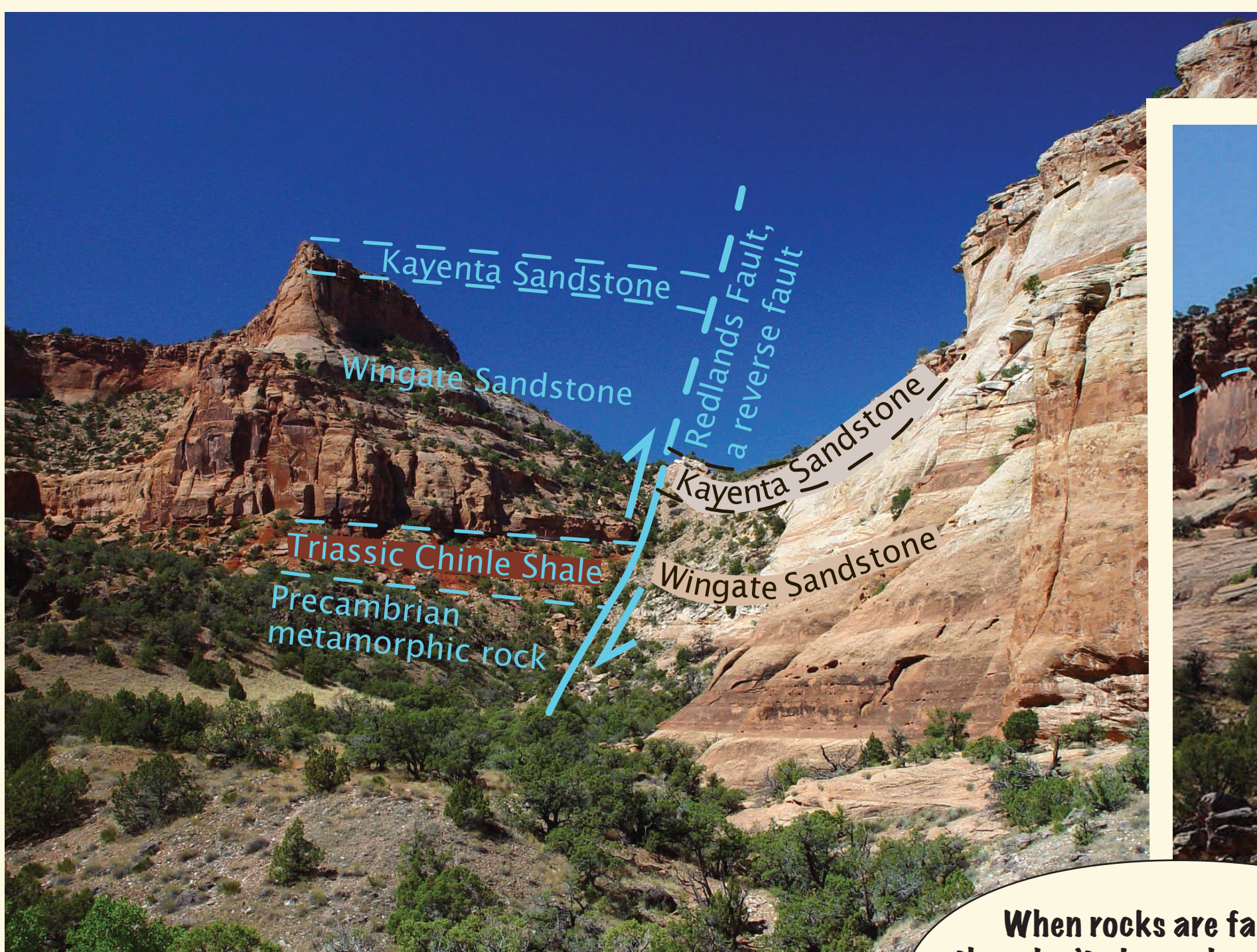
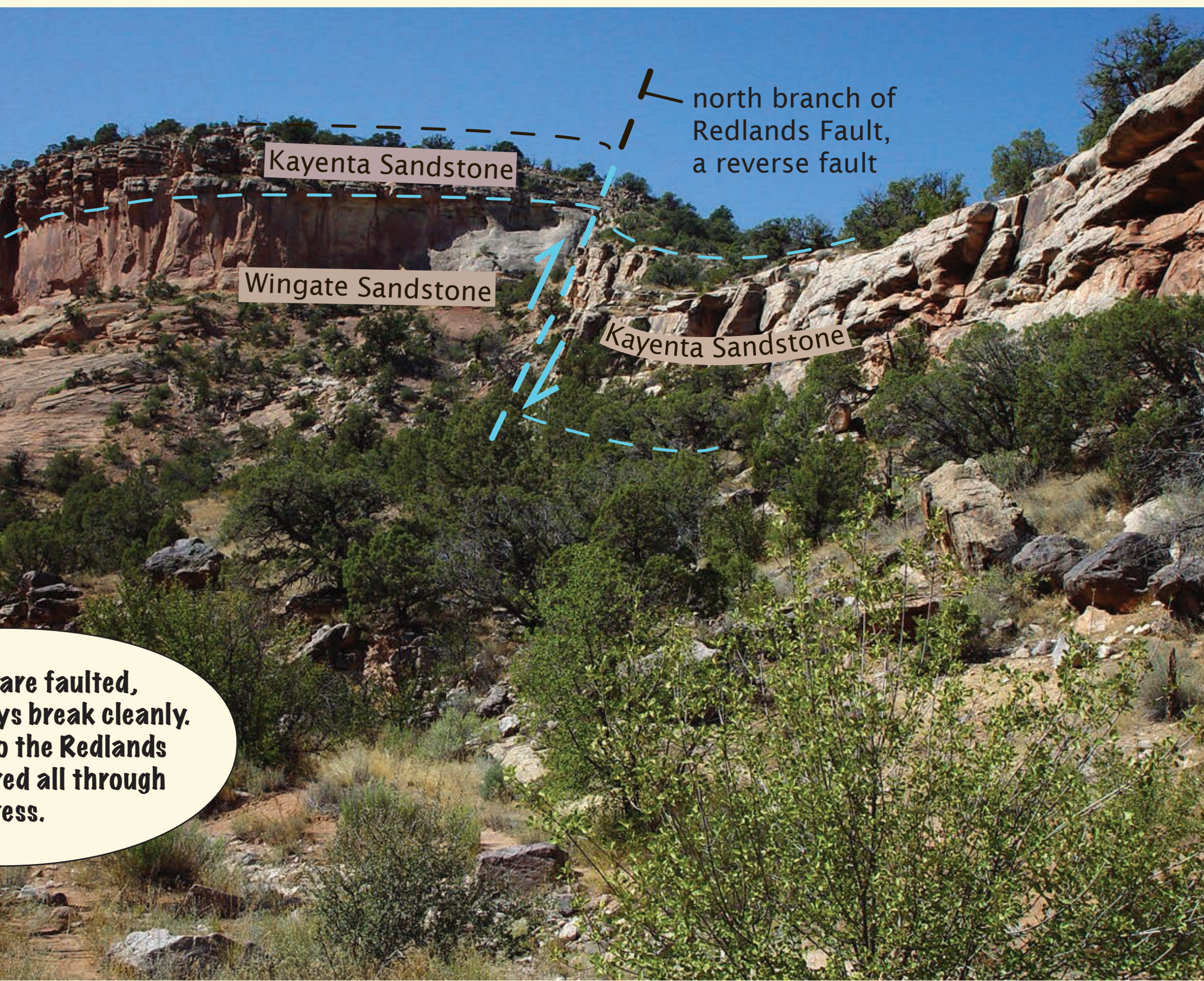


