

Difference Between Folding and Faulting

Geology uses the terms folding and faulting to describe the changes that occur on the earth's surface. To delve deeper into the subject and learn about these two geological terms in detail, the table below showcases the major Difference Between Folding and Faulting.

Folding VS Faulting

Difference Between Folding and Faulting	
Folding	Faulting
Bends in rocks are called folds when they are the resultant of compressional forces.	Tensional forces created due to the displacement or movement of rocks are known as faults.
When compressional forces act on inherently flexible or ductile rocks, folds appear.	Folds are fissures that appear when forces are applied in the opposite direction to displace or move the rock.
Folds generally occur on rocks that lie deep inside the earth's crust and are under higher pressure than those lying on the upper surfaces. These tend to increase their flexibility and make the rocks more susceptible to folding than breaking.	Faulting generally occurs on the layers of rocks that are located near the earth's surface. These rocks are not confined under great pressure and are too rigid to get folds. Besides, rocks tend to break if the tectonic plates are on the larger side.
Numerous types of stress may give rise to folds in rocks. Temperature gradient and pore pressure are two of the most	Faulting is often the result of nominal dip-slip faults. When the rocks compress against each other vertically, some rocks tend to

<p>prominent reasons for folding in rocks.</p>	<p>move downwards due to the compression, thus, causing them to break.</p>
<p>Shortening of existing layers of rocks commonly causes folding. However, sometimes the displacement on non-planner faults may also cause the rocks to fold.</p>	<p>A rock's fracture surface is known as the fault plane. Meanwhile, a fault line or trace is the particular location of the fault or where the fault is visible.</p>
<p>When looked at from a perpendicular stance, a fold can be divided into two parts - hinge and limb. The former is the point of convergence of limbs, whereas the latter is the fold's flanks.</p>	<p>A cluster of faults lying parallel to each other is known as a fault zone. However, this term is also used to designate the area of crushed rock alongside one fault.</p>
<p>While minor folds are visible in outcrops, major folds are seen mostly in arid regions.</p>	<p>All faults have measurable thickness though the intensity of the fault can vary depending on the types, characteristics, and nature of the rocks.</p>
<p>Most mountain ranges, such as the Alps and the Himalayas, have resulted from rock folding.</p>	<p>River valleys and block mountains are formed due to faulting. For example, the Narmada and the Tapi valleys.</p>

Folding and Faulting

Folding and Faulting are two of the most important concepts in geophysics and also help in the location of earthquake zones. Both of these concepts help in the formation of important structures, like river valleys and mountain ranges. In fact, the Himalayan Range is a result of the folding, while river valleys like the Tapi Valley have been formed due to the faulting of rocks over the ages.

What is Folding?

Rocks can bend and fold when they undergo plastic deformation. When rock is squeezed, as happens at the boundary of colliding plates, folding

takes place. Folds that are upturned are referred to as anticlines, while folds that are downturned are referred to as synclines.

Anticlines and synclines are folds in the rock that are classified as geologic structures. They cause the surface to take the form of linear ridges (anticlines) and troughs (synclines). The limbs of the fold are its sides. Axial planes are fictitious planes that divide each fold in two and run down its length.

What is Faulting?

Surface faulting is likely to happen when intense stresses accumulate and exceed the yield limit on large intact rock masses. A crack along which movement occurs is referred to as a fault. The fault plane is the section of the earth's surface along which slippage takes place.

The fault dip is the deviation of the fault plane's plane from the horizontal. The strike, measured east or west of true north, denotes the direction on the map that the fault follows. The footwall and hanging wall are often the two walls that are distinguished.

