

# Faults and Folding

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# I. Stress

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- Rock under stress will either bend or break



- Breaks if stress is quick with lots of force





- Bends if small force over long periods of time



courtesy Dr. Andrew Snelling





## II. Folding

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- Rock layers start out flat, and are folded over a long time

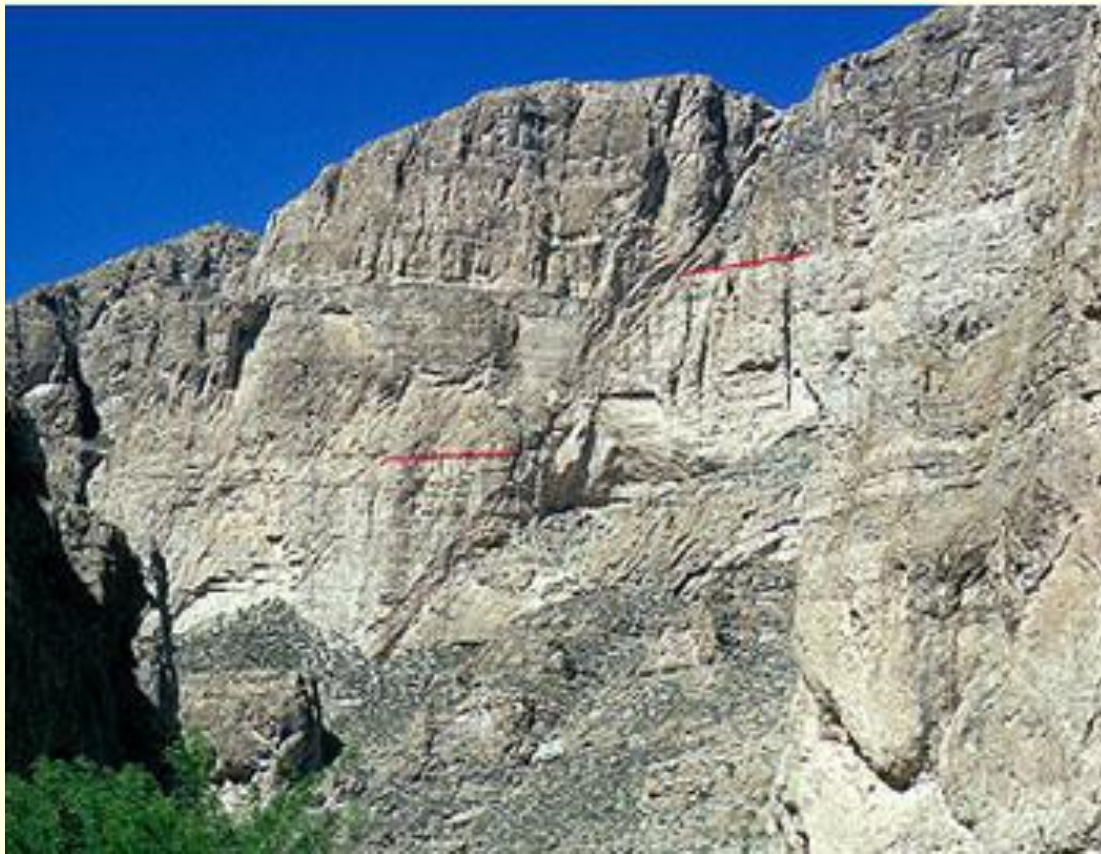




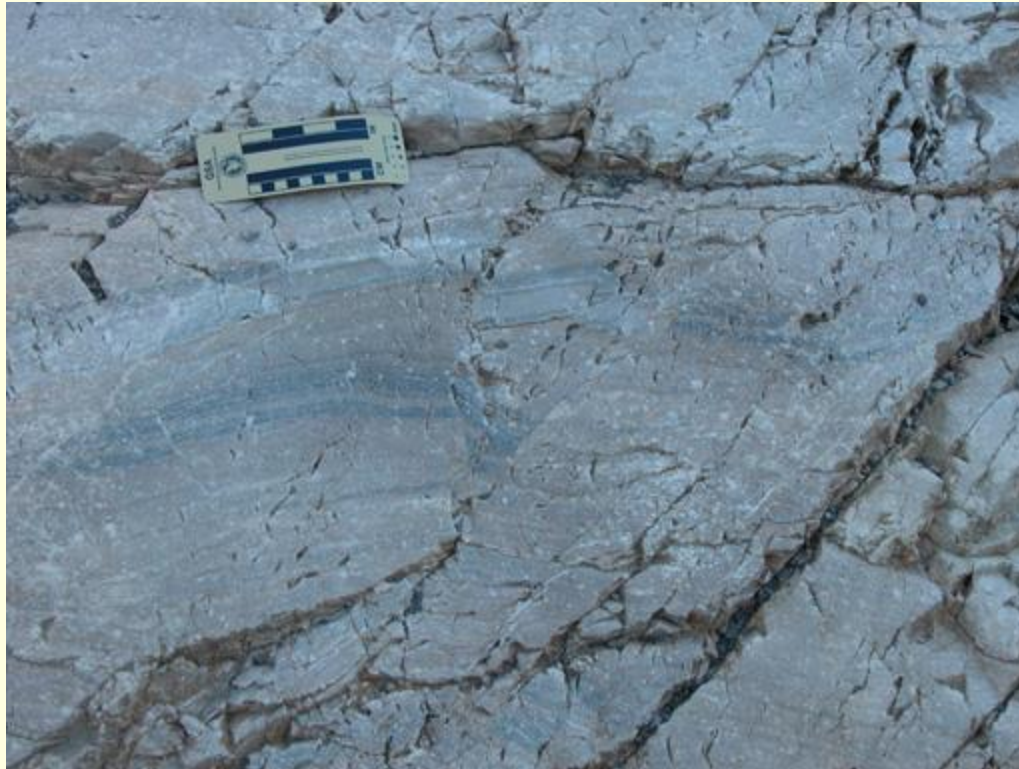
# III. Faults

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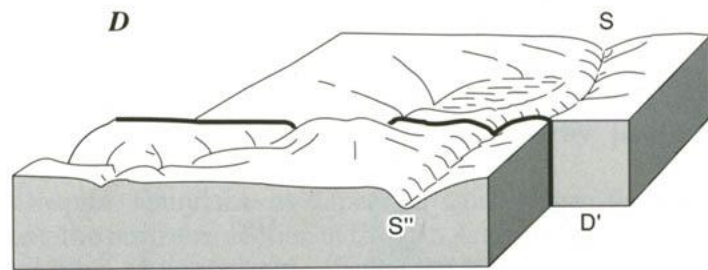
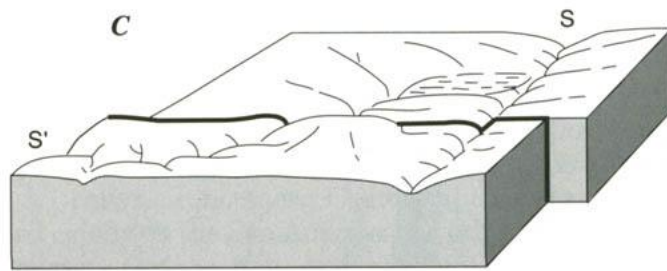
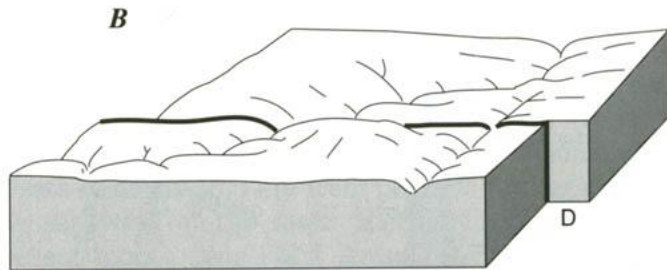
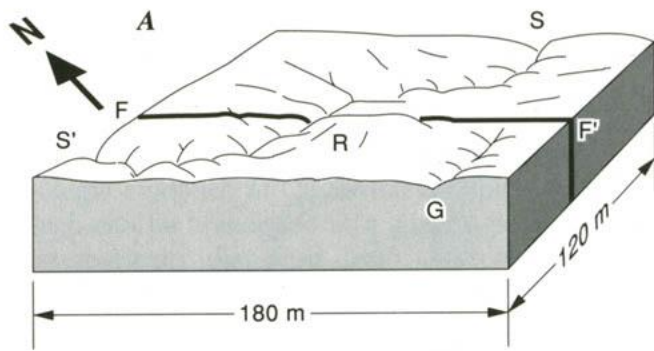
- Fault – the crack that forms when rocks break and move past each other