20. Faults: Where Stressed Rocks Give Way

Rocks are often stressed! When continents drift and collide or pull apart, waves of stress cross them. Since rocks can't contract or expand much, they adjust by folding (bending) and faulting (breaking).



When rocks are faulted, they don't always break cleanly. This rock, close to the Redlands Fault, is fractured all through from the stress.

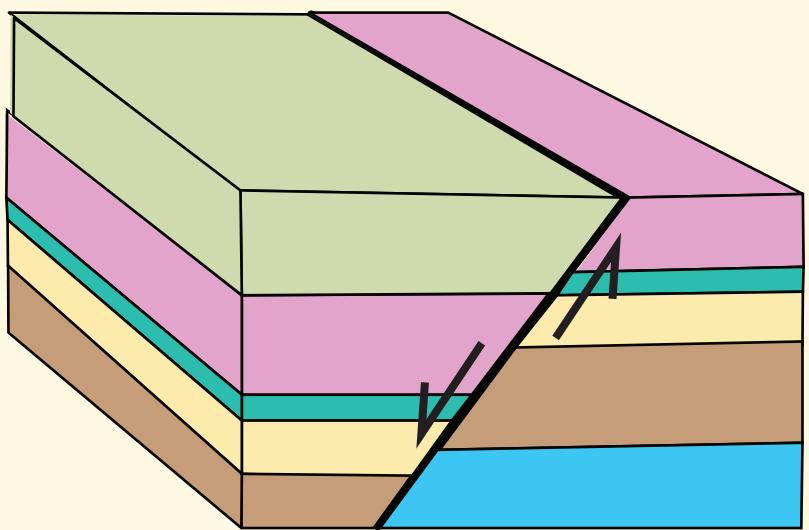


The Uncompahgre Plateau was pushed upward as a result of a period of active subduction along the California coast. The pressure wave, starting in the Jurassic Period, took until Late Cretaceous time to arrive here. As the wave moved eastward, first it shoved up the Sierra Nevada Mountains in California, then many ranges in Nevada and Utah, the Wasatch Range in central Utah, and finally the Uncompahgre Plateau and the Rocky Mountains.

