Reasoning and Problem Solving
Step 2: Measuring Mass 2

National Curriculum Objectives:

Mathematics Year 3: (3M2b) Measure mass (kg/g)
Mathematics Year 3: (3N1b) Count from 0 in multiples of 4, 8, 50 and 100

Differentiation:

Questions 1, 4 and 7 (Reasoning)
Developing Identify and explain which of the two scales displays the heaviest/lightest measure, using mixed measurements of kg and g. Using measurements in multiples of 100. Every increment labelled.
Expected Identify and explain which of the three scales displays the heaviest/lightest measure, using mixed measurements of kg and g. Using measurements in multiples of 50 and 100. Every other increment labelled.
Greater Depth Identify and explain which of the three scales displays the heaviest/lightest measure, using mixed measurements of kg and g. Using measurements in multiples of 50 and 100. Only kg increments labelled.

Questions 2, 5 and 8 (Problem Solving)
Developing Find the combination of objects that will balance the scales, using mixed measurements of kg and g. Using measurements in multiples of 100. Every increment labelled.
Expected Find the combination of objects that will balance the scales, using mixed measurements of kg and g. Using measurements in multiples of 50 and 100. Every other increment labelled.
Greater Depth Find the combination of objects that will balance the scales, using mixed measurements of kg and g. Using measurements in multiples of 50 and 100. Only kg increments labelled.

Questions 3, 6 and 9 (Reasoning)
Developing Explain who is correct when reading scales, using mixed measurements of kg and g. Using measurements in multiples of 100. Every increment labelled.
Expected Explain who is correct when reading scales, using mixed measurements of kg and g. Using measurements in multiples of 50 and 100. Every other increment labelled.
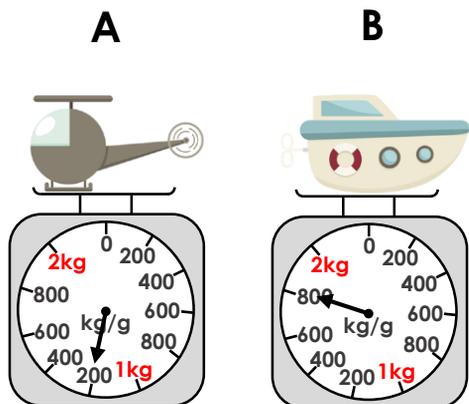**Greater Depth** Explain who is correct when reading scales, using mixed measurements of kg and g. Using measurements in multiples of 50 and 100. Only kg increments labelled.

More Year 3 Mass and Capacity resources

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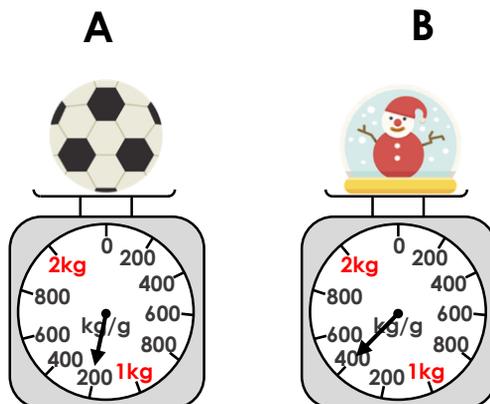## 1a. Which scale shows the heaviest mass?

A **B**

Explain your answer.

⭐D

R

1b. Which scale shows the lightest mass?

A **B**

Explain your answer.

⭐D

R

2a. Which weights will balance the scales if the train weighs 2kg and 300g?

2kg 100g 200g 400g 500g

⭐D
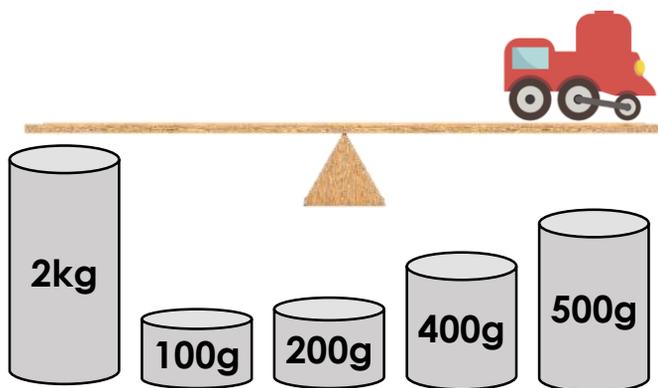
PS

2b. Which weights will balance the scales if the tractor weighs 1kg and 400g?

