

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.

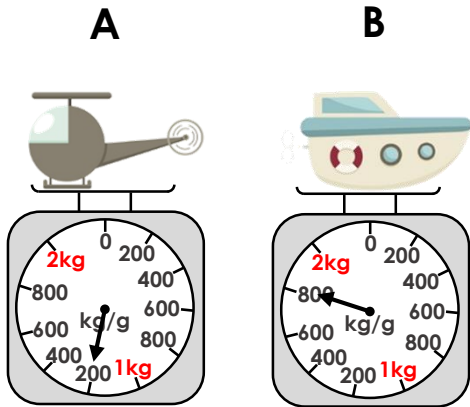
Greater Depth Explain who is correct when reading scales, using mixed measurements of kg and g. Using measurements in multiples of 50 and 100. Only kg increments labelled.

More [Year 3 and Year 4 Mass and Capacity](#) resources

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Measure Mass 2

1a. Which scale shows the heaviest mass?



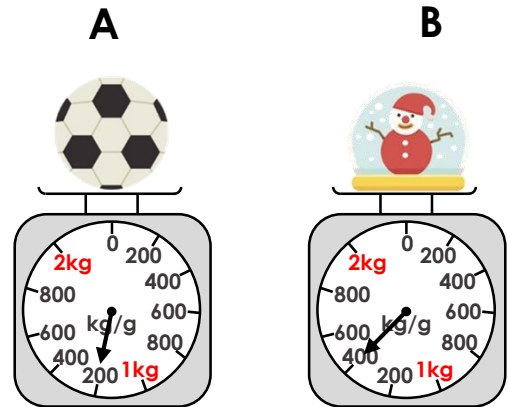
Explain your answer.



3 R

Measure Mass 2

1b. Which scale shows the lightest mass?

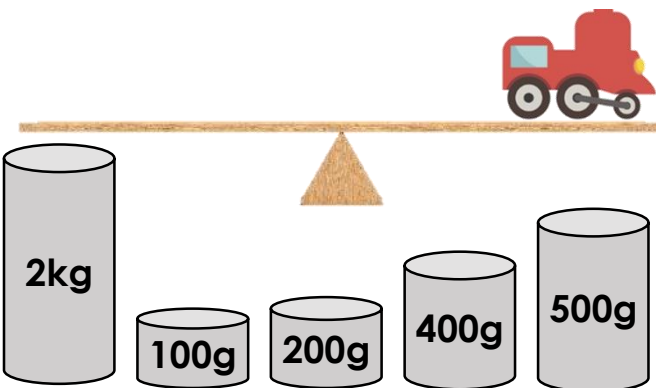


Explain your answer.



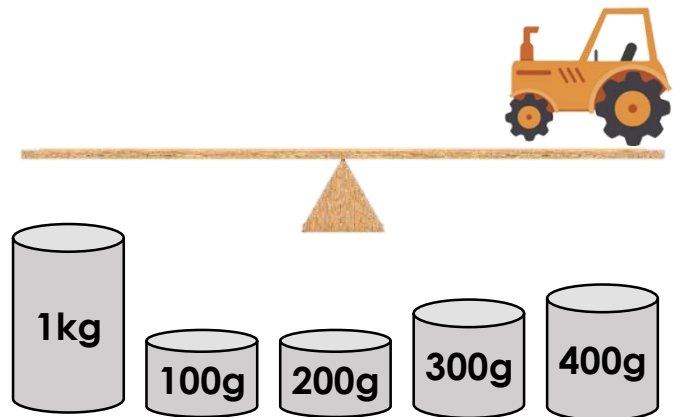
3 R

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



3 PS

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



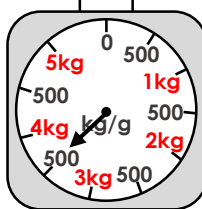
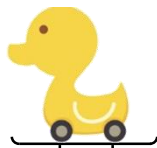
3 PS

3a. Who is correct?



Kim

The duck weighs 3kg and 500g.



Sam

The duck weighs 4kg and 500g.

Explain your answer.



