

## Geology – Folds & Faults

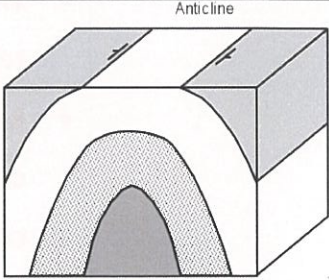
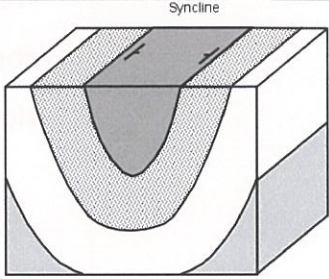
What is a fold?

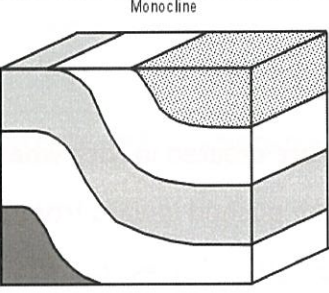
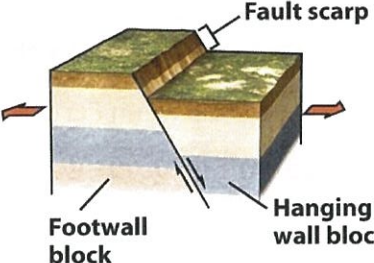
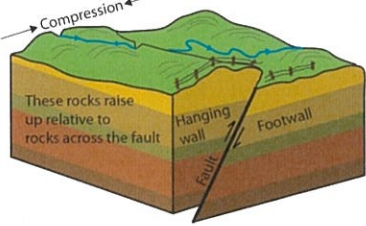
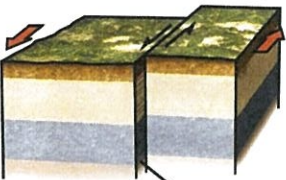
Folds are created in rock when they experience compressional stress. This is when the rock is being pushed inward from both sides. There are different types of folds created by compressional stress depending on which way the rock bends.

What is a fault?

A fault is a crack in the Earth's crust. Typically, faults are associated with, or form, the boundaries between Earth's tectonic plates. In an active fault, the pieces of the Earth's crust along a fault move over time. The moving rocks can cause earthquakes.

Fill in the table below:

Type of fold/ fault	Describe	Draw
Anticline Fold	<ul style="list-style-type: none"> <li>• Arch-like shape (convex upwards).</li> <li>• Become progressively older toward the centre of the fold.</li> <li>• Usually developed above thrust faults</li> <li>• Small compression and motion within the inner crust can have large effects on the upper rock</li> </ul>	
Syncline Fold	<ul style="list-style-type: none"> <li>• Arch-like shape (concave upward).</li> <li>• Younger layers closer to the center of the fold</li> <li>• Folds typically form during crustal deformation as the result of compression</li> </ul>	

Type of fold/ fault	Describe	Draw
Monocline Fold	<ul style="list-style-type: none"> <li>Rock layers form an S-shape as the sides of the rock are compressed.</li> <li>Step-like fold</li> <li>Layers remain in same direction</li> </ul>	 <p>Monocline</p>
Normal Fault	<ul style="list-style-type: none"> <li>A normal fault occurs when the crust is extended.</li> <li>Dip-slip fault</li> <li>Hanging wall moves down relative to the footwall</li> </ul>	 <p>Fault scarp</p> <p>Footwall block</p> <p>Hanging wall block</p>
Reverse Fault	<ul style="list-style-type: none"> <li>A reverse fault is the opposite of a normal fault</li> <li>The hanging wall moves up relative to the footwall.</li> <li>Reverse faults indicate compressive shortening of the crust.</li> <li>The dip of a reverse fault is relatively steep, greater than 45°.</li> </ul>	 <p>Compression</p> <p>These rocks raise up relative to rocks across the fault</p> <p>Hanging wall</p> <p>Footwall</p> <p>Fault</p>
Slip Fault	<ul style="list-style-type: none"> <li>Strike-slip faults are vertical (or nearly vertical) fractures where the blocks have mostly moved horizontally</li> </ul>	 <p>Strike-slip fault (due to lateral shear)</p>