

Physical Geology

Name \_\_\_\_\_

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**Lab: Geological Maps:**

1. Geologic map of part of the Grand Canyon, Arizona (near Visitor's Center on the south rim.
  - a. How do the outcrop patterns indicate that most of the Paleozoic strata in the area are horizontal?
  - b. What is the approximate thickness of the total sequence of Paleozoic rocks in the area?  
\_\_\_\_\_ How did you arrive at your answer?
  - c. Note the relationship of rock type to cliff and slope topography on the map. Which rock types develop cliffs and which develop slopes?
  - d. Note the outcrop pattern of the Temple Butte Limestone. Why is this pattern discontinuous?
  - e. How many unconformities are shown on the map? \_\_\_\_\_ Between which units are they located?
  - f. What type of faulting is shown on the map?
  - g. What effect has faulting had on the course of the Colorado River and on the development of tributary valleys?

**2. Part of Geologic map of Arizona (Tucson - Sierra Vista area).**

- a. What symbol, age and types of rocks are immediately to the west of Fort Huachuca?
- b. What type of fault separates the brown \_\_\_\_\_ and blue \_\_\_\_\_ map units immediately west of Ft. Huachuca from the green map units east of Canelo?
- c. What symbol, age, and types of rocks are in the Babocomari valley that runs east-west through Huachuca City?
- d. What symbol, age, and types of rocks are shown in red just east of highway 90 between the

Tombstone-Sierra Vista-Bisbee Y junction and Bisbee?

e. What symbol, age, and type of rocks are the oldest rocks on the map? (look near the C in Cochise County).

f. What symbol, age, and type of rocks are the youngest rocks on the map and where are three examples?

g. What kind of fault borders the west side of the Santa Rita Mountains (look east of Green Valley)? \_\_\_\_\_ Which side is downthrown?

h. What symbol, age, and type of rocks are along the road between Charleston and Tombstone?

i. What symbol, age, and type of rocks (blue on map) are along the road south of Tombstone, on both sides of the road between Tombstone and Bisbee?

j. What symbol, age, and type of rocks (red on map) are in the Texas Canyon area along Interstate 10 between Bisbee and Willcox?

k. What symbol, age, and type of rocks (orange on map) are in the Cochise Stronghold area north of Middle March Road between Tombstone and Willcox?

l. What symbol, age, and type of rocks (yellow on map) are on the east side of the Tucson Mountains?

m. What type of fault is between the red and pale orange north of Pantano?

n. What symbol, age, and type of rocks (pink on map) are in the San Carlos area near the top of the map?

o. What symbol, age, and type of 'rock' is represented by the very pale gray to white? What type of topography does this 'rock' type have?