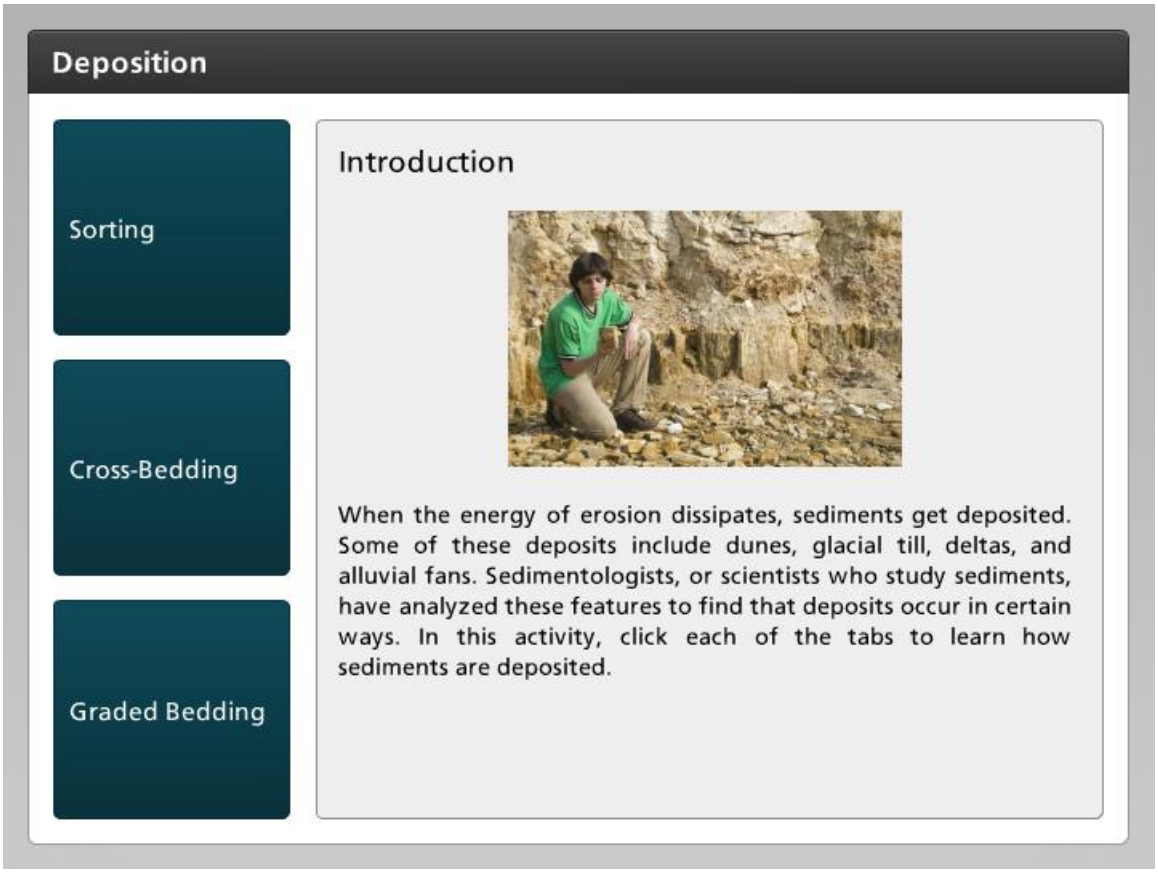
Module 8: Weathering, Erosion, and Groundwater

Topic 4 Content: Deposition Notes

Introduction



When the energy of erosion dissipates, sediments get deposited. Some of these deposits include dunes, glacial till, deltas, and alluvial fans. Sedimentologists, or scientists who study sediments, have analyzed these features to find that deposits occur in certain ways. In this activity, click each of the tabs to learn how sediments are deposited.

