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|  | Fossils have always been something I've found interesting. They are strange, mysterious messages from the past. One of the places that helped to spark my interest in fossils, and geology, was Sunol Regional Park. Because that is where I first discovered geology, it seems appropriate that I base my report there.  Sunol is part of the East Bay Regional Park District. It is protected wilderness, it is illegal to take, dig up, or otherwise destroy any of the natural environment. The geology of the park is varied: igneous, metamorphic, and sedimentary rocks can be found. Fossils are contained in these sedimentary rocks, they were laid down on the floor of an ancient seabed. For my project I decided to identify the age of these fossils, and so discover the age of the rocks in the park. The highlighted area is where I did my feild work.  Fossils are remains, in the form of skeletons, footprints, casts, or even feces, that have been left behind and swallowed up by stone. These remnants of the animal and plant life that used to live on the Earth can tell us how long ago they existed, what they ate, if they were animals, or even the climate of the area. They can be formed several different ways. The most commonly known fossils are bones, teeth and shells; the hard parts. These fossils are created when the organism dies and, over time, gets buried in tar or mud. The soft parts of the organism, the flesh, decomposes, leaving the hard parts. This is usually the first type a person thinks of when they think of fossils. Casts are also well known, but they aren't as common. A cast is an imprint left behind in a rock. Casts can be created by footprints, leaves, or organisms left in mud. A footprint will bake into mud and harden; then when it gets covered by mud again, the imprint is preserved. Plants and animals can become buried in mud which then hardens. After a while, the organic matter gets carried away, leaving behind an imprint for geologists to find millions of years later. Yet another type of fossil is petrified wood. When a forest gets flooded with water, sometimes instead of rotting or falling apart right away, the cells of the wood can become filled with minerals. Over time, the minerals replace the organic material, leaving a rock that looks like a piece of wood. Some forms of fossils seem very unlikely. In Russia, entire woolly mammoths have been found completely preserved, frozen solid. People would thaw them out and eat them. Still other fossils are found in the form of insects that have been trapped and preserved in tree resin. When this resin hardens and becomes amber, the insect is still inside, completely fossilized. Types of fossils are many and varied, there is always something new.  Marine fossils are the most common, because it is so easy for fossils to be preserved on seafloors by being covered in mud. Marine fossils constitute 90% of known fossils found. Sunol, in fact this whole area, was once the floor of a huge ocean. Because of this, I expect to find marine fossils in some form of sedimentary rock, such as sandstone or mudstone. I spoke to one of the rangers that works at Sunol, Norm Kidder. He said that there were fossils to be found in the park, mostly from the Briones formation, which is in the Miocene Epoch. (An explanation the of geological time scale can be found on the Data Page.) While most of the fossils, according to Kidder, are from this formation, the rocks in the park range throughout the Cenozoic and Mesozoic Eras.  For my research project, I will find and identify fossils from the Sunol Regional Wilderness. With this data, I will find the age of the rocks in the park. I hypothesize that these rocks will be from the Miocene Epoch, with perhaps some samples older than that. To test this I will use the National Audubon Society Field Guide to North American Fossils to identify the fossil specimens from the park. |

*This Web Site is Best viewed with 256 or more colors.*

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