1kg 100g 200g 300g 400g

⭐D
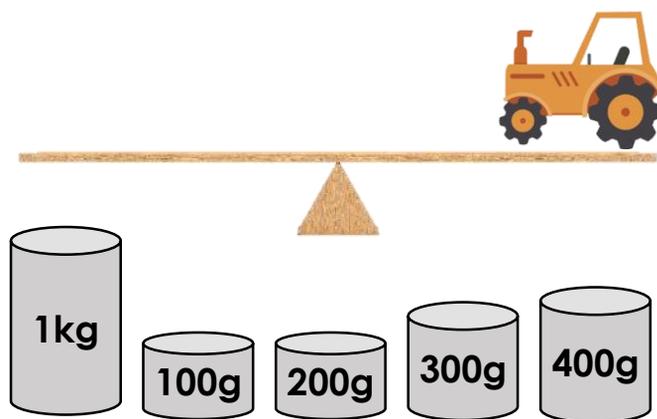
PS

3a. Who is correct?

Kim: The duck weighs 3kg and 500g.
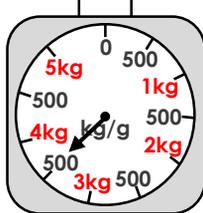
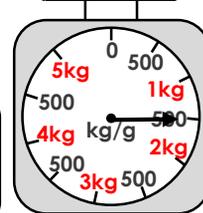**Sam:** The duck weighs 4kg and 500g.

Explain your answer.

⭐D

R

3b. Who is correct?

Ria: The dinosaur weighs 2kg and 500g.

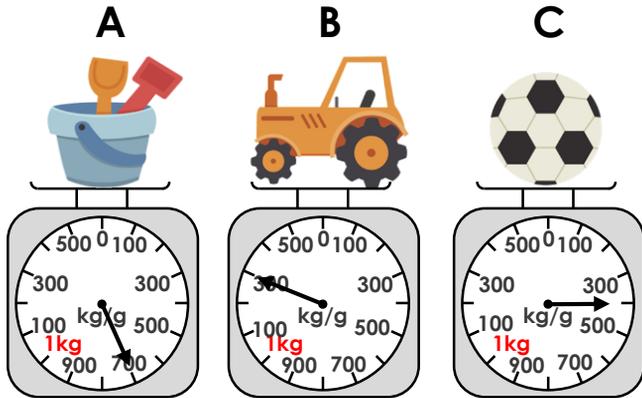**Zain:** The dinosaur weighs 1kg and 500g.

Explain your answer.

⭐D

R

Measure Mass 2

4a. Which scale shows the heaviest mass?
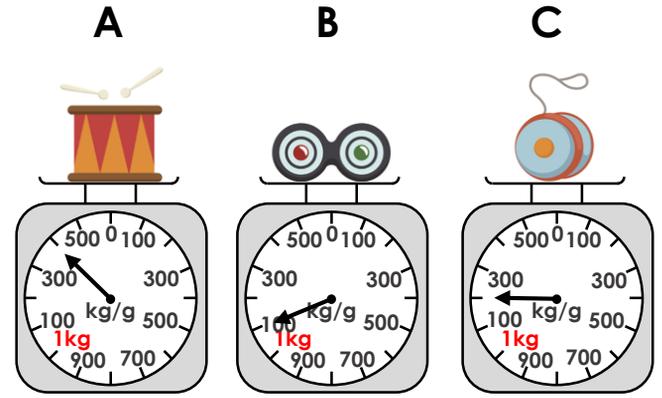
A   B   C

Explain your answer.

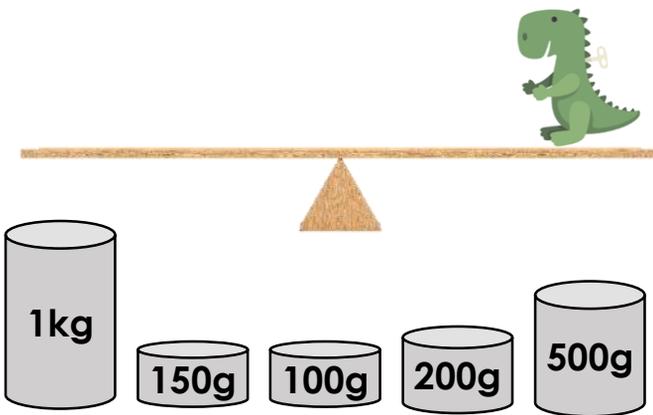## 4b. Which scale shows the lightest mass?
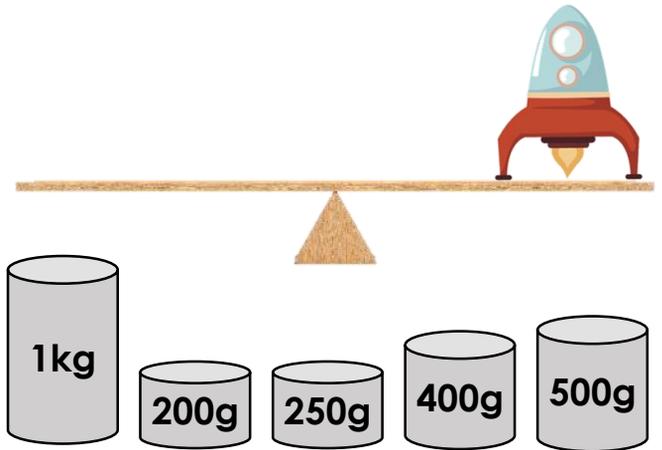
A   B   C

Explain your answer.