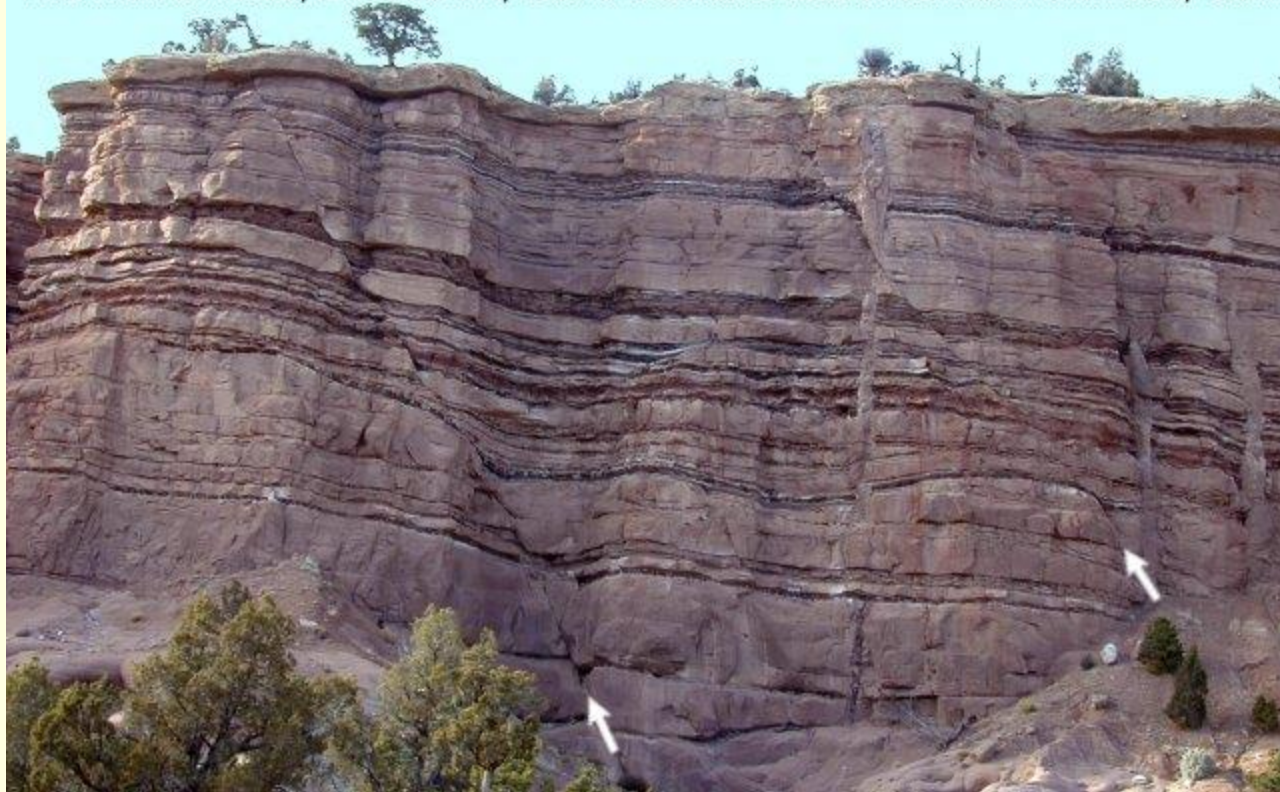
- Faults can be very large or very small

