

Erosion by Wind – Student Activity

With the exception of glaciation, anything that moves materials sorts them by size and by density. The “Yandy” activities demonstrate how humans can sort mixed materials by movement.

Both wind and water act in the same way.

- 1. The greatest energy is near the base of the current.**
- 2. The greater the distance travelled the less the carrying power of the current due to friction.**

Wind

Winds are not caused by direct radiation from the sun heating the atmosphere but from heat increasing the temperature of the Earth’s surface. Heat is conducted into the atmosphere where expansion creates convection currents. As the air heats it becomes less dense and rises. This allows colder heavier air to flow in and replace it. View

<http://www.weatherwizkids.com/weather-wind.htm>

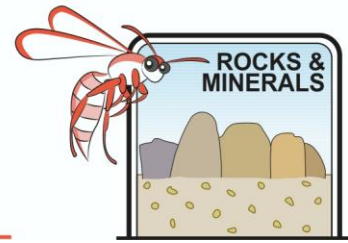
If you walk along a beach on a windy day, which part of your body stings most from wind action?

Interesting information: Western Australia loses the equivalent of two football pitches of topsoil every day due to wind blowing it out to sea. Our broad acre farming methods and history of clearing the scrub leave no roots to hold the soil in place.

Your teacher will demonstrate the sorting effect of wind



Wave Rock Western Australia



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How does this photograph demonstrate the erosive power of wind?

EXTRA for EXPERTS: Perched pebbles

Since the maximum erosive effect is at the base of a wind current consistent streams of air can undercut pebbles lying on the top of sand or dirt.



These pillars are the result of wind and water erosion. Small pebbles protect underlying sand from rain erosion. Later wind erosion removes lower sand creating pillars.

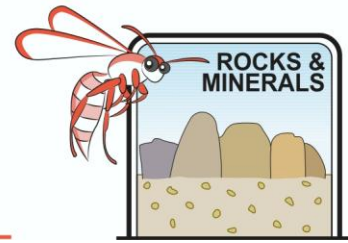
To demonstrate the effect of wind

Materials per student

- 1 Petri dish
- A little water
- Dry sand or dirt
- A few pebbles
- A drinking straw
- A sheet of newspaper

1. Spread the newspaper out and place the Petri dish near the edge
2. Fill the Petri dish with sand
3. Place the pebbles on top of the sand
4. Gently blow through the straw to move the sand from between the pebbles
5. Repeat the experiment with damp sand

What difference did dampening the sand make?



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Constant abrasion by wind blown sand and deposition of iron and manganese from evaporating groundwater causes “desert varnish” on exposed rock in our interior.