5a. Which weights will balance the scales if the dinosaur weighs 1kg and 250g?

1kg   150g   100g   200g   500g

5b. Which weights will balance the scales if the rocket weighs 1kg and 750g?

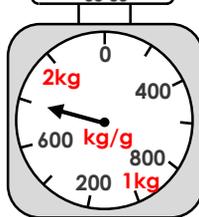1kg   200g   250g   400g   500g

6a. Who is correct?

Clara: The robot weighs 1kg and 800g.

Lou: The robot weighs 1kg and 700g.

Explain your answer.

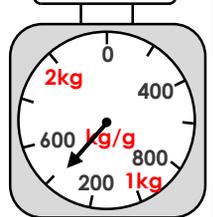## 6b. Who is correct?

Lilly: The spinning top weighs 1kg and 300g.

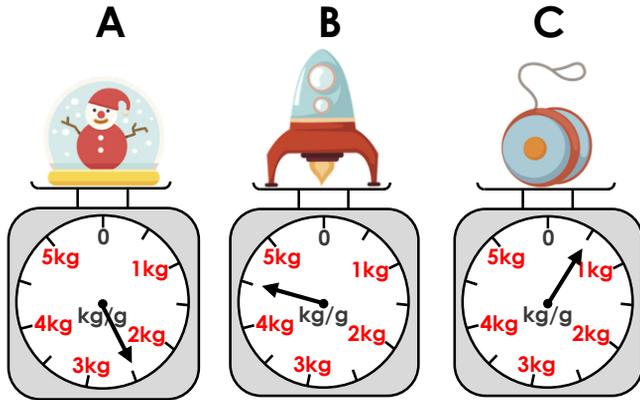Jim: The spinning top weighs 1kg and 400g.

Explain your answer.

Reasoning and Problem Solving – Measure Mass 2 – Year 3 Expected

7a. Which scale shows the heaviest mass?
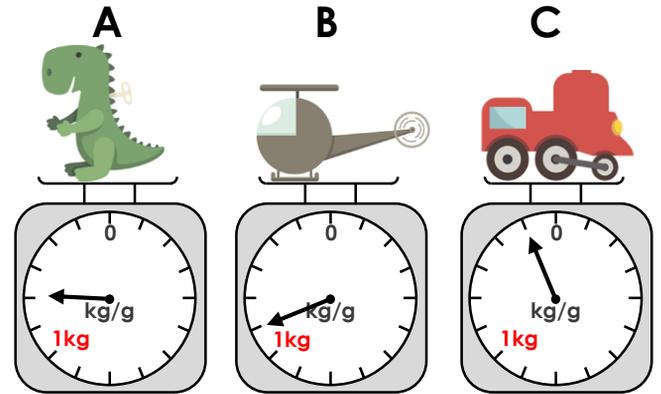
A   B   C

Explain your answer.
GD
R

7b. Which scale shows the lightest mass?

A   B   C

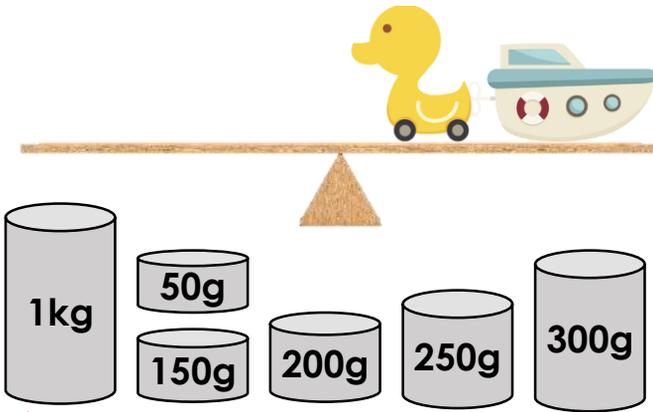Explain your answer.
GD
R

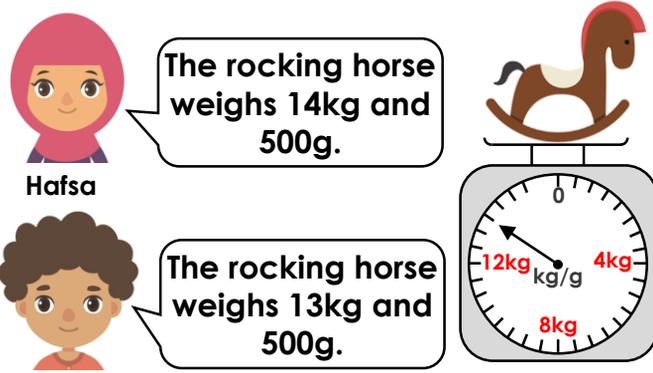**8a.** Which weights will balance the scales if the boat weighs 1kg and 350g and the duck weighs 300g?