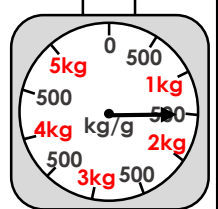
3 R

3b. Who is correct?



Ria

The dinosaur weighs 2kg and 500g.



Zain

The dinosaur weighs 1kg and 500g.

Explain your answer.

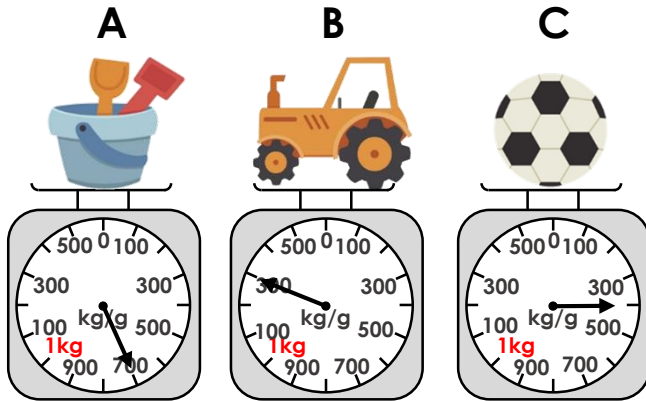


3 R

Measure Mass 2

Measure Mass 2

4a. Which scale shows the heaviest mass?

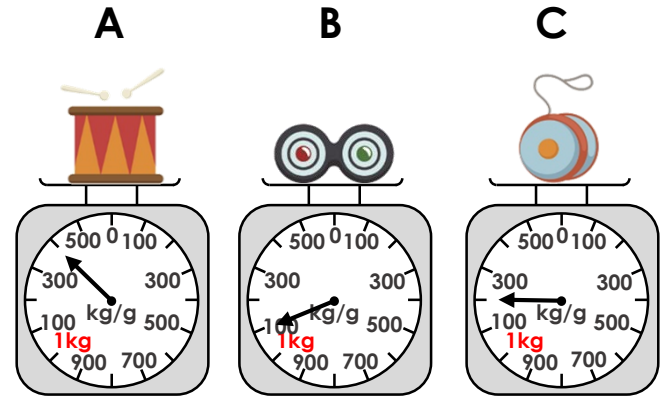


Explain your answer.



3 R

4b. Which scale shows the lightest mass?

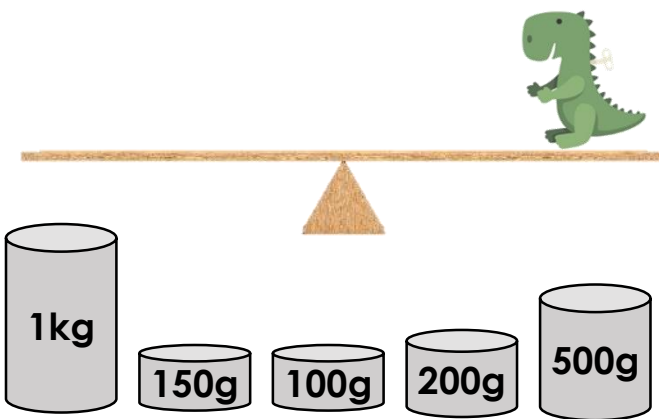


Explain your answer.



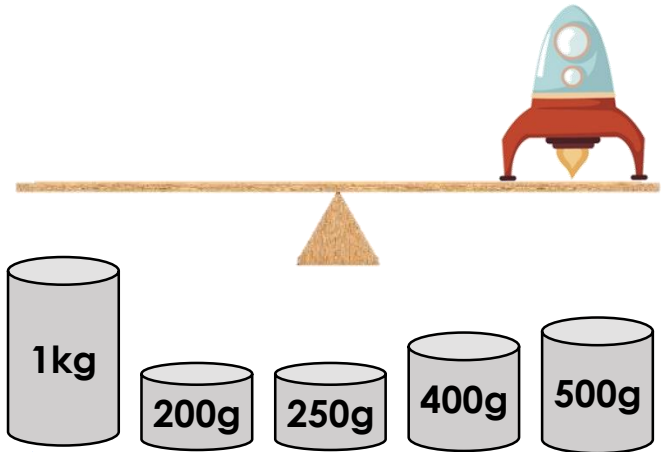
3 R

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



3 PS

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



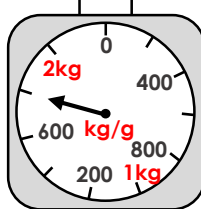
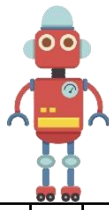
3 PS

6a. Who is correct?



