

# Lake Mead

## Environmental Education

National Recreation Area  
National Park Service



## CLASSROOM PROGRAM

### Grade 5 - "Landforms in Motion"

- Theme** The Hamblin-Cleopatra volcano at Lake Mead National Recreation Area (NRA) provides an amazing case study of changes in landforms that result from movement of the earth's crust.
- Objectives** Students will describe one way that extension has contributed to the formation of volcanoes in the Lake Mead NRA area.  
Students will describe one way that faulting has shaped the landforms of the Lake Mead NRA area.  
Students will read and interpret a geologic map using a simple key.
- Vocabulary** crust - the very thin outermost layer of the Earth  
extension - stretching or lengthening of the Earth's crust  
fault - a break in a rock mass along which movement has occurred  
geology - the science that examines the Earth, its form and composition, and the changes that it has undergone and is undergoing  
lava - molten rock that reaches the Earth's surface  
magma - molten rock that is beneath the Earth's surface  
volcano - a mountain formed from lava
- Background Information** Lake Mead NRA has had a very rich geologic history. At varying times in the last two billion years, the area that would become Southern Nevada has been a shallow sea, a shoreline, and a desert much drier than today. The rocks also record evidence of marshes and rivers, grasslands and tidal flats. This region has alternately been squeezed and stretched. More recently, within the last fifteen million years, periods of fiery volcanism have lasted for hundreds of thousands of years, interspersed with less geologically active times when erosion proceeded with its never-ending wearing away of the landscape unopposed by rising mountains of lava and ash.
- A few of the more recent chapters of geologic activity are recorded along the north shore of Lake Mead in the Hamblin-Cleopatra volcanic complex. These mountains bear the scars of extension, or stretching, of the earth's crust and the volcanism and faulting that resulted.
- Before the Ranger Visits your Classroom** Take your students out into your school yard and have them look around. Can you see any mountains from your school? How do the students think the mountains in this area were formed?
- After the Ranger Visits your Classroom** Lake Mead NRA and southern Nevada have many kinds of landforms that we did not discuss in this program. Have your students research one of the others (e.g. Fortification Hill, Flamingo Wash, Temple Butte, a slot canyon). How was that landform created?



Teachers! - check out our new web site at <http://www.nps.gov/lame/classindex.htm>

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