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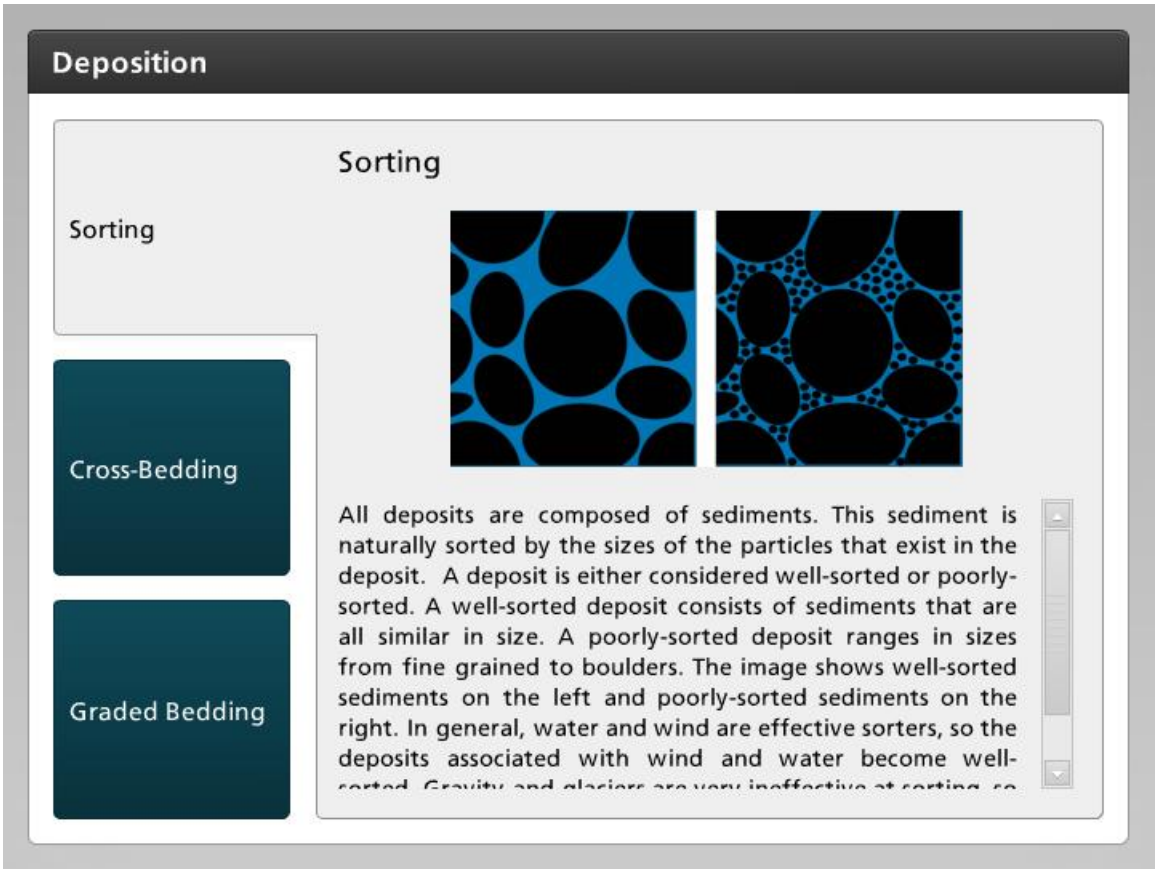
Sorting



All deposits are composed of sediments. This sediment is naturally sorted by the sizes of the particles that exist in the deposit. A deposit is either considered well-sorted or poorly-sorted. A well-sorted deposit consists of sediments that are all similar in size. A poorly-sorted deposit ranges in sizes from fine grained to boulders. The image shows well-sorted sediments on the left and poorly-sorted sediments on the right. In general, water and wind are effective sorters, so the deposits associated with wind and water become well-sorted. Gravity and glaciers are very ineffective at sorting, so the resulting deposits are very poorly-sorted.

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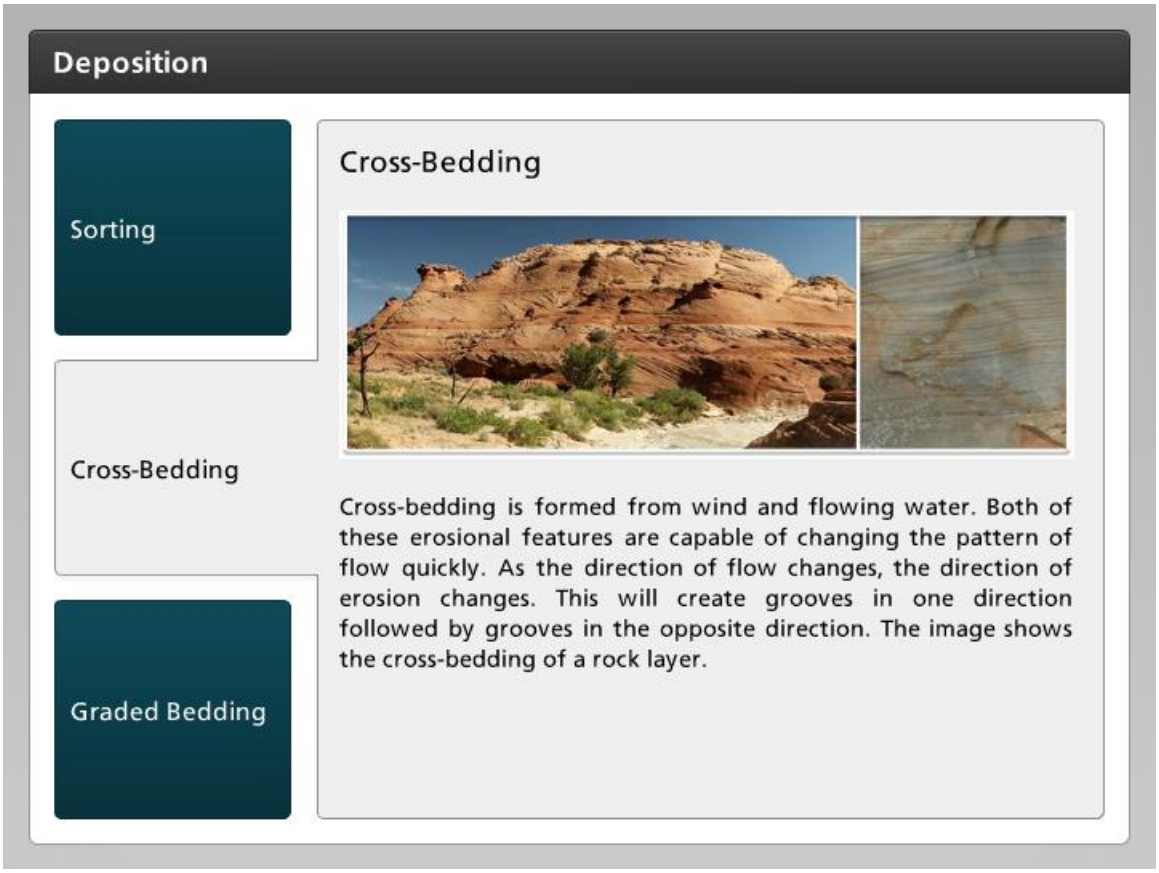
Cross-Bedding



