

# the Rock Magnet news

For Rockhounds Juniors, Teens & Greyhounds

MHVG+MS

Volume 2 No. 3 March 2012

editor: Mrs. Rock

## Meet the Fathers of Modern Geology

**James Hutton** (1726 – 1797), a Scottish farmer and naturalist, is known as the Founder of Modern Geology. He was a great observer of the world around him. More importantly, he made carefully reasoned geological arguments. Hutton came to believe that the Earth was perpetually being formed; for example, molten material is forced up into mountains, eroded, and then eroded sediments are washed away. He recognized that the history of the Earth could be determined by understanding how processes such as erosion and sedimentation work in the present day. His ideas and approach to studying the Earth established geology as a proper science.

**William 'Strata' Smith** (1769 – 1839) was an English geologist, credited with creating the first nationwide geological map. He is known as the "Father of English Geology" for collating the geological history of England and Wales into a single record, although recognition was very slow in coming. At the time his map was first published he was overlooked by the scientific community; his relatively humble education and family connections preventing him from mixing easily in learned society. Consequently his work was plagiarized, he was financially ruined, and he spent time in debtors' prison. It was only much later in his life that Smith received recognition for his accomplishments.



James Hutton



Unconforming Strata

# Earth Layers

Stratum – A layer of sedimentary rock; plural is strata.

## Field Description Matching:

A. I am number \_\_\_\_\_. I am a series of limestone and shale strata deposited in an ancient ocean. My strata is fairly horizontal.

B. I am number \_\_\_\_\_. Alternating strata of wide limestone with narrow layers of shale tilted to a 45 degree angle by tectonic forces is what you see.

C. I am number \_\_\_\_\_. I have been heavily weathered by freezing and thawing of my horizontal limestone and dark shale strata.

D. I am number \_\_\_\_\_. My strata was laid down horizontally then pushed by tectonic forces into a V fold that if continued would make my strata vertical.

E. I am number \_\_\_\_\_. You see my folded limestone strata in a gentle anticline. If you want to visit me for real, I am a new road cut on Vermont Route 279. I represent a real classic sequence of anticlines and synclines.

F. I am number \_\_\_\_\_. My rock is warm rust tones of horizontal sandstone strata laid down as a terrestrial deposit.

1.



2.



3.



4.



5.



6.



Answers: A- 2. B - 5. C. 1. D - 3. E - 6. F-4.