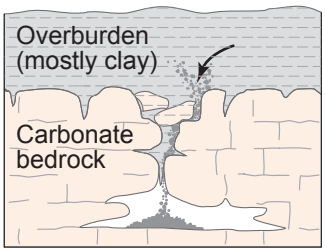
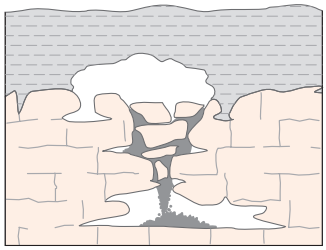
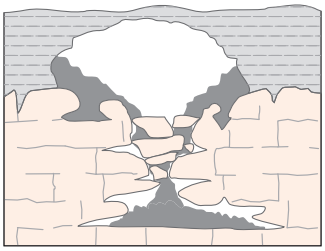
Cover-collapse sinkholes may develop abruptly (over a period of hours) and cause catastrophic damage. They occur where the covering sediments contain a significant amount of clay.



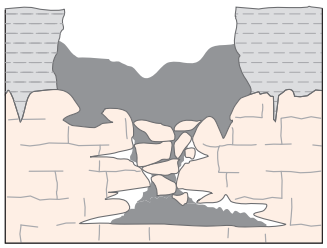
Sediments ravel into a cavity.



As raveling continues, the cohesive covering sediments form a structural arch.



The cavity migrates upward by progressive roof collapse.



The cavity eventually breaches the ground surface, creating sudden and dramatic sinkholes.

Over time, surface drainage, erosion, and deposition of sediment transform the steep-walled sinkhole into a shallower bowl-shaped depression.

Source: Modified from Tihansky (1999)

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Stages in Development of a Cover-Collapse Sinkhole

Figure 2.5.1-242

Rev 0