

Ecoregions topographic landform models include:

Name of ecoregion and geologic feature

Background information with highlighted vocabulary terms

Location on a Texas map

Map coordinates

Inches² of required cardboard

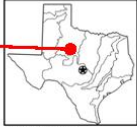
Construction notes and paint scheme

Two questions involving higher order reasoning

Image of completed model

Scale and contour interval

Exfoliation Dome
Ecoregion: Edwards Plateau (Llano Uplift)



Coordinates: 29.04939, -98.818098

Igneous intrusions, known as batholiths, form when pockets of magma rise towards the surface and solidify. Some batholiths are extensive, such as the 1600km (950mile) long Coast Range pluton in British Columbia. When erosion removes the weight of overlying strata, parts of the granite batholith expand and develop curved fractures. As the granite becomes exposed, sheets of rock break off in rounded slabs known as exfoliation sheets. These exfoliated slabs resemble the peel of an orange being removed piece by piece. Although largely bare of trees, these domes are covered in lichens that slowly contribute to the chemical weathering of the exposed granite.

Enchanted Rock is an example of an exfoliation dome. The granite that composes the dome intruded into existing schists and gneisses 1000 million years ago. Since then, these Precambrian metamorphic rocks, as well as more recent Cretaceous limestone, have eroded away.

Cardboard requirements: This model requires 300 inches² of cardboard.

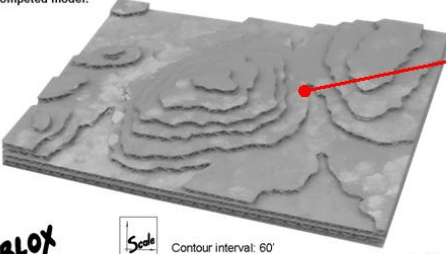
Construction hints: Before cutting the layers, mark each contour line with the correct elevation.

Paint scheme: Paint the model grayish pink to indicate granite. Add some green for vegetation and blue for water along the stream bed.

Questions:

1. Why are there so few trees growing on Enchanted Rock?
2. Why does rock in this exfoliation dome stand out above the surrounding countryside?

Image of completed model:



Scale and contour interval: SCALE 1" = 480', Contour interval: 60'

GEOBLOX

Topographic map with contours identified

