Unit 13: Mass

Lesson 1: Measuring mass (1)

→ pages 101–103

1. a) Arrow pointing to the first mark after 200 g.
b) Arrow pointing half-way between the first and second marks after 100 g.
c) Arrow pointing to the third mark after 0 kg.
d) Arrow pointing half-way between the third and fourth mark after 0 kg.

2. The second pair of scales could measure kg whilst the first pair of scales could measure g.

3. No, the arrow is pointing half-way between 200 g and 400 g, which means the scale shows a mass of 300 g.

4. a) Answers will vary. Possible answers include:
8 kg – a medium-sized bike, a school bag full of books, 8 bags of sugar
180 g – a fork, a small box of raspberries, a small tub of cheese
28 g – 1 small piece of cheese, an AA battery, 3 one-pound coins
b) Answers will vary – ensure children have written objects that are plausible estimates for the mass.

Reflect

Answers will vary, but encourage children to draw a number line with intervals of 100 g and then mark out 200 g, 500 g and 600 g.

Lesson 2: Measuring mass (2)

→ pages 104–106

1. a) Pointer pointing half-way between 2 and 3 kg.
b) Pointer pointing half-way between 8 and 9 kg.
c) Pointer pointing at the first mark after 3 kg

2. 2 kg 50 g 2 kg 100 g 2 kg 125 g

3. a) approximately 3 kg 400 g and 3 kg 700 g
b) approximately 11 kg and 11 kg 500 g
c) approximately 2 kg 90 g

4. If the mass of the spade is just under 8 kg 500 g, this would be closer to 8 kg than 9 kg. If the mass of the spade is just over 9 kg 500 g then it would be closer to 10 kg than 9 kg (9 kg 500 g also rounds up to 10 kg). Since the mass of the spade to the nearest kg is 9 kg, it must be in the range 8 kg 500 g to 9 kg 499 g.

Reflect

Find the difference between the two marked amounts.
Count the number of intervals between the two marked amounts.
Divide the difference by this number to find the value of each interval.
Use this to read the scale.

Lesson 3: Measuring mass (3)

→ pages 107–109

1. Masses written into part-whole models:
a) 1 kg; 376 g
b) 1,020 g
c) 3,246 g
d) 2 kg; 2 g

2. Masses written into table:
1,456 g
2 kg 132 g
1,088 g
0 kg 654 g

3. a) 1,400 g 1 kg 400 g
b) 2,500 g 2kg 500 g
c) 1,050 g 1 kg 50 g

4. Lee is incorrect. The difference between each labelled amount is 1 kg or 1,000 g. There are 10 intervals between 1 kg and 2 kg, and 1,000 ÷ 10 = 100. This means that each interval is worth 100 g. The arrow is pointing at the ninth mark after 1 kg, so the mass of the sugar is 1 kg 900 g. Lee thought the intervals were going up in 10 g, not 100 g.

5. Answers will vary. Some possible solutions are:
2 kg + 500 g + 100 g + 100 g + 10 g + 10 g + 10 g + 10 g + 10 g
1 kg + 1 kg + 500 g + 100 g + 100 g + 10 g + 10 g + 10 g + 10 g + 10 g

Reflect

Answers will vary. Ideas could include:
Just grams – cooking ingredients, precious metals like gold
Kilograms and grams – weight of a person, weight of luggage at the airport

Lesson 4: Comparing masses

→ pages 110–112

1. a) 1,321 g > 1 kg 300 g
b) 1 kg 8 g < 1,080 g
c) 2 kg 10 g = 2,010 g
d) 983 g > 0 kg 899 g

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2. Top right scales circled

3. a) ≈ 1,750 g
b) ≈ 1,422 g
c) ≈ 1,250 g

4. Answers will vary.
B – any mass less than 1 kg 20 g
C – any mass greater than 1 kg 20 g
D – any mass less than that given for B

5. a) 1 kg 500 g 1,540 g 1,999 g 2 kg
b) 1,001 g 1,010 g 1 kg 100 g 1,110 g
c) 1,070 g 1 kg 700 g 1 kg 707 g 1,777 g

Reflect

An explanation that when comparing numbers children know they need to compare the largest value columns first, and then, if these values are the same, look at the next largest value column. Max is incorrect because he did not compare the hundred gram column before comparing the ten gram column. You can see that 1 kg 265 g is bigger than 1 kg 157 g as 2 hundred is bigger than 1 hundred.

Lesson 5: Adding and subtracting masses

→ pages 113–115

1. + 850 g
15 kg
6 kg 950g

2.

1 kg 800 g	
1 kg 200 g	600 g

1 kg 100 g	
550 g	550 g

1 kg 300 g	
900 g	400 g

1 kg 750 g	
1 kg 440 g	310 g

3. a) Alex has 150 g left.
b) Zac needs 950 g more.
c) Alex buys 1 kg 200 g (or 1,200 g) of flour.

4. Answers will vary. Ensure that children's questions involve subtraction.

5. a) 900 g
b) 550 g
c) 1 kg 100 g (or 1,100 g)
d) 1 kg 80 g (or 1,080 g)
e) 2 kg 710 g (or 2,710 g)

Reflect

Answers will vary.

Lesson 6: Problem solving – mass

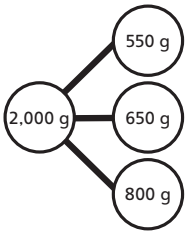
→ pages 116–118

1. Masses in number lines from left to right:
a) 470 g 620 g 770 g 920 g 1070 g (or 1 kg 70 g)
b) 250 g 500g 750 g 1 kg (or 1,000 g)
1 kg 250 g (or 1,250 g)

2. 450 g of nuts

3. Amal had 550 g of clay left.

4.



The middle guinea pig weighs 650 g.

5. The mass of the heart is 1,225 g.
□ = 1,110 g ÷ 2 = 555 g
⌓ = 2,000 g – (3 × 555 g) = 335 g
♡ = 2 × 335 g + 555 g = 1,225 g

Reflect

Answers will vary. Ensure children's questions make sense and give an answer of 2 kg and 550 g.

End of unit check

→ pages 119–120

My journal

1. First you calculate the mass of the pineapple:
500 + 200 + 50 + 5 = 755 g.

Then you work out the total mass of the pineapple and melon by reading the scale: 1 kg 300 g.

Now you can work out the mass of the melon by subtracting the mass of the pineapple from the total mass: 1,300 – 755 = 545 g.

The mass of the melon is 545 g.

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