Erosion by Water – Teacher Notes

Water

Like wind, the greatest erosive energy of a current of water is at its base. This is why water often undercuts structures during floods. The wave cut notches on this cliff near Rockingham are evidence of changing sea levels in recent post-glacial (Ice Age) times.
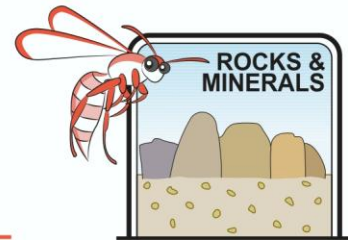

Higher sea level in past

Present wave cut notch

The size of materials a river can erode and carry varies with the strength of its flow and the distance from its source. Strength of flow decreases with distance because of friction with the riverbed.

Vegetation and the erosive power of water – Activity

Erosive power is decreased if materials are damp or well vegetated. A simple demonstration of this can be carried out in the school sand pit or long jump pit. Students make pairs of damp sand castles by hand or using large empty yoghurt or ice cream containers. Range these in a line to represent houses along a shoreline. Students can use leaves, twigs and flowers to create gardens, hedges and lawns in front of one of their castles. Moats and roads can be added too. Each student or group half fills a bucket with water and sluices it up the "beach" towards their own pair of castles. Comparison is made of water erosion on vegetated and un-vegetated castles.

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When you collect scientific data, what criteria are necessary? Data has to be:

Observable
Measurable
Repeatable

Has only variable been used? Yes

What is that variable? Vegetation

Is this a "FAIR TEST"? Yes the data is observable, measurable and repeatable and only one variable was tested.

Examine the effect/s vegetation has on erosion in your experiment. What conclusion can you draw from your results? Vegetation decreases the effects of erosion

Compare your results with those of other students. What conclusion can you draw from this experiment? Vegetation decreases erosion

As a result of what you have observed, what advice would you give to a person living by the seaside when sea level is rising? Vegetate the area between the sea and your house