

DESERT SAND

Purpose

To explain why sand grains that have been transported by wind are generally better rounded than those transported by water.

Instructions

- 1. Choose four pieces of broken brick or limestone and sketch one piece.*
- 2. Weigh them and use the roundness chart to give them a roundness value.*
- 3. Place them in an empty container and screw on the lid firmly.*
- 4. Shake vigorously for five minutes.*
- 5. Remove the four largest pieces and sketch one of them and give it a roundness value.*
- 6. Weigh only the four largest pieces.*
- 7. Now repeat instructions 1 to 5 but put the four new pieces into the empty container and fill it with water. Shake with the same vigour as before.*
- 8. Allow the pieces to dry overnight and then weigh them and sketch them and give them a roundness value.*
- 9. Describe and explain your results*

Teacher's Section

Requirements

Two plastic containers with screw lids which do not leak water

8 pieces of broken brick or limestone about 2cm diameter

Timer

Balance

Roundness chart

Notes

There is often some water leakage so if possible do the latter part of the experiment over a sink or over newspaper.

Check that the students shake for the full five minutes and with equal vigour for each container.

To make the experiment more rigorous use a lap counter to count the shakes on the dry run and then do the same number at the same speed on the wet run.

Results

Those shaken in water should be significantly less rounded than those shaken in air.

Time

Total about 30 minutes but samples need to dry overnight.