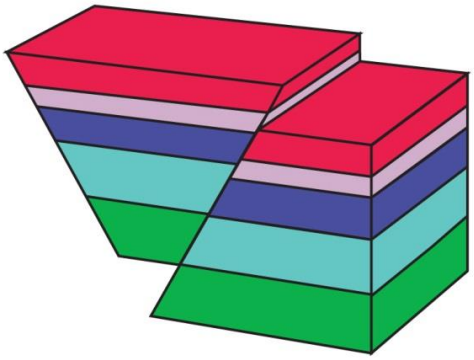
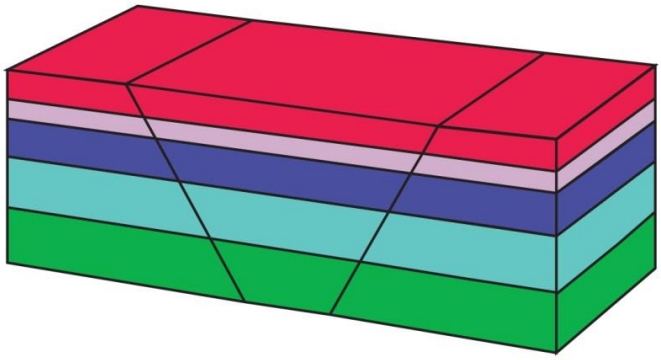
Fault Reference Sheet



Fault

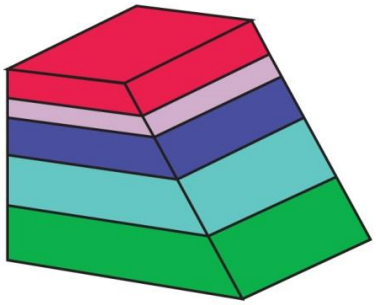
A fracture in the Earth's crust where one side moves relative to the other. Sudden movements in faults cause earthquakes.

The fault plane in this diagram is the area of contact between the two fault blocks. Fault planes may contain striations or slickensides that can indicate the direction of fault motion.



Fault Blocks

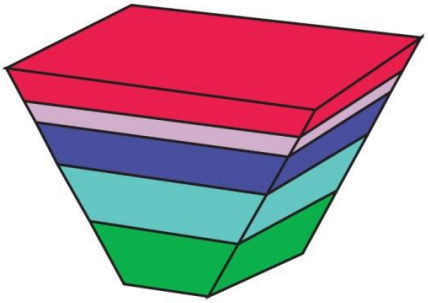
Fault blocks represent blocks of the Earth's crust. Each color represents a layer of the Earth, while the diagonal black lines represent faults in the Earth's crust. In this position, the fault blocks represent unfaulted, or unmoved, crust.



Foot Wall

A foot wall is a block of crust that lies underneath a fault plane.

Hint for Identification: If a person was able to stand on the fault plane, their feet would be on the foot wall.

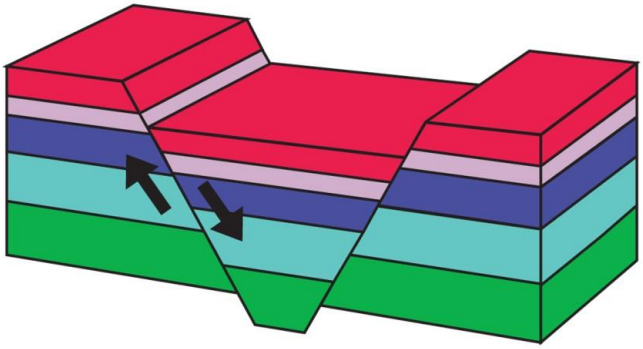


Hanging Wall

A hanging wall is a block of crust that is located above a fault plane. Its shape rests or hangs on the foot wall.

Hint for Identification: If a person was able to stand on the fault plane, they could hang onto the hanging wall.

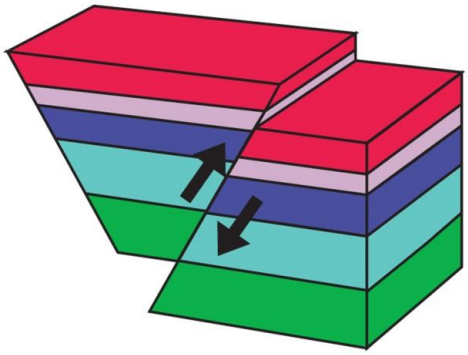
Types of Faults



Normal Fault

In this position, the hanging wall moved down relative to the foot wall, indicating normal fault activity. This picture shows that the central hanging wall moved down relative to the outer foot walls. When a hanging wall moves down, a cliff face is formed, called a "fault scarp."

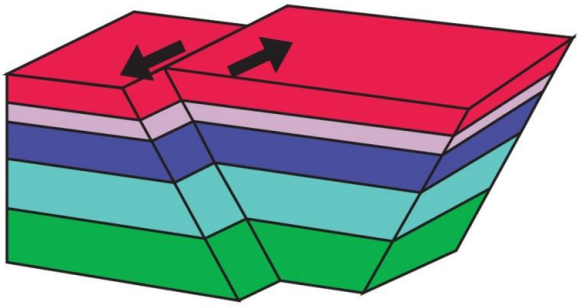
All of the known faults in Indiana are normal faults.



Reverse Fault

In this position, the hanging wall moved up relative to the foot wall, indicating reverse fault activity. This picture shows that the central hanging wall was pushed up relative to the foot wall.

Most of the faults in the Rocky Mountains are reverse faults.



Strike-Slip Fault

In this position, the blocks of crust have laterally moved relative to each other, indicating strike-slip fault activity. Lateral, or side-to-side, motion does not produce a fault scarp but can create weaker areas of rock where fault blocks slide past one another.

Streams that flow across a strike-slip fault often change their flow to follow the weakened zones.

The Earth is complex! In real life, faults can combine several of these movements. For example, the famous San Andreas Fault in California has a strike-slip motion 95 percent of the time and a reverse fault motion 5 percent of the time.