###### Extra credit 1—Take a hike! (adapted from Jefferson, 2008)

### Assignment procedure

1. Go for a hike in an outdoor location or visit a local, state, or national park. While you are there, take some field notes about the geologic features and processes you see. Also make sure to get a photo, map, or brochure.
2. Write a one- to two-page descriptive essay about at least four earth science features or processes that you observed. You should make sure to use correct terms to identify the features and describe how you knew what you were looking at. Also make sure that your essay includes geographical information (trail, park, nearest city, state).
3. Here are some location ideas to get you started: Alexandria Community Park, Devou Park, Big Bone Lick State Historic Site, Boone Cliffs State Nature Preserve, Gunpowder Creek Nature Park, Mt. Airy Forest, Cincinnati Nature Center, Clifton Gorge State Nature Preserve, Glen Helen Nature Preserve, Red River Gorge Geological Area, Hocking Hills State Park, Serpent Mound, Ohio Caverns. There are so many great places nearby, so please don’t feel limited to this list!
4. Submit your essay with your field notes, sketches, photos, park brochure or map here. Be sure to cite the authors when quoting or paraphrasing information, maps, or figures from external sources.

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## Extra credit—Explore your hometown (adapted from Cochiara, 2008)

### Assignment procedure

Research the geology of your hometown or any location that is special to you. Prepare a two-page paper plus one figure that illustrates a geological aspect of your study region. Include a list of references cited for your paper.

To find topographic and geologic maps of your location, search online at <https://store.usgs.gov/maps>, <https://ngmdb.usgs.gov/topoview/viewer/#4/39.98/-100.06,> or use your favorite topographic and geologic map smart device apps.

Topographic map: Examine the map, and record, at a minimum, the following information:

* + - map coverage (7.5-minute or 15-minute quadrangle?)
    - map scale
    - contour interval (with units)
    - map publisher
    - publication date of map (year)
    - overall relief of the map (minimum and maximum elevations), with units
    - the elevation of your house or point of interest, with units
    - latitude and longitude coordinates of your hometown
    - any other information that is interesting to you

Geologic map: Examine the map and record, at a minimum, the following information:

* + - map title
    - map author(s)
    - map publisher and publication date
    - map scale
    - geologic units in your hometown area. Be sure to include the unit names and ages. For example, “lower Cambrian sillimanite-mica schist” or “Paleozoic granite gneiss.”
    - geologic structures in the region (faults, folds, domes, depressions, etc).
    - overall strike and dip of units, if given. Example: “units generally strike N-S, with east facing dips of 35-80°”
    - any other interesting information

Note: Your geologic map envelope may contain multiple maps (such as maps of bedrock geology, “surficial” geology, glacial geology, mineral deposits, zones/types of metamorphism, etc.) depending on the region, and may also contain a summary paper of the regional geology to go along with the maps. Feel free to use any extra information from these materials in your paper if you find it interesting. Be sure to cite the authors when quoting or paraphrasing information, maps, or figures from external sources.

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