

Topographic Maps and Profiles

How do topographic maps help us interpret our planet?

Topographic Maps and Profiles

- Topographic Maps [contour map] - commonly used model of the elevation field of the surface of Earth
 - Topographic maps show 3D shapes in 2D
- Elevation - height above or below sea level

Topographic Maps and Profiles

- Benchmark - a marker that has the exact latitude, longitude, and elevation of that position
 - Labeled on a map as BM. X.

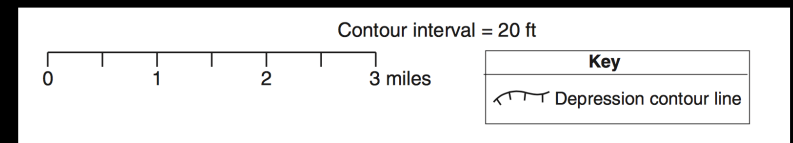
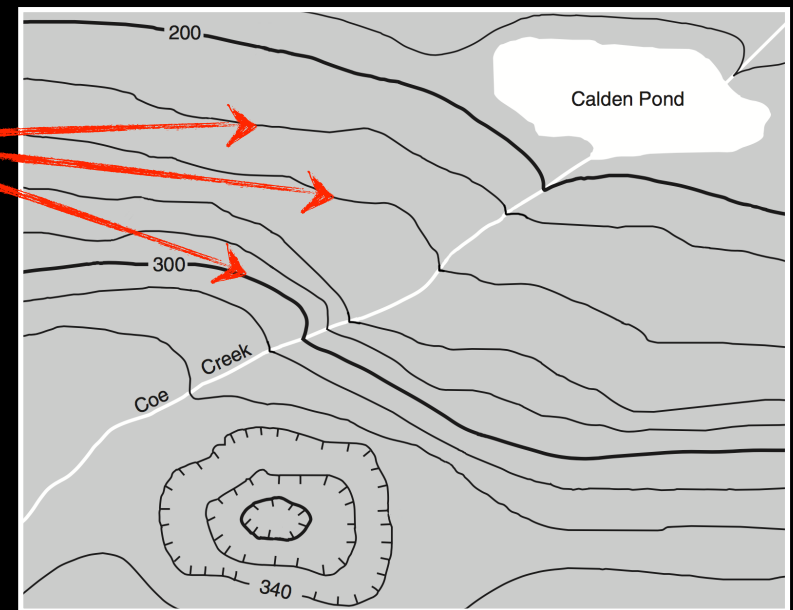


Topographic Maps and Profiles

- Natural Features - features that are created by nature
 - Examples: mountains, hills, lakes, and rivers
- Cultural Features - features that are created by mankind
 - Examples: roads, cities, buildings and dams