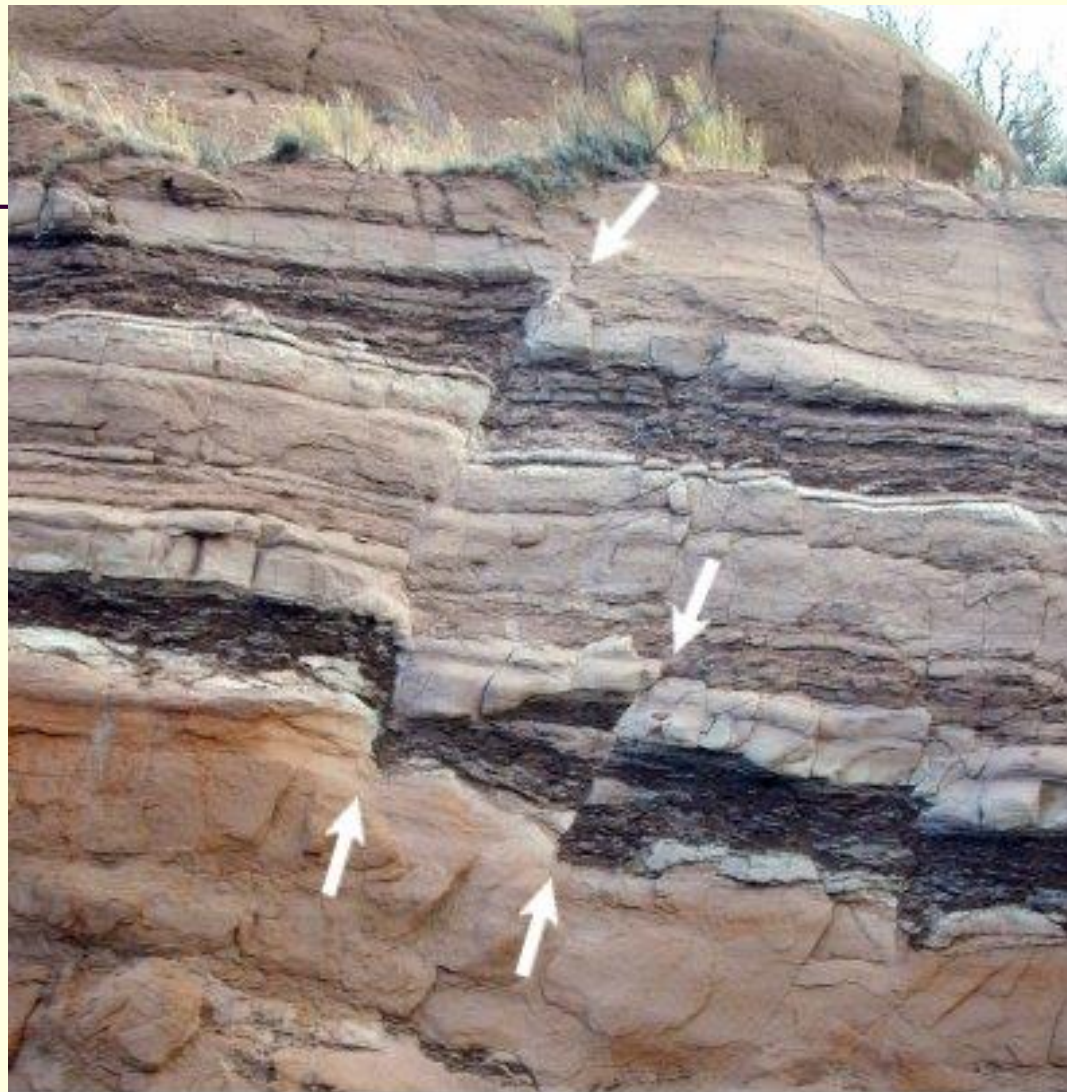






Two normal faults, Entrada Fm, Grand Staircase-Escalante Nat. Monument, Utah





Reverse fault in Entrada Fm., Grand Staircase-Escalante National Monument, Utah



