

Trend Task: Sand

Approach: One to one
Focus: Geology
Resources: 3 sand samples, hand lens

Year: 4 & 8

Questions / instructions:

Give student hand lens and 3 sand samples.

Tip a small quantity of sand in each lid.

In this activity we're going to look at different kinds of sand.

You can have a close look at each of these sands now.



| | | % responses 2003 ('99) | | | | % responses 2003 ('99) | |
|---|--|---------------------------|---------|--|---------|---------------------------|---------|
| | | year 4 | year 8 | | | year 4 | year 8 |
| 1. These sands were gathered from different places in New Zealand. | | | | 3. I want you to have a good look at the sands. Use the hand lens to help you. | | | |
| Where might you go to collect sand? | | | | Why are the sands different colours? | | | |
| PROMPT: Anywhere else? | | | | come from different types/colours of rock/stone/shell | | 20 (16) | 45 (30) |
| ocean beaches, estuaries, mudflats | | 95 (98) | 98 (99) | vague, but on right track (come from different places) | | 40 (41) | 36 (34) |
| riverbeds, banks, lakes | | 24 (30) | 43 (48) | | | | |
| deserts | | 2 (6) | 4 (3) | 4. The sands are different sizes. | | | |
| places where there used to be a beach or river (including commercial sandpits) | | 2 (5) | 2 (6) | Why are some pieces of sand big and some pieces of sand small? | | | |
| quarries where rock is ground up | | 2 (0) | 4 (6) | different materials and different stages of breakdown | | 2 (2) | 9 (2) |
| | | | | different stages only | | 20 (17) | 42 (31) |
| 2. How do you think sand is made? | | | | different types only | | 11 (8) | 13 (11) |
| by rocks, stones, shells getting broken up | | 36 (39) | 68 (52) | | | | |
| Mechanisms: | | | | Total score: 8-11 | 4 (5) | 20 (13) | |
| (rubbing against each other – e.g. in river beds; wind action; water/wave action) | | | | 5-7 | 22 (14) | 40 (27) | |
| really good account including at least 2 of these ideas | | 0 (1) | 2 (0) | 2-4 | 53 (62) | 36 (47) | |
| mentioned two ideas | | 2 (5) | 7 (5) | 0-1 | 21 (19) | 4 (13) | |
| mentioned one idea | | 18 (18) | 35 (28) | | | | |

Commentary:

Year 8 students performed much better than year 4 students. While there was little change between 1999 and 2003 for year 4 students, there was a marked gain for year 8 students.