Cross-bedding is formed from wind and flowing water. Both of these erosional features are capable of changing the pattern of flow quickly. As the direction of flow changes, the direction of erosion changes. This will create grooves in one direction followed by grooves in the opposite direction. The image shows the cross-bedding of a rock layer.

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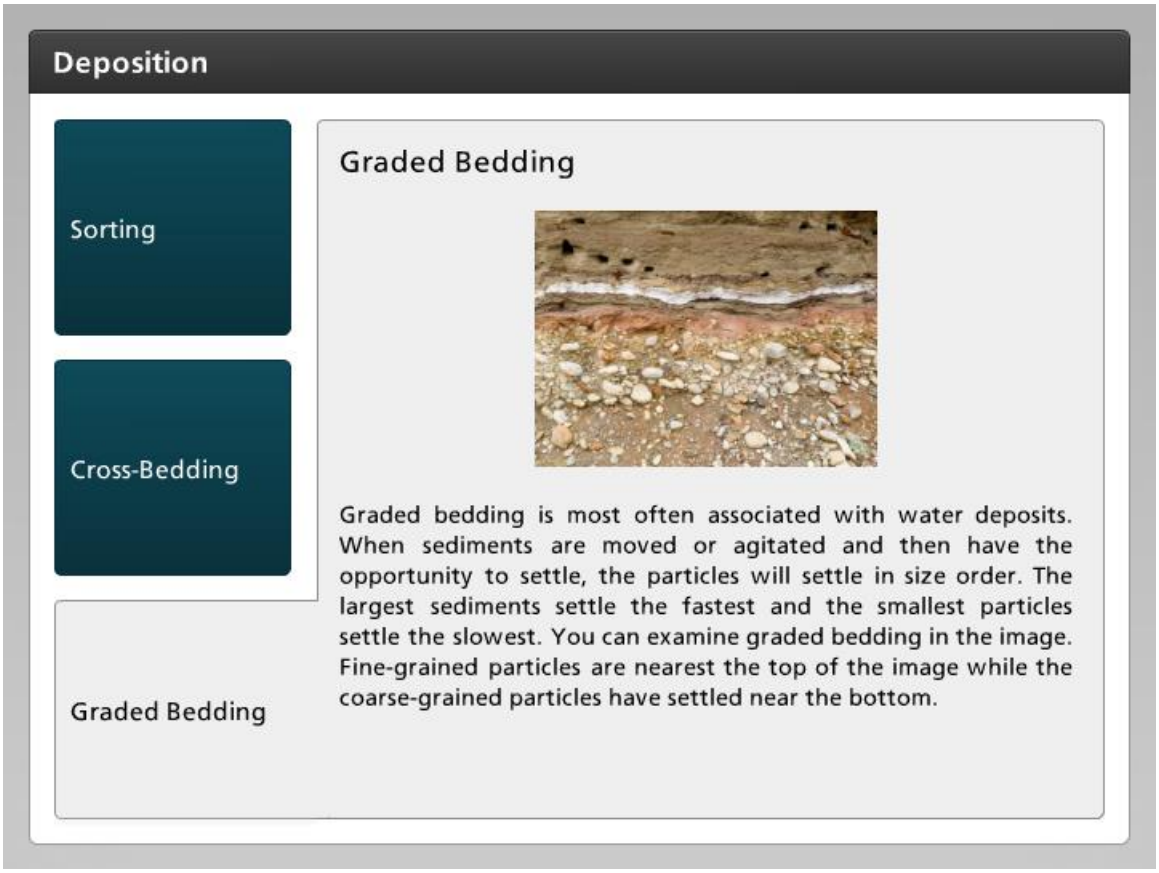
Graded Bedding



Graded bedding is most often associated with water deposits. When sediments are moved or agitated and then have the opportunity to settle, the particles will settle in size order. The largest sediments settle the fastest and the smallest particles settle the slowest. You can examine graded bedding in the image. Fine-grained particles are nearest the top of the image while the coarse-grained particles have settled near the bottom.