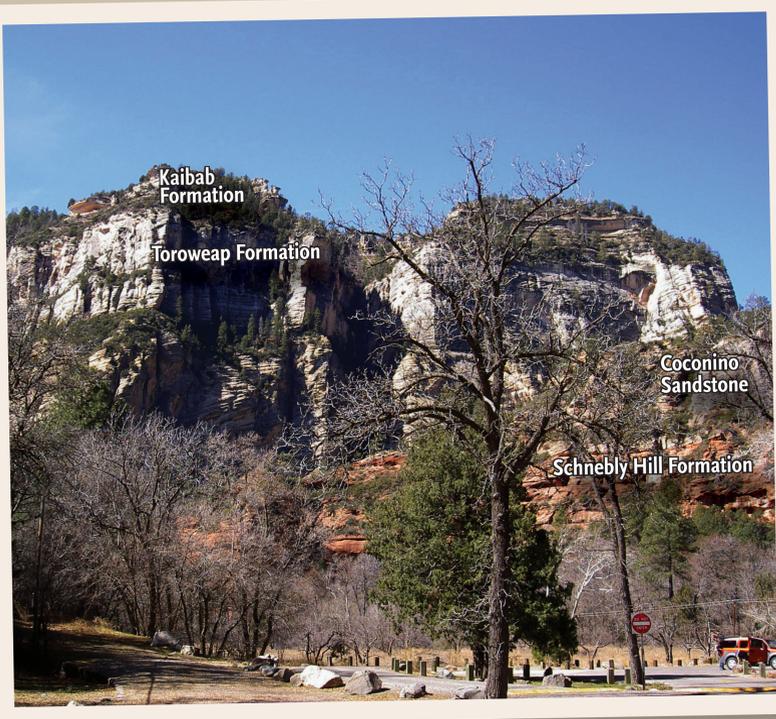


ROCK TIME

Oak Creek originates from springs just below the Mogollon Rim—the southern edge of the Colorado Plateau.



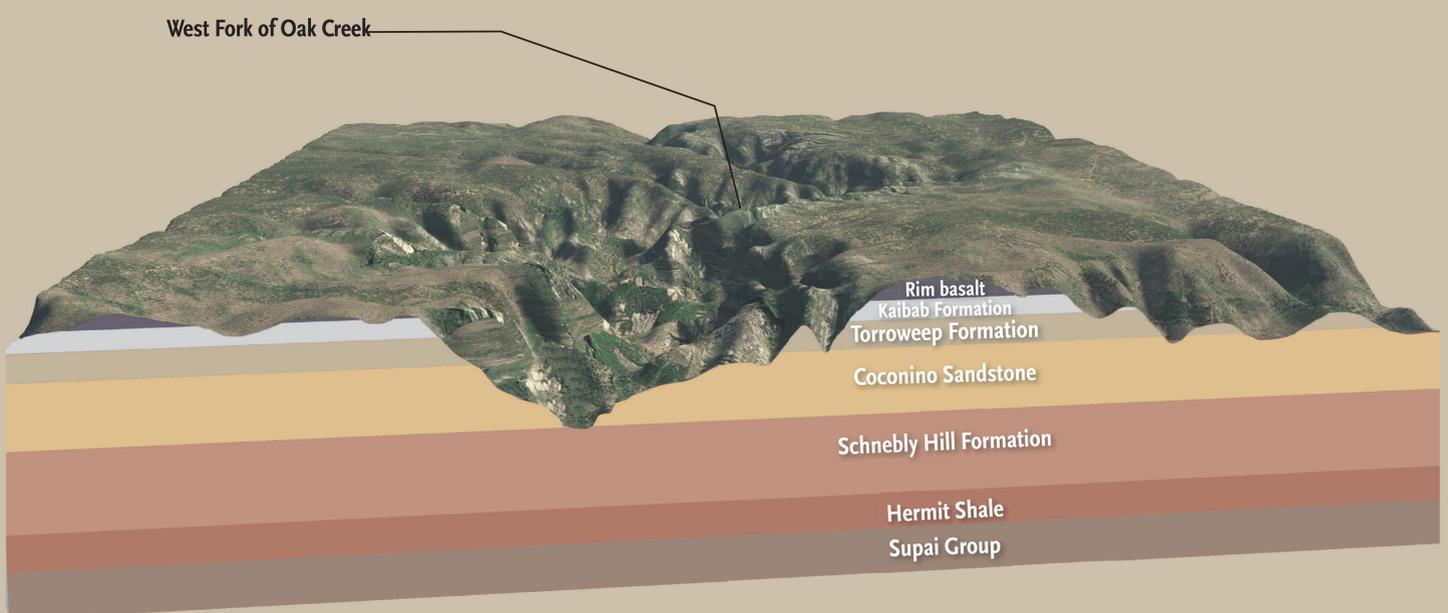
Oak Creek Canyon formed when a major fault, or fracture, broke the strata in the Mogollon Rim. This fault caused layers on the east side to drop 1,000 feet relative to the west side. Groundwater, originating from snowmelt on the rim, seeped into the ground and traveled along the fault to help carve the canyon during the last 6 million years.

Along the fault, groundwater flowed to the surface, undercutting and gradually collapsing the rocks above. In this way, weathering and erosion ultimately lengthened Oak Creek's channel in the upstream direction, and the canyon became deeper and longer.

To further sculpt the canyon, dense, basalt-lava boulders tumbled from the rim to the bed of Oak Creek, gouging the canyon walls along the way. This basalt rock originated from lava flows nearly 10 miles long that erupted between 6 and 8 million years ago from vents near Flagstaff. The lava boulders, capping the

colorful but softer sedimentary rocks in the walls of Oak Creek Canyon, acted as giant excavators of rock in huge floods. Today, the large black boulders seen in the bed of Oak Creek are testament to their durability and cutting power in carving Oak Creek Canyon.

Forming our Geologic Past



When you look up at canyon rim from where you are standing, surrounding you are four layers of sedimentary rock, created over a span of 10 million years.

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- The lowest layer of rock visible from here is the Schnebly Hill Formation, a sandstone that is colored red from the addition of iron-oxide.
- Above this layer is the whitish Coconino Sandstone, composed of sand deposited in a Sahara-like desert before becoming rock.
- The third layer is a gold- to beige-colored sandstone called the Toroweap Formation, formed as coastal dunes.
- On top, completing the strata is a fossil-bearing limestone known as the Kaibab Formation. It formed in a shallow sea environment.

Crowning the top of Oak Creek Canyon is the much younger Rim basalt, a dark black volcanic rock. This lava originated and flowed from vents near Flagstaff between 6 and 8 million years ago. The striking features seen in the basalt, called columnar joints, formed when hot lava cooled and contracted.

RIM BASALT (YOUNGEST)

6-8 million years ago
100-500 feet thick

KAIBAB FORMATION

270-272 million years ago
180 feet thick

TOROWEAP FORMATION

272-273 million years ago
240 feet thick

COCONINO SANDSTONE

273-275 million years ago
560 feet thick

SCHNEBLY HILL SANDSTONE

275-280 million years ago
700 feet thick

HERMIT FORMATION

280-285 million years ago
300 feet thick

SUPAI GROUP (OLDEST)

287-316 million years ago
400 feet thick



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