Clara

The robot weighs 1kg and 800g.



Lou

The robot weighs 1kg and 700g.

Explain your answer.



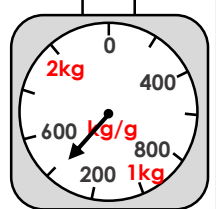
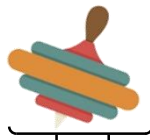
3 R

6b. Who is correct?



Lilly

The spinning top weighs 1kg and 300g.



Jim

The spinning top weighs 1kg and 400g.

Explain your answer.

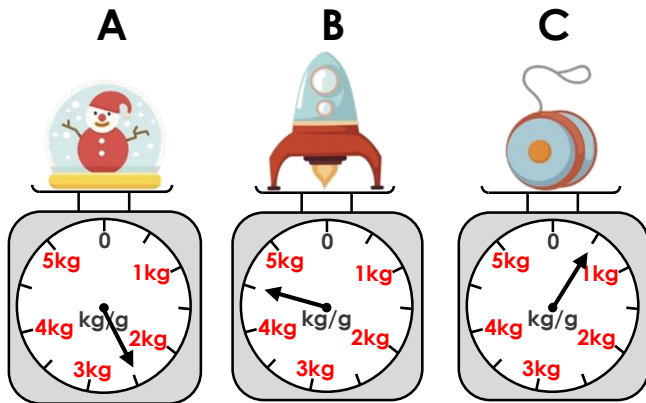


3 R

Measure Mass 2

Measure Mass 2

7a. Which scale shows the heaviest mass?

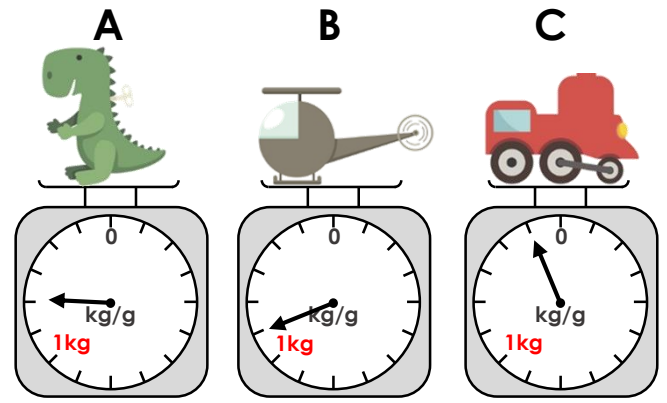


Explain your answer.



3 R

7b. Which scale shows the lightest mass?

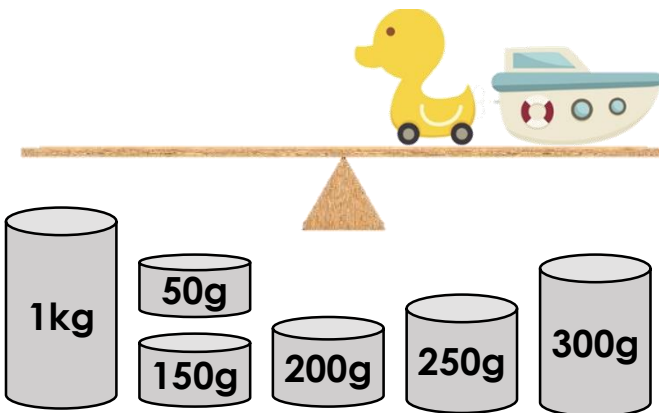


Explain your answer.