1kg   50g   150g   200g   250g   300g

GD
PS

8b. Which weights will balance the scales if the robot weighs 2kg and 400g and the yo-yo weighs 550g?
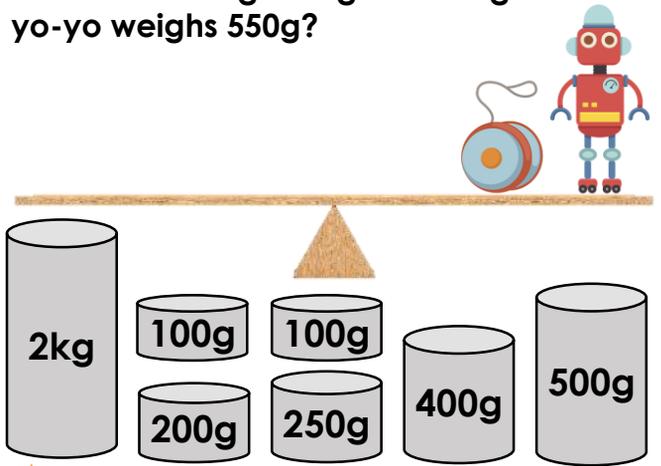
2kg   100g   100g   200g   250g   400g   500g

GD
PS

9a. Who is correct?

Hafsa: The rocking horse weighs 14kg and 500g.

Dan: The rocking horse weighs 13kg and 500g.

Explain your answer.
GD
R

9b. Who is correct?

Filipe: The keyboard weighs 10kg and 500g.

Chen: The keyboard weighs 11kg and 500g.

Explain your answer.
GD
R

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Reasoning and Problem Solving – Measure Mass 2 – Year 3 Greater Depth
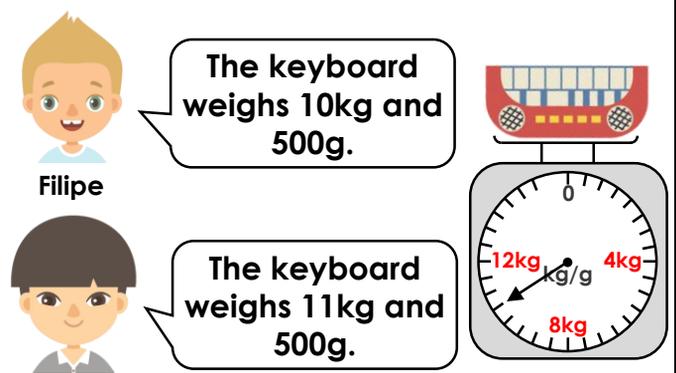
Reasoning and Problem Solving
Measure Mass 2

Developing
1a. B because 1kg and 800g is heavier that 1kg and 200g.
2a. 2kg + 200g + 100g
3a. Kim because the scale reads 3kg and 500g.

Expected
4a. B because 1kg and 300g is heavier than 700g or 400g.
5a. 1kg + 150g + 100g
6a. Clara because the scale reads 1kg and 800g.

Greater Depth
7a. B because 4kg and 500g is heavier than 2kg and 500g or 500g.
8a. 1kg + 300g + 200g + 150g *or* 1kg + 250g + 200g + 150g + 50g
9a. Dan because the scale is showing 13kg and 500g.

Reasoning and Problem Solving
Measure Mass 2

Developing
1b. A because 1kg and 200g is lighter than 1kg and 400g.
2b. 1kg + 300g + 100g *or* 1kg + 400g
3b. Zain because the scale reads 1kg and 500g.

Expected
4b. B because 1kg and 100g is lighter than 1kg and 400g or 1kg and 200g.
5b. 1kg + 500g + 250g
6b. Jim because the scale reads 1kg and 400g.

Greater Depth
7b. B because 1kg and 100g is lighter than 1kg and 500g or 1kg and 200g.
8b. 2kg + 400g + 250g + 200g + 100g *or* 2kg + 500g + 250g + 100g + 100g *or* 2kg + 500g + 200g + 250g
9b. Filipe because the scale is showing 10kg and 500g.

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