Lesson #5: Topographic Maps

Objective: Practice applying new topographic map reading skills to further understanding of how topographic maps represent Earth's 3D surface in 2D.
Introduction to Topographic Maps
Topographic Maps

- Two dimensional model of the Earth’s surface (represents 3-D world)
- Topographic maps are also known as contour maps.
- Show elevation above sea level using contour lines.
Contour Interval (C.I.) = 500'
The two hills seen from the side, with elevations marked and dotted lines pointing to the corresponding contour lines.
Topographic Maps

- **Contour Line** –
  - line on a map that connects points of EQUAL elevation.
  - show elevation and shape of the land

- Relief – Difference between high and low elevations
Contour Lines

Shows Change in Elevation between Contour Lines and the Shape of the Terrain
Topographic Maps

- **Contour Interval** – difference in elevation between each line. MUST be equal spacing.

Contour interval = 20 feet
Topographic Maps

- **Index Contour** –
  Usually every 5\(^{th}\) line is printed darker and has an elevation printed on it.
Rules for Contours

1. Contour lines never cross

Gradual Slope
Rules for Contours

2. Contours form closed loops (even if not shown on the map.)
Rules for Contours

3. Contours bend upstream (uphill) when crossing a stream.
"V" points uphill

High Ground

Low Ground

Borrow Pit
Closely Spaced Contours

• Steeper Slope (Gradient) – contour lines are closer together.
Wide Spaced Contours

- Gradual/Gentle Slope (Gradient) – contour lines are farther apart.
Depressions

• Contour lines which show a depression, crater, or sinkhole on a map.

• Shown by dashed lines (hachure marks) on the inside of a contour line

• The elevation of the first depression contour is the same as the lowest regular contour near it.
Benchmarks

- a location whose exact elevation is known and is noted on a brass or aluminum plate.

- bench marks are shown on maps by an X with the letters BM written next to them.
Play-Dough
Topo