**7th Grade Article:**

**Fossil Older Than Oxygen on Earth Found in Australia**

The fossils could be the oldest evidence for life scientists will ever discover.

By [Jason Koebler](http://www.usnews.com/topics/author/jason-koebler)Jan. 2, 2013 | 3:39 p.m. EST+ More

Researchers have found fossils of bacteria that are nearly 3.5 billion years old, believed to be the oldest visible fossils ever uncovered.

The fossils, found in northwest Australia's Pilbara region, are from a time before oxygen existed on Earth and are from just one billion years after Earth's formation, according to Old Dominion University's Nora Noffke, one of the researchers who worked on the project.

The fossils are imprints found on sandstone that was formed when microbes interacted with rock sediment. Scientists have discovered older rocks, but Noffke says those rocks have eroded to the point where traces of life are all but impossible to find.

"I can confidently say the structures we're working on cannot be found on older rocks—until now, there has been nothing that is this well preserved," Noffke says. "There are some that are much older, but they experience metamorphosis—anything that's on them has been overprinted and it's difficult to reconstruct what was there."

The ancient microbes likely fed on sulfur, as many bacterial organisms do today. The discovery could spur further searches for life on Mars and other places where sedimentary rock is more well-preserved than on Earth. The Mars Curiosity Rover currently has instruments on it to look for similar fossils, she says.

"That's the next question: Are these on Mars?" she says. "Our structure is one of the structures the rover is looking for—if we've found sedimentary structures like that on Earth's most well-preserved rocks, could they be on rocks of similar ages on Mars?"