- Bear Mountain is part of a landform called the Highlands.
- The Highlands are part of a larger geological outcropping, called the Reading Prong, which extends from eastern Pennsylvania, through New Jersey and New York, and into Connecticut.
- Bear Mountain State Park is located on the Hudson River about 50 miles north of New York City.
- On the mountain, the primary types of bedrock are granite gneiss and schist, which are highly metamorphosed sedimentary and igneous rocks.
- The minerals that compose these types of rocks are considered to be highly resistant to erosion and weathering, allowing Bear Mountain and other mountains in this region to retain heights between 1,200 and 1,300 feet.
- About 12,000 years ago the Wisconsin glaciation ended, which left erratics, polished rock surfaces, ice striations, pot holes, and fjord of the Hudson River, all of which are evident on or near Bear Mountain.

The Highlands were formed during the Greenville Orogeny about 1 to 1.3 billion years ago.
- The Appalachian Mountains took form during the Taconic Orogeny when the supper continent Pangea was formed about 480 million years ago.
- Thus, the Highlands are a belt of mountains distinctly different from its younger neighbors and about twice as old.
- Bear Mountain is 1,301 feet high, the tallest in the region.
- Exposed bedrocks were smoothed by the grinding action of glaciers.
- Storm king granite is a fairly uniform granite gneiss cut, with occasional Quartz filled veins, magnetite, and pegmatite dikes.
- Valleys and hillside to the north and south of Bear Mountain had iron Mines that extracted magnetite ore.
- Can’t trust a compass due to presence of magnetite.
- Areas on top of Bear Mountain have glacial erratics made of gneiss from local outcrops, many of these outcrops contain large chunks of red pudding stone conglomerate.