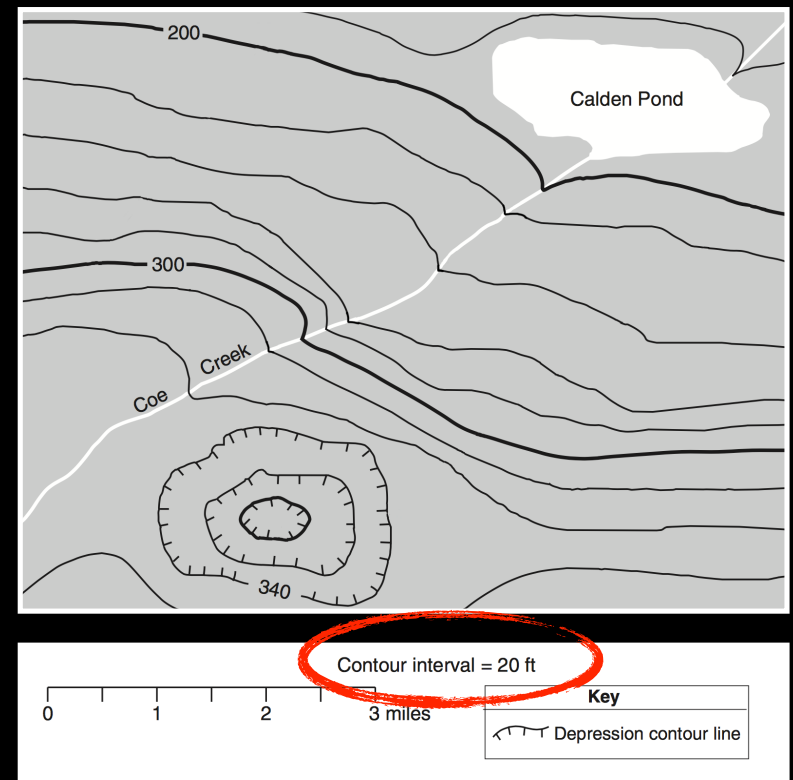
Topographic Maps and Profiles

- Contour Lines - lines drawn on a map that connect equal points of elevation



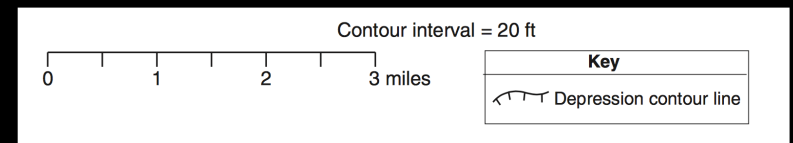
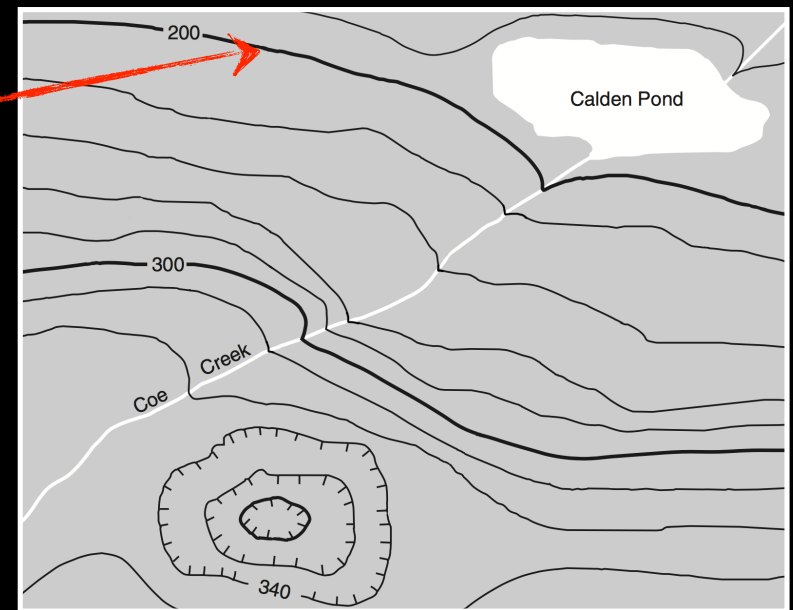
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- Contour Interval - the difference in elevation between two side by side contour lines
 - The contour interval is usually found on the map key or legend



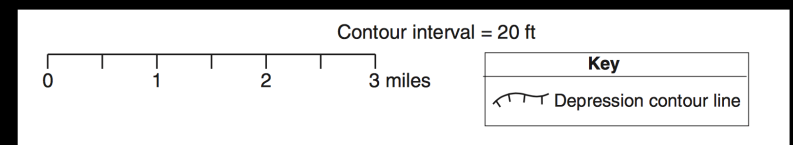
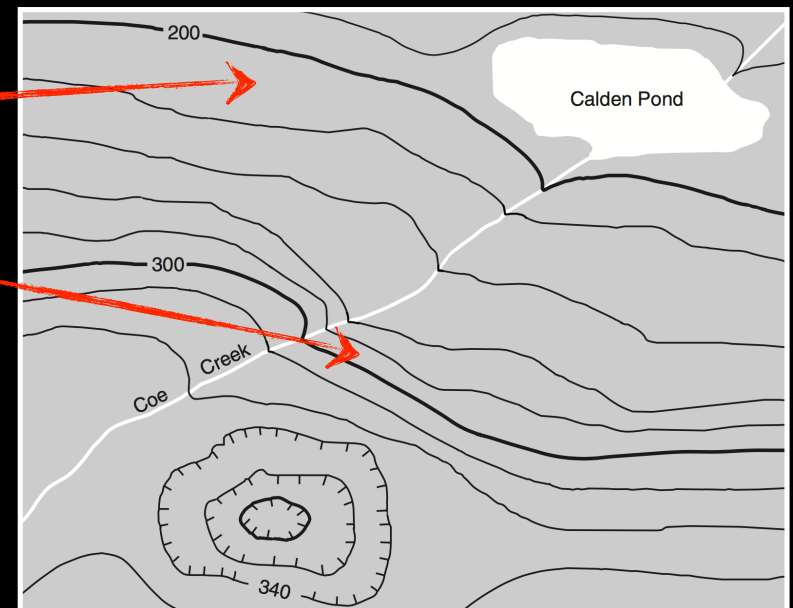
Topographic Maps and Profiles

- Index Contour - lines that are bold and have an elevation labeled
 - Example: 200 ft and 300 ft



