

Ohiopyle Geology Driving Tour: Homewood Bound

Birth of the Mountains

The rocks at Ohiopyle were originally deposited in flat layers. Because of the mountain building activity here, these once flat layers have been folded upwards which has caused the layers to tilt. Not all of these rock layers erode away or are weathered at the same rate. Layers that are more resistant to erosion are more obvious because they dominate the landscape. On this driving tour we will focus on the specific rock type that is most dominant throughout the park. Without this rock, the Homewood Sandstone, Ohiopyle State Park would be a completely different place.

The first stop is Ohiopyle Falls.



As you travel along this tour it is useful to refer to the cross section on the back of the introductory page where main features are noted.

Stop #1: Ohiopyle Falls

Here at the Ohiopyle Falls we are seeing the top of the Homewood sandstone ledge. At this point the rocks are almost flat lying instead of tilting like we will see in other spots on our tour.

Hidden underneath the falls near the base of the plunge pool is the Upper Mercer Coal and shale.

When the water flows down over the ledge the churning motion of the water undercuts the less resistant shale and coal under the sandstone. Eventually the undercutting extends back far enough to cause the layer above to collapse when the weight of the rock layer is too much to be supported. We see evidence of this in the large boulders at the base of the falls. Large boulders of Homewood that have fallen off the ledge throughout the gorge create rapids throughout the river.

Turn right out of the parking lot and cross the bridge over Meadow Run. Immediately after the bridge turn right onto Kentucky Road. Follow this until you reach a parking area on your right, pull in & park. Take the path from the lot and bear right until you reach the falls.

Stop#2: Cucumber Falls

These Falls are also made from a shelf of the Homewood Sandstone. In fact, they are at the same elevation as the Ohiopyle Falls. Why do they look so completely different? Cucumber Run has a very small plunge pool compared to the Ohiopyle Falls. The Yough River is significantly deeper at the Falls which makes them look shorter. Cucumber Falls also has a thicker layer of coal underneath it than the Main Falls did. This coal layer is easily eroded and accounts for the great undercut below Cucumber Falls. The valley containing Cucumber Run is much less grand than the Youghiogheny's valley because of this, there is simply not as much water eroding away the land.

Turn right out of the parking lot and head up the steep and winding hill. At the top you will come to a four way intersection. Turn right here and continue for roughly 1 mile until you reach a gravel pull off on your right with benches. Stop here.

Stop #3: Gorge Overlook

Ohiopyle State Park encompasses parts of both the Chestnut and Laurel Ridges. We are facing the Laurel Ridge in front of us. As we look out at the Youghiogheny Gorge we can see the valley that the River has eroded away through the mountains. This is the deepest gorge in Pennsylvania with an elevation change of roughly 1800 feet from base to mountain top. It has been estimated that about two miles of rock strata have been removed from the landscape to expose the surface we see today (imagine that these mountains were the same height as the current day Andes at their peak of elevation). Erosion has progressed down to the hard resistant Homewood sandstone, (This is the rock that makes Ohiopyle and Cucumber falls.) It is currently armoring and protecting the sides of the mountains. Therefore, the rock that is at valley level in Ohiopyle also creates the mountaintops.

Turn around and return to Ohiopyle. Once you have turned left onto 381N make your first right turn onto Sugarloaf Rd (Visitor's Center will be on your left). Continue on this road for roughly 2 miles until you see the Baughman Rock parking area on your left. Turn in here and park.

Stop #4: Baughman Rock

What do you notice about these rocks? They are tilting. You are currently standing on the same Homewood layer that we saw at Ohiopyle Falls. At the Falls the rock layer was laying flat while here the rocks were tilted during the mountain building event that took place. It is this rock layer that is protecting the layers below it from erosion. Here you can also see the fractures in the rock that form huge rectangles. Eventually these large chunks will break off and fall downslope. You can also see crossbeds, angled lines, in this rock. These were formed when this rock was being laid down as sand in a river bottom.

Turn left out of the parking lot. Pass the Sledding area on your right and the McCune trailhead on your left. Just past McCune you will see two driveways for Firetower Road on your left. **If you have a four wheel drive vehicle with good clearance you can try the second driveway. If not we recommend parking in the small lot between the driveways and walking to the top of the hill via either driveway.**

Stop #5 Firetower Road Overlook

As you stand at this overlook, look behind you up the road. There you will see the highest point in the park. This point, at an elevation of 2934 feet, sits atop the Homewood sandstone ledge. This is the same ledge that we have followed throughout the park from river's edge to mountain top. It is this resistant rock that dominates the landscape at Ohiopyle. If you turn around and look ahead, you will see the Chestnut Ridge in the distance. It is also armored by the Homewood sandstone ledge. The Chestnut Ridge is the first ridge of the Allegheny Mountains. Once you cross it and head down the other side you will not come to another mountain until you reach the Rockies in the West.

Throughout our tour today we followed the Homewood sandstone as it outcrops in both ridge and valley in the Youghiogheny River Gorge. It creates many of the features that make Ohiopyle famous from magnificent waterfalls to infamous rapids and breathtaking vistas. Its resistance to erosion has made the landscape what it is today.