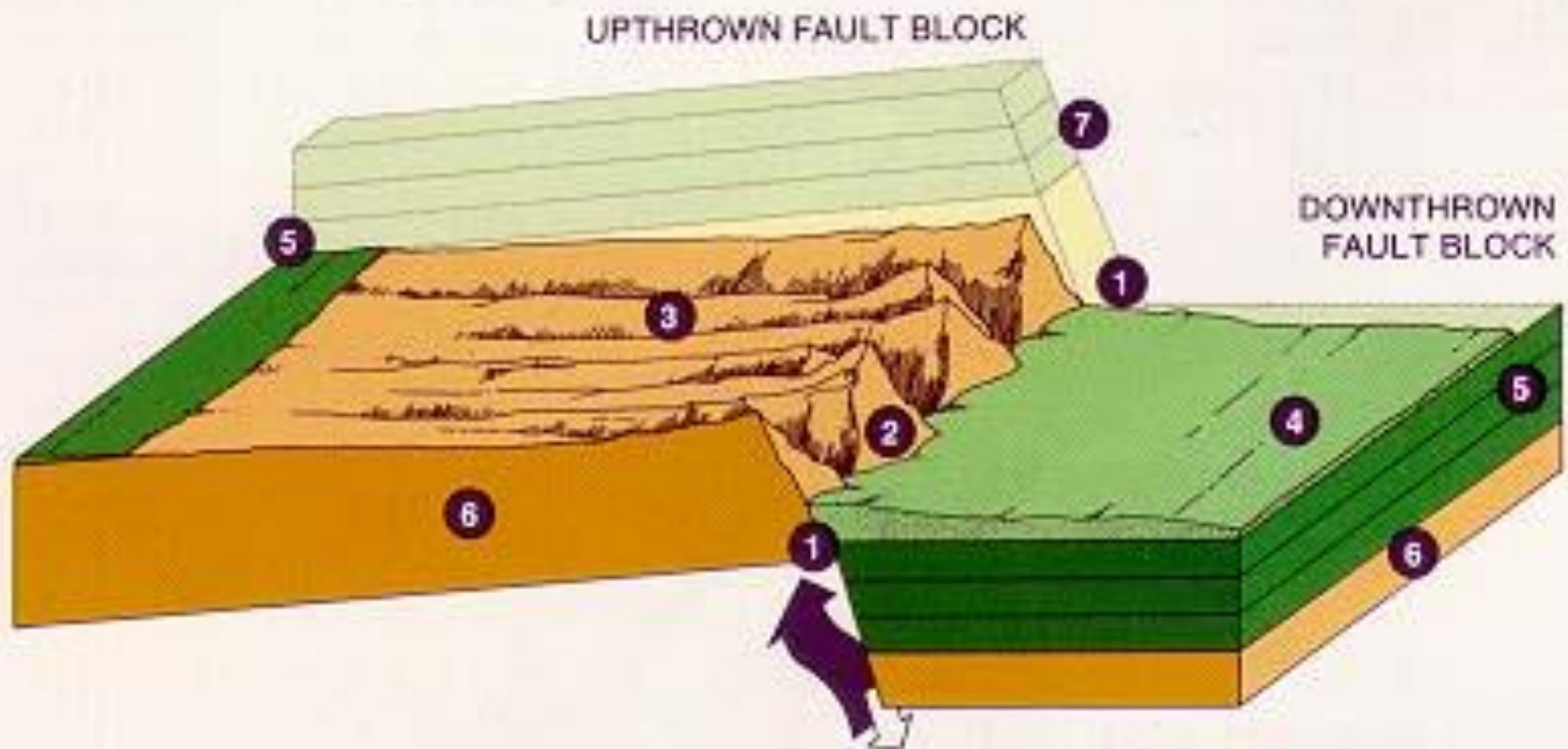
Right-lateral strike-slip fault,  
Tonto Creek, east of Jakes  
Corner, Arizona



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- Large faults can produce mountains or cliffs







