration with Dr. Carolyn Ernst.

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