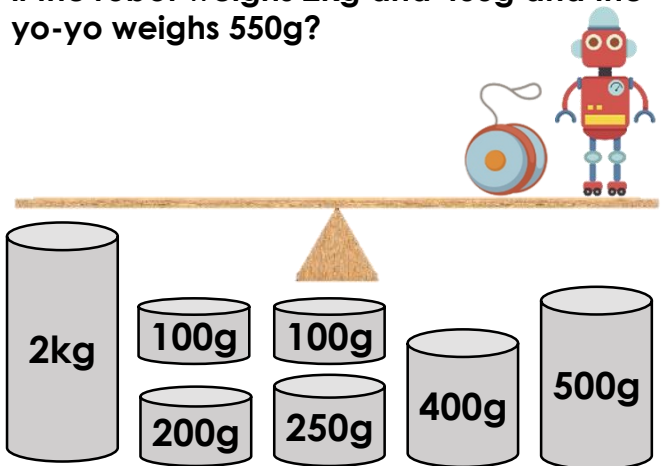
3 R

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



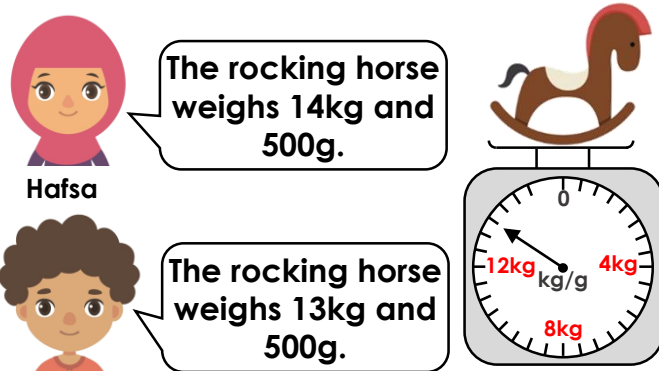
3 PS

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



3 PS

9a. Who is correct?



Hafsa

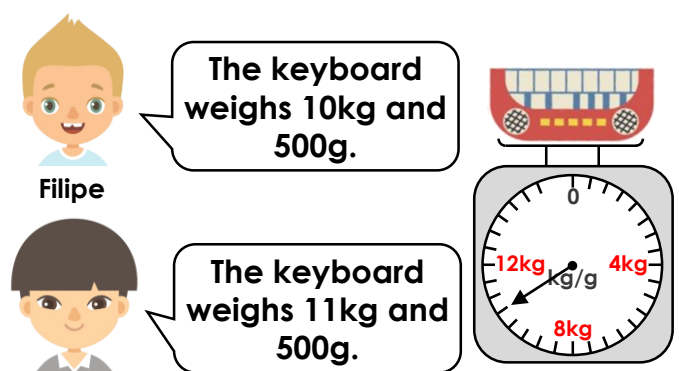
Dan

Explain your answer.



3 R

9b. Who is correct?



Filipe

Chen

Explain your answer.



3 R

Reasoning and Problem Solving Measure Mass 2

Developing

- 1a. B because 1kg and 800g is heavier than 1kg and 200g.
2a. $2\text{kg} + 200\text{g} + 100\text{g}$
3a. Kim because the scale reads 3kg and 500g.

Expected

- 4a. B because 1kg and 300g is heavier than 700g or 400g.
5a. $1\text{kg} + 150\text{g} + 100\text{g}$
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. $1\text{kg} + 300\text{g} + 200\text{g} + 150\text{g}$ or $1\text{kg} + 250\text{g} + 200\text{g} + 150\text{g} + 50\text{g}$
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. $1\text{kg} + 300\text{g} + 100\text{g}$ or $1\text{kg} + 400\text{g}$
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. $1\text{kg} + 500\text{g} + 250\text{g}$
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. $2\text{kg} + 400\text{g} + 250\text{g} + 200\text{g} + 100\text{g}$ or $2\text{kg} + 500\text{g} + 250\text{g} + 100\text{g} + 100\text{g}$ or $2\text{kg} + 500\text{g} + 200\text{g} + 250\text{g}$
9b. Filipe because the scale is showing 10kg and 500g.