- 1 Teton Fault Zone
- 2 Steep eastern face
- 3 Gentle western slope

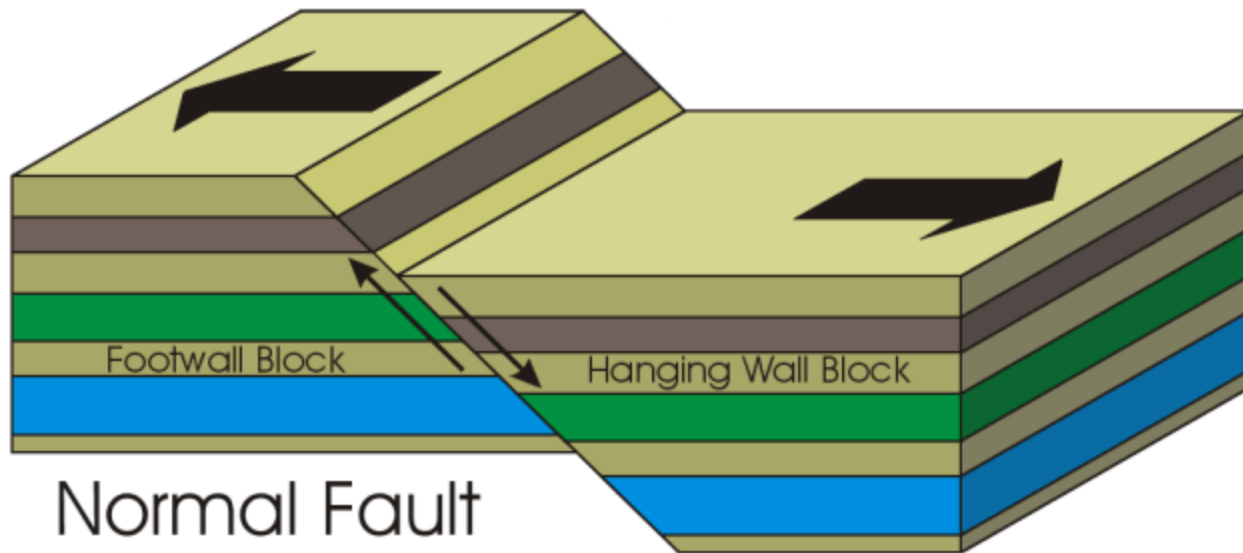
- 4 Valley floors filled with sediments of cobbles, gravel, and sand.
- 5 Sedimentary rock layers

- 6 Bedrock
- 7 Sedimentary rock layers now worn away; these matched layers 5.

