

**IMPORTANT:** Please refer to the Preface for Topographic Map Activities for preliminary instructions and information common to all Topographic Map Activities in the series.

#### **Topographic Map Activity 4 - Layers** (Revision 061620)

Objective: Introduce and Explore Layers of the Topographic Maps of Red Rock Canyon NCA.

Background: Topographic (Topo) Maps show geographical features with the use of contour lines. We will be working with Topo Maps developed by the U.S. Department of the Interior, U.S. Geological Survey. These maps are large PDF files and have several layers of information.

Activity: Explore the different informational layers found on a topo map.

**Step 1.** Open the La Madre Mountain Topographic Map with a Ctrl + Click on the hyperlink: [La Madre Mountain](#)

**Step 2.** Find the layers button on the left side panel (looks like 3 squares lying flat). This will open the options for the different layers. After clicking on the layer symbol, you'll see file icons with different names such as Map Collar, Map Frame, Images, and Barcode. Information can be stored in different layers. Layers can be shown displaying specific information or hidden which will hide specific information.

**Step 3.** Scroll to images and click the visible box "eye" icon to allow images to be visible. You now have an Orthoimage, like a satellite image, visible of Red Rock Canyon.

**Step 4.** Click the side arrow '>' icon on Map Frame to expand, then click the side arrow '>' icon on Terrain to expand the list of layers. Click the contours box "eye" icon to turn off. Contours are the brown topographic lines showing elevation.

**Step 5.** With contour lines off, move the map and zoom in to find the Calico Hills. What colors are the hills of the Calico Hills?

**Step 6.** Click the contour lines box "eye" icon to make visible again. What's the highest contour line number (representing elevation in feet) on the Calico Hills?

**Step 7.** From the grid box (brown squares) with Calico Hills, pan one grid boxes north (up) and one grid box west (left). What is the name of this mountain?

**Step 8.** Does the same mountain go above 6000 feet in elevation? What color of rock creates this mountain?

**Step 9.** Pan north (up) and to the west (left) to find La Madre Mountain. Using the contour lines, is the elevation of La Madre Mountain above 7200 feet?

**Step 10.** On the layers tab, under the Map Frame file, click the Woodland box to make the Woodland layer appear. What color is the Woodland Layer? (Hint: you may need to turn off the contour lines layer to see the color of the Woodland layer better)

**Step 11.** Click the visible "eye" icons on Map Collar and Map Frame to turn off these layers leaving only the Orthoimage (satellite image) of Red Rock Canyon NCA. Enjoy panning around viewing the different geological formations and the different color of the rocks, including the lines of rock layers on the La Madre Mountains.

You have just studied some of the most iconic hills and mountains of Red Rock Canyon NCA!

[Feedback](#)

**Answers (AS stands for answer step):**

AS5 Orange, White, Tan, Red, These colorful rocks are called Sandstone and gives Red Rock Canyon NCA its signature name.

AS6 4800 feet.

AS7 Turtlehead Mtn.

AS8 Yes. Grey. This rock is called Limestone.

AS9 Yes, it is above 8000 feet.

AS10 Green.