

Dating the Past

hulrock museum

Relative dating by

1. Stratigraphy

makes possible to determine if an event took place before or after a certain geologic age

2. Weathering

An example. Niagara Falls is cutting rock back at an approximate rate of 2 feet a year. The total distance cut back divided by 2 gives estimated time since the Great Lakes started draining towards the northeast.

3. Evolution

Absolute Dating

1. Tree Ring

2. Varnes - Glacial deposits

Radio Activity Dating the Past

3 Radio active elements decay at known rates. These are expressed in "half lives", meaning that half the element's activity is expended in a certain period.

The rate of depletion is measurable. The length of "half lives" are as follows:-

Carbon 14 - is 5720 years

Radium . 1590 "

Uranium 11 ~ 170,000 "

Rubidium 60 Billion "

4 Astronomical Methods

a. Variation in the earth's orbit during 92,000 years cycle affects geological & ecological processes in ways which can be

determined and used as relative dating.

b. Changes in the shape of the earth's orbit every 26,000 years

c. Changes in the earth's axis every 20,000 years.

All three processes make for radical climatic changes which affect all life and help to date geologic ages.

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