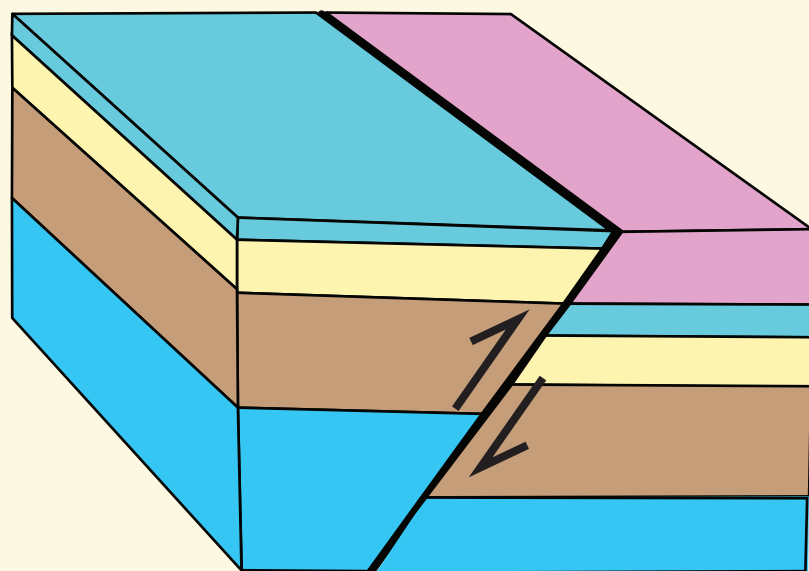
Here (above) the Uncompahgre Plateau is faulted upward along a reverse fault, a small north branch of the Redlands Fault. If you turn around and look east, you will see where the rock folded instead of faulting (though it is also very fractured). If you walk a little farther up the canyon you will get a great view of the main Redlands Fault (top left).

Kinds of Faults

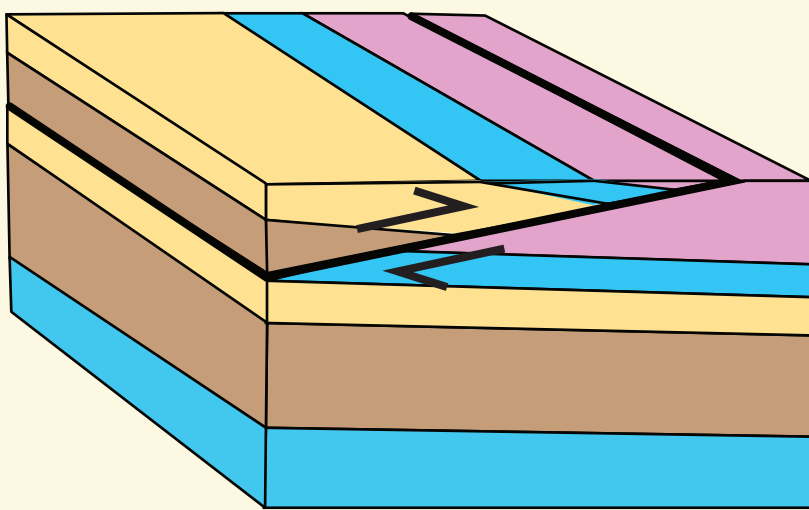
Geologists name faults according to the way the rocks have moved: up or down, steeply or shallowly, or sideways. Faults can have a combination of up, down, and sideways movement, and often they are curved. Half-arrows show relative movement of rocks on each side of a fault.



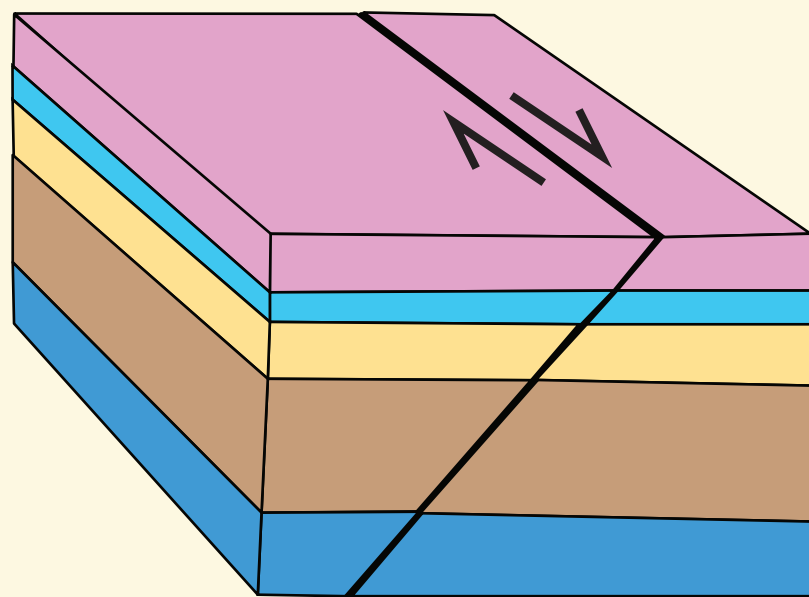
Normal Fault
Upper side slides down compared to lower side.



Reverse Fault
Upper side slides up compared to lower side.



Thrust Fault
Like a reverse fault, upper side slides up compared to lower side, but at a shallow angle.



Lateral Fault
Movement is sideways, one side going to the left or the right compared to the other.

