**Exploration 18:**
**Geologic History — Red Rocks**

Red Rocks, Colorado

Log on to the *Encounter Earth* site – http://www.mygeoscience.com/kluge – and click the link for the “Exploration 18: Geologic History—Red Rocks” KMZ file to begin this activity.

**Precambrian through Quaternary—Location 1: Red Rocks**

Open the folder “Geologic History—Red Rocks.”

1. Double click the icon for “Image 1” to fly to it, and open the placemark balloon. Click through to the Earth Science Picture of the Day to read about the geology of the area. Open the balloon for “Image 2” for another labeled image of the same area. You will want to refer back to these images as you work through this Exploration.

   a. Use the labels on Image 1 to identify by name the rock that is:

      Most resistant to weathering and erosion: ________________

      Least resistant to weathering and erosion: ________________

   Explain the reasoning you used to make those inferences.

   b. What is the possible age of the Ralston Creek Fm? ________________

   Explain the reasoning you used to make that inference.

2. Turn on the “Dinosaur Ridge and Red Rocks” map overlay and set the opacity to about 30%. Turn on the “Map Key” overlay as well, and set the opacity to 100%. You can refer to the Map Key by double clicking its icon in the Places panel.

   a. Double click the icon for placemark A to fly to that view. Generally, in what colors are the Quaternary rocks drawn?

       ________________
b. What colors are used to represent the Permian-through Jurassic-aged rocks here?

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c. How does the pattern of Quaternary deposits indicate that they are younger than the Permian-Jurassic rocks in this area?

d. Imagine that you could remove the Quaternary deposits to reveal the rocks beneath them. Describe the outcrop pattern of those rocks in this area.

e. Where do the oldest rocks in this area outcrop?

How old are they?

3. Double click the icon for “Quaternary Landslide Deposits” to fly to it. Note the location of the landslide deposits, and then reduce the opacity of the Dinosaur Ridge and Red Rocks map to near zero. You may want to adjust the opacity up and down as you answer the following question.

a. On the small map of the Qls in Figure 18.1, indicate the “toe” of the landslide with the letter “X” and the source region of the slide material with the letter “Y.” You may want to fly around the area and zoom in and out to view the area at various scales and angles.

Figure 18.1