

CLARK COUNTY MINERALS EDUCATION WORKSHOP

Geologic Time Travelers
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Materials for Geologic Time-Travel activity

- Geologic Time Scale showing names and duration of each time period in years (from Internet, books, posters)
- Sidewalk Chalk
- Meter tape (50 meters or more if available)
- Descriptions/pictures of life forms appearing in each of the time periods from Internet, posters, books:
- Time line list of geologic events (in Nevada or the world)
- Examples of representative fossils of organisms from each time period, if any are available.

Procedure

1. Introduce the geologic time scale to the class.
2. Brainstorm ways to create a physical model of the geologic time scale with your class. Many ideas for this can be found on the Internet.
3. If you have available a concrete sidewalk outside your school on which to illustrate geologic time, have your class do the math to calculate out the scale necessary to illustrate all of geologic time on the sidewalk.
4. How about the portion of the geologic time scale since life forms first appeared?
5. Assign each team of students a period of geologic time to research (Make sure each major time period is covered – combine some periods to fit your class size).
6. Have each team find out what (if any) organisms lived on earth at that time? What was happening on Earth (or in Nevada) at that time? If each team were to be tour guides for that era, what would be the high points of the time to point out to time-travelers to that era?
7. Have each team make up a sheet or cards of information for each time division based on their research:

Precambrian
Cambrian
Ordovician
Silurian
Devonian
Mississippian
Pennsylvanian
Permian

Triassic
Jurassic
Cretaceous
Tertiary
Quaternary

8. Have the class use the scale they develop to mark off and label divisions of geologic time in chalk on the sidewalk.
9. Have each team illustrate in chalk the life forms that lived during that time and any major geologic events that occurred.
10. Then have the entire class take a “walk through time” from beginning to present with each team acting as the “tour guides” for their particular time period, describing the plant and/or animal life of the time, any significant events (major extinctions, first appearances of organisms, geologic events, etc.)

Resources:

Good websites for materials for this activity:

<http://www.ucmp.berkeley.edu/help/timeform.html>

(best – has everything you would need for this activity)

<http://www.uky.edu/KGS/education/activities.html#time>

<http://www.uky.edu/KGS/education/timeimag.html>

(simple line drawings of organisms for each time period)

<http://geology.er.usgs.gov/paleo/geotime.shtml>

<http://www.nbmj.unr.edu/dox/imfprice.pdf>

(has a timeline of Nevada geologic history)

<http://www.enchantedlearning.com/subjects/Geologictime.html>

<http://books.nap.edu/html/evolution98/evol6-f.html>