

CHAPTER 1 The Earth System

Over millions of years , layers of sediments built up over the oldest rocks . The most recent layer - the top — is about 250 million years old .

About 50,000 years ago , the explosive impact of a meteorite (perhaps weighing 300,000 tons) created this 1.2 - km - wide crater in just a few seconds .



The rocks at the bottom of the Grand Canyon (b)

are 1.7-2.0 billion years old . FIGURE 1.7 - Some geologic processes take place over thousands of centuries , while others occur with dazzling speed . (a) The Grand Canyon , Arizona . (b) Meteor Crater , Arizona . [(a) John Wang / PhotoDise / Getty Images ; (b) John Sanford / Science Source]