## Approach: Station

 Measuring weight; reading a tableResources: 3 parcels, scales, N.Z. Post table, answer booklet

## Questions / instructions:

Look at the three parcels that need to be posted. Use the scales to weigh each parcel.


1. Write down how much each parcel weighs. Remember to write the unit of measurement.

| Write down how much each parcel weighs. Remember to write the unit of measurement. |  | \% response 2009 ('05) |  | Use the New Zealand Post chart to work out the answers to these questions. |  |  | \% response 2009 ('05) |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | year 4 | year 8 |  |  |  | year 4 | year 8 |
| Parcel A ( 300 gm ): | $275-310 \mathrm{gm}$ | 79 (75) | 64 (61) | Parcel | Across Town? | \$2.50 | 68 (61) | 87 (93) |
|  | $>310 \mathrm{gm}$ | 11 (13) | 28 (30) |  |  | \$5.00 | 10 (15) | 2 (3) |
|  | $<275 \mathrm{gm}$ | 4 (8) | 2 (5) | 3. How m | h would it cost to |  |  |  |
| Appropriate units given: | yes | 40 (39) | 77 (82) | Parcel | Between Islands? | \$10.90 | 22 (20) | 56 (61) |
|  | no, no units | 24 (20) | 5 (7) |  | correct cost for | weight | 10 (13) | 7 (7) |
| no, ina | ppropriate units | 36 (41) | 18 (11) | 4. How m | w would it cost to |  |  |  |
| Parcel B (1.1 kg): 1.0 | $75 \mathrm{~kg}-1.125 \mathrm{~kg}$ | 22 (17) | 54 (57) | Parcel | Within Islands? | \$4.20 | 43 (33) | 68 (75) |
|  | $>1.125 \mathrm{~kg}$ | 22 (17) | 21 (19) |  | correct cost for r | weight | 5 (7) | 5 (1) |
|  | $<1.075$ kg | 31 (32) | 9 (14) |  |  |  |  |  |
| Appropriate units given: | yes | 41 (38) | 68 (76) |  |  |  |  |  |
|  | no, no units | 27 (19) | 5 (7) |  |  |  |  |  |
| no, ina | ppropriate units | 32 (43) | 27 (17) |  |  |  |  |  |
| Parcel C (555 gm): | $525-585 \mathrm{gm}$ | 6 (4) | 28 (27) |  |  |  |  |  |
|  | $>585 \mathrm{gm}$ | 72 (72) | 55 (56) |  | Total Sco | 8-9 | 6 (3) | 27 (30) |
|  | < 525 gm | 14 (15) | 7 (10) |  |  | 6-7 | 18 (12) | 35 (41) |
| Appropriate units given: | yes | 39 (37) | 74 (82) |  |  | 4-5 | 26 (25) | 24 (18) |
|  | no, no units | 27 (19) | 5 (7) |  |  | 2-3 | 33 (40) | 8 (9) |
| no, ina | ppropriate units |  |  |  |  | 0-1 | 17 (20) | 6 (2) |
| Subgroup Analyses: |  |  |  |  |  |  |  |  |
| Year 4 |  |  |  |  |  |  |  |  |
| Score Range $\quad$ Boys | Girrs |  |  | akeha | Mäori |  | asifika |  |
|  | $5 \%$  <br>  $18 \%$ <br>  $18 \%^{27}$ <br>   |  |  | 22 \% <br> 31 \% <br> 29 \% |  | 2\% 6 | $\begin{array}{r}25 \% \\ \hline 27 \%\end{array}$ |  |
| Year 8 |  |  |  |  |  |  |  |  |
| Score Range | Girrs |  | Pakeha |  | Mäori |  | asifika |  |
|  |  | 39\% |  <br> $-5 \%$ <br> $6 \%$ | 23\% ${ }^{30}{ }^{38}{ }^{\text {\% }}$ |  | 13 <br> $\square$ <br> 1 | \% <br> \% $22 \%$ <br> $6 \%$ |  |

## Subgroup Andlyses:

| Parcel I Post Sector | Price |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 0-500g | $500-1 \mathrm{~kg}$ | 1-1.5kg | $1.5-2 \mathrm{~kg}$ | 2-2.5kg | $2.5-3 \mathrm{~kg}$ |
| Across Town Within city boundaries | \$2.50 |  |  |  | \$5.00 |  |
| Short Haul <br> Up to 150 km within an island | \$3.00 |  |  | \$6.50 |  |  |
| Within Islands Over 150 km within an island | \$4.20 |  | \$6.70 |  | \$8.40 |  |
| Between Islands Between the North and South Island | \$6.80 | \$8.60 | \$10.90 | \$13.50 | \$15.30 | \$17.10 |

## Commentary:

Many students weighed Parcel $C$ to the nearest 100 grams ( 600 gm ), rather than more precisely (Parcel $C$ actually weighed 555 gm ). Year 4 students scored slightly higher in 2009 than 2005, and year 8 students slightly lower. On average, year 4 Māori and Pasifika students scored substantially lower than Pakeha students.

