

Unit 13

Strengthen activities

MISCONCEPTION: Children may have some place value misconceptions; for example, thinking $2,011\text{ g} = 2\text{ kg } 110\text{ g}$ through not understanding what mass each digit represents.

Answers

- 1 represents 1 kg or 1,000 g, 0 represents that there are no 100 g, 2 represents 20 g and 4 represents 4 g.
- 1,245 g in kilograms and grams is 1 kg 245 g.
- 2,345 g is 2 kg 345 g, 2,045 g is 2 kg 45 g.
2,405 g = 2 kg + 400 g + 5 g, and 2,045 g = 2 kg + 0 g + 40 g + 5 g.

MISCONCEPTION: Children may assume an amount in grams is larger than kilograms; for example, $1,245\text{ g} > 2\text{ kg } 100\text{ g}$.

Answers

- 3,850 g is bigger than 1,175 g so 3,850 g is heavier.
- Children should be able to represent the amounts using masses or place value counters and compare the columns to see which number is bigger/heavier.
- It is incorrect because $3\text{ kg} = 3,000\text{ g}$ which is much bigger than 150 g.
 $2,035\text{ g} < 4\text{ kg } 45\text{ g}$ because $2,035\text{ g} < 4,045\text{ g}$.

MISCONCEPTION: Children may misinterpret the question when working out mass and carry out an incorrect calculation.

Answers

- They should identify that they need to do an addition and use a bar model to help.

Children should see this requires subtraction.

$$3,500\text{ g} - 1,040\text{ g} = 2,460\text{ g} \text{ or } 2\text{ kg } 460\text{ g}.$$

Deepen activities

Answers

Activity 1

- a) 0 g to 1,000 g: mouse, 1 kg to 10 kg: chicken, 10 kg to 50 kg: child, 50 kg to 150 kg: adult, 1,000 kg to 2,000 kg: car
- b) Car + one adult = 1,050 kg to 2,150 kg, Child + mouse = 10 kg to 51 kg, Mouse + chicken = 1 kg to 11 kg, 2 children + chicken = 21 kg to 110 kg

Activity 2

Answers will vary according to which items they choose.

Activity 3

- a) Children should be able to show 2,630 g, 4,725 g and 7,431 g partitioned in 5 different ways.
- b) $1\text{ kg} + 1,000\text{ g} + 1,000\text{ g} + 300\text{ g} + 20\text{ g} = 3,320\text{ g}$,
 $3\text{ kg} + 2,000\text{ g} + 700\text{ g} + 300\text{ g} + 50\text{ g} = 6,050\text{ g}$,
 $5\text{ kg} + 1,000\text{ g} + 800\text{ g} + 400\text{ g} + 80\text{ g} = 7,280\text{ g}$