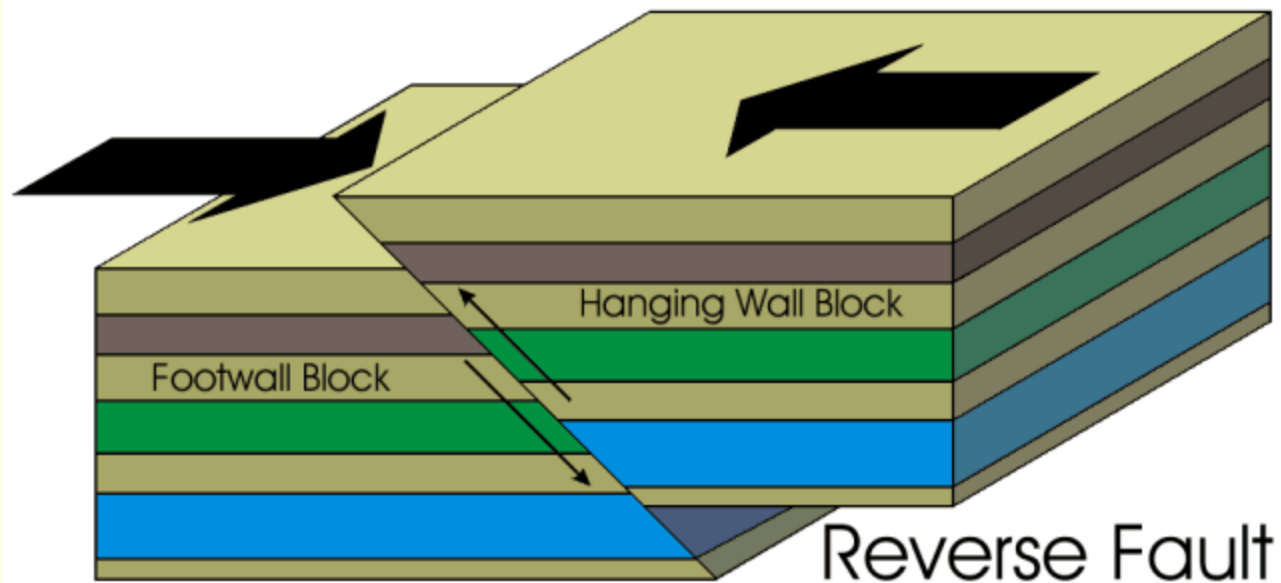


# IV. Types of Faults

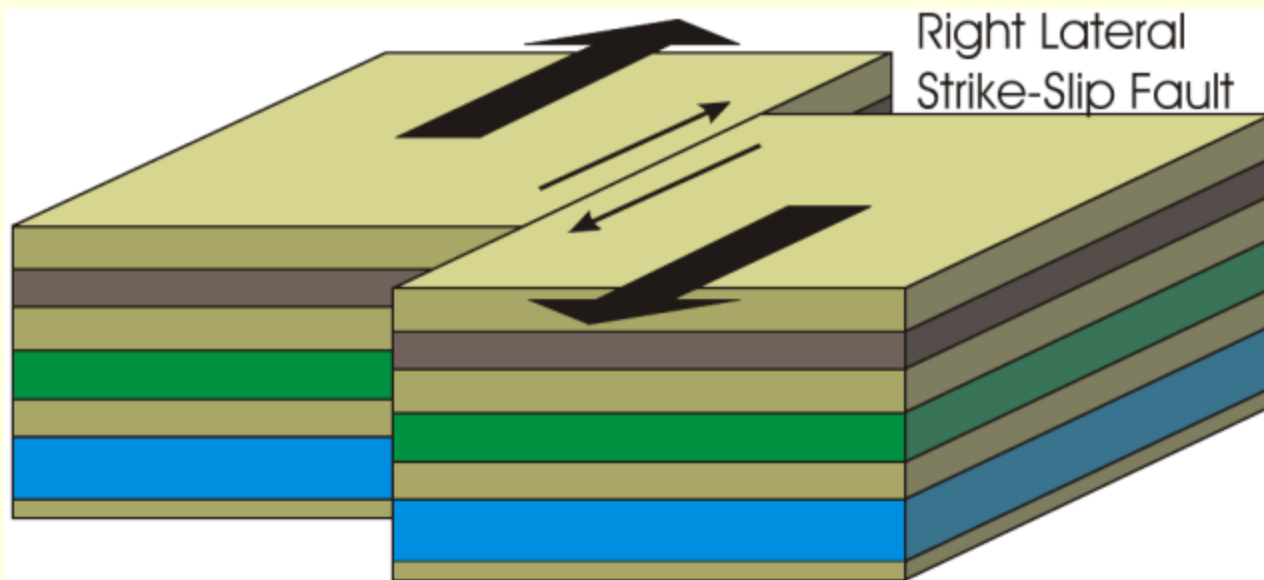
- Normal faults – rock moves apart

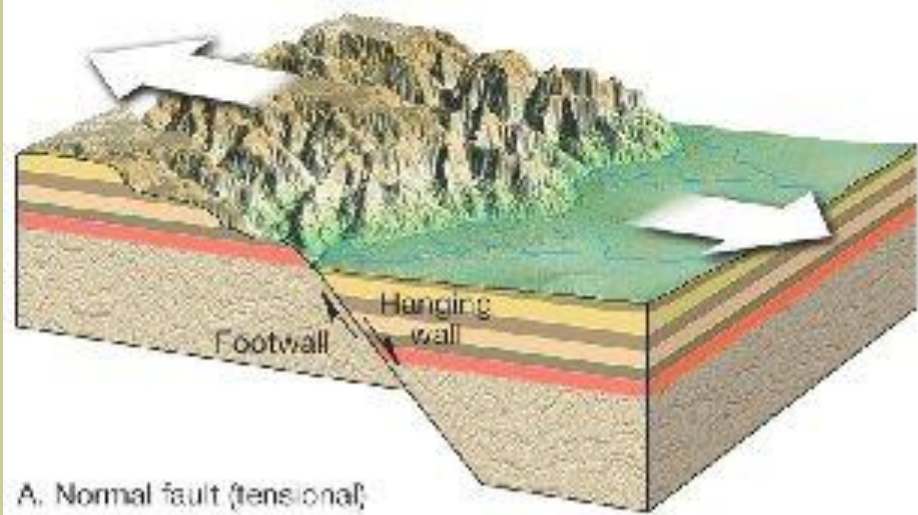


- Reverse faults – rock pushed together

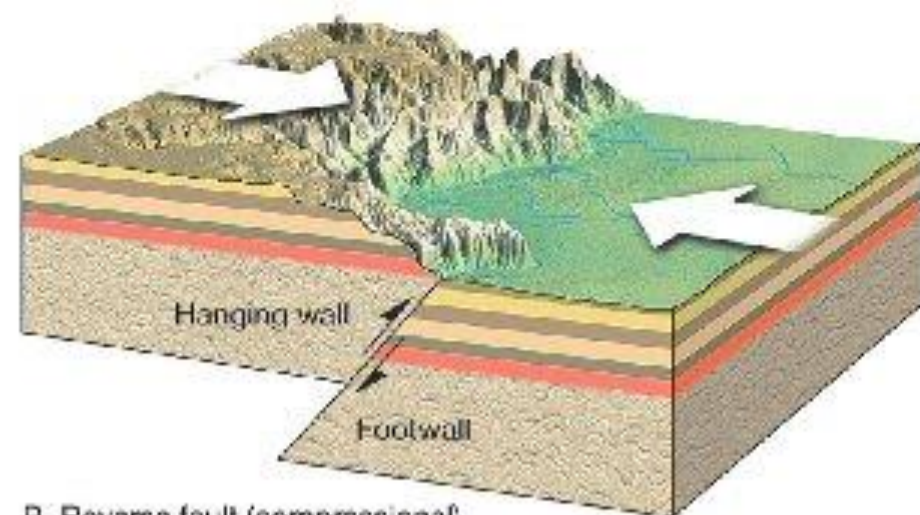


- Strike-slip faults – rock moves past horizontally

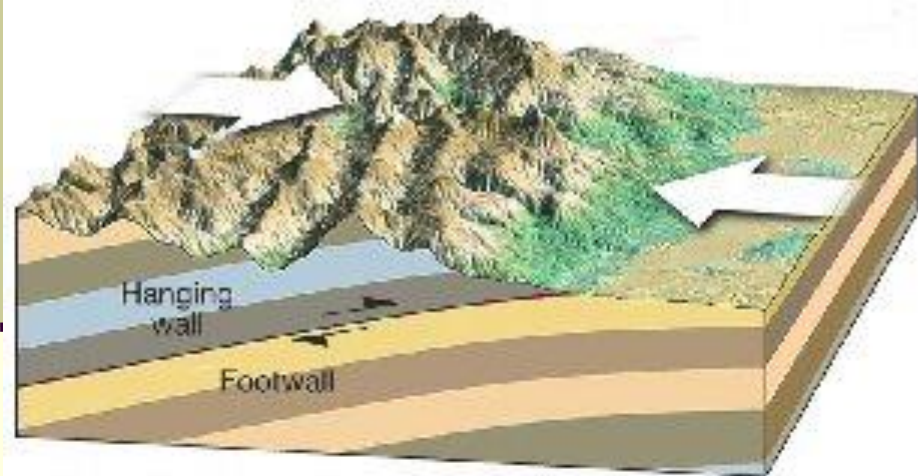




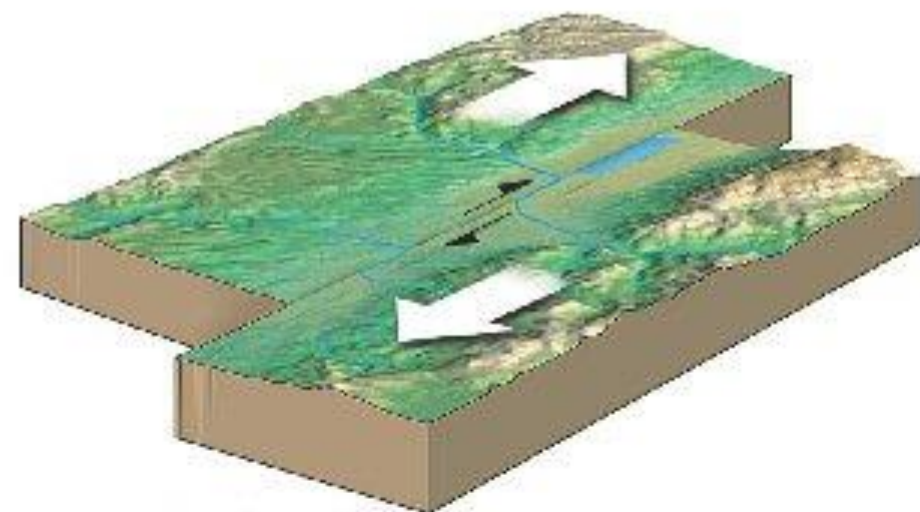
A. Normal fault (tensional)



B. Reverse fault (compressional)



C. Thrust fault (compressional)



D. Strike-slip fault (shear)

# Summary and Margin Questions

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- 3 quiz style margin questions
- Summary:
  - A rock under stress will either \_\_\_\_\_ or \_\_\_\_\_
  - Folding is...
  - A fault is ...
  - Examples...