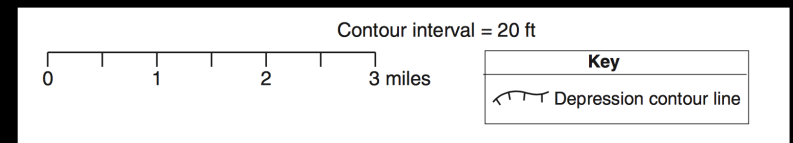
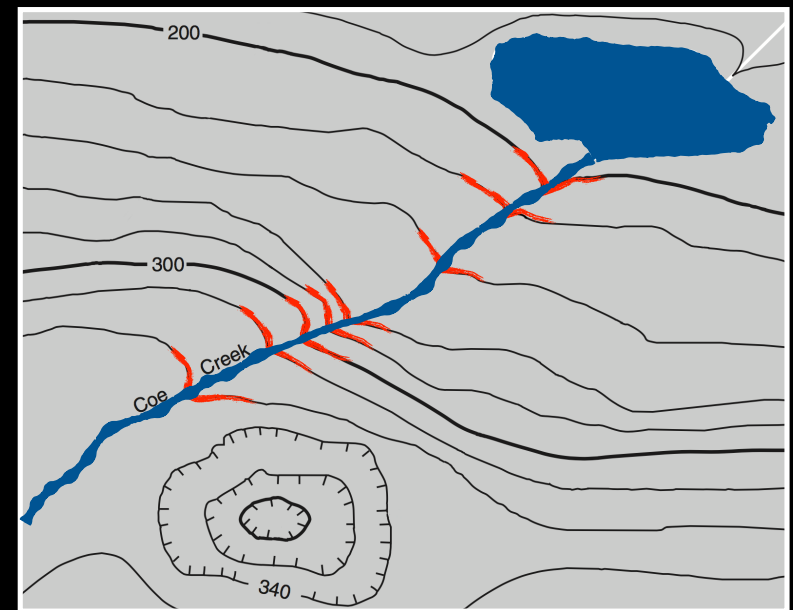
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- Gentle Slope - when contour lines are spaced far apart
- Steep Slope - when contour lines are spaced close together



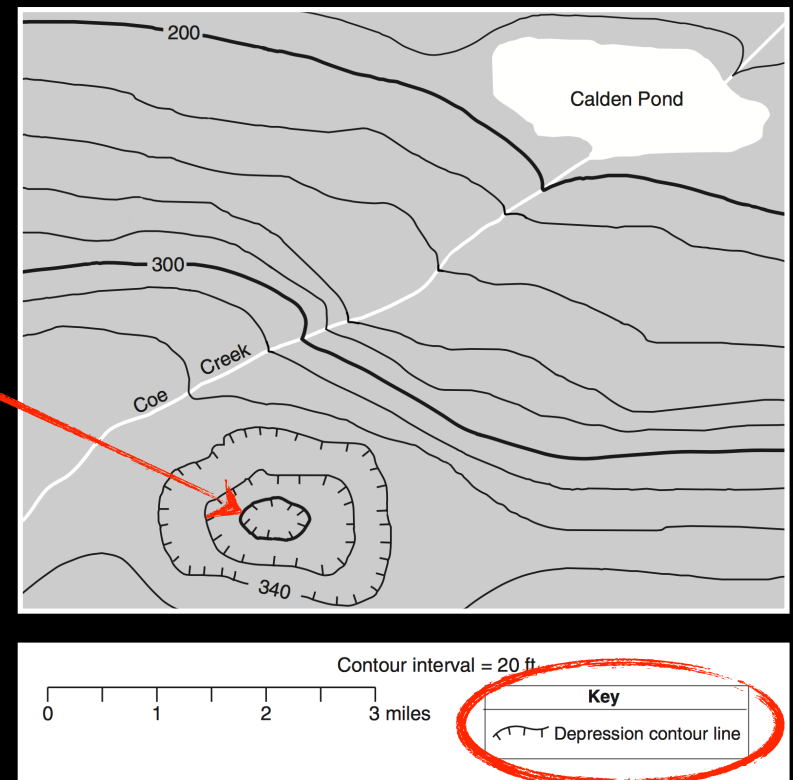
Topographic Maps and Profiles

- When contour lines cross a river they bend upstream
 - Note: rivers flows the opposite direction the contour lines point



Topographic Maps and Profiles

- Depression Contour Lines - are marked with small lines called hachured lines that are pointed toward the center of a depression
 - Allows you to distinguish a hill from a hole



Topographic Maps and Profiles

- Calculating the Highest Point:
 1. Finding the last [highest] contour line on that hill
 2. Imagine you drew another line
 3. Subtract one from the imaginary line

Topographic Maps and Profiles

- Topographic Profile - the side view of a geologic feature



Topographic Maps and Profiles

Creating a Topographic Profile:

1. You need two points on a contour map and a horizontal grid between the two points
2. Transfer the points from the map to the horizontal grid
3. Connect the points with a smooth line to draw the profile