

# Reasoning and Problem Solving

## Step 1: Measure Mass in Grams

### National Curriculum Objectives:

Mathematics Year 2: (2M1) [Compare and order lengths, mass, volume/capacity and record the results using >, < and =](#)

Mathematics Year 2: (2M2) [Choose and use appropriate standard units to estimate and measure length/height in any direction \(m/cm\); mass \(kg/g\); temperature \(° C\); capacity \(litres/ml\) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels](#)

### Differentiation:

Questions 1, 4 and 7 (Problem Solving)

**Developing** Read a scale and calculate how much another item weighs. Scale in increments of 10 only. Calculations involve adding a multiple of 10 to a single digit number.

**Expected** Read a scale and calculate how much another item weighs. Scale in increments of 2, 5 and 10. Calculations involve adding a multiple of 10 to a two digit number.

**Greater Depth** Read a scale and calculate how much another item weighs. Scale in increments of 2, 5 and 10, with some measurements falling between increments on the scale. Calculations involve adding a two-digit number to a two-digit number.

Questions 2, 5 and 8 (Problem Solving)

**Developing** Compare two weights on a scale to determine what a third weight could be. Scales in increments of 10 only.

**Expected** Compare two weights on a scale to determine what a third weight could be. Scales in increments of 2, 5 and 10.

**Greater Depth** Compare two weights on a scale to determine what a third weight could be. Scales in increments of 2, 5 and 10, with some measurements falling between increments on the scale.

Questions 3, 6 and 9 (Reasoning)

**Developing** Explain whether a statement about the weight of an object is correct. Balance scales use 10g weights only. One-step problem.

**Expected** Explain whether a statement about the weight of an object is correct. Balance scales use 2g, 5g and 10g weights. One-step problem.

**Greater Depth** Explain whether a statement about the weight of an object is correct. Balance scales use 2g, 5g and 10g weights. Two-step problem.

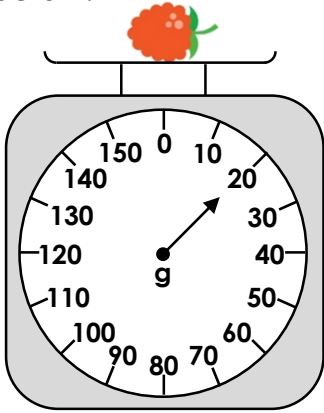
More [Year 2 and Year 3 Mass, Capacity and Temperature](#) resources.

Did you like this resource? Don't forget to [review](#) it on our website.

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## Measure Mass in Grams

1a. A strawberry weighs 5g more than the raspberry below.



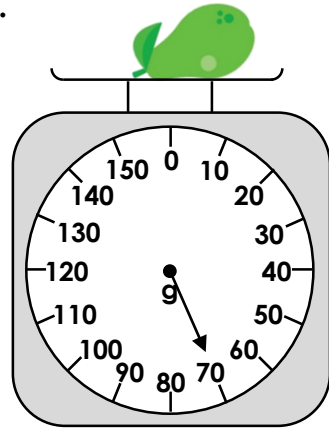
How much does the strawberry weigh?



2 PS

## Measure Mass in Grams

1b. A banana weighs 7g more than the pear below.

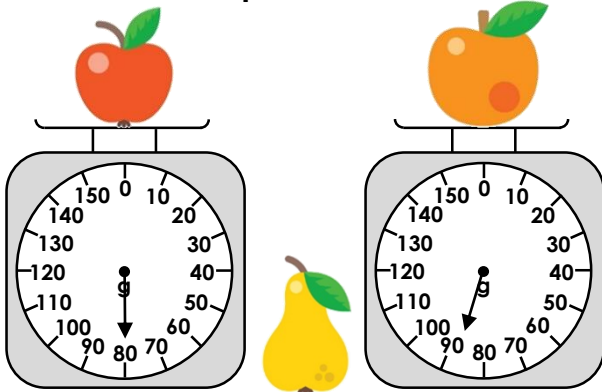


How much does the banana weigh?



2 PS

2a. The pear weighs more than the apple but less than the peach.



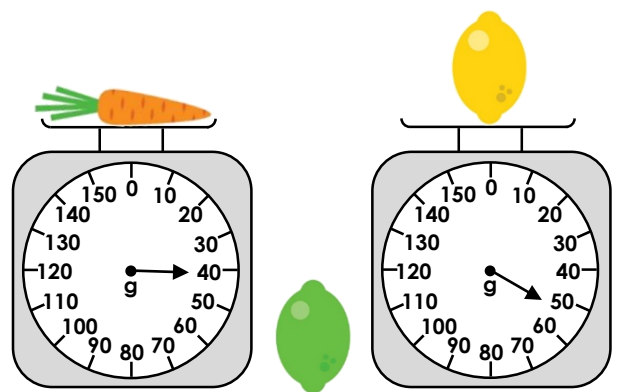
How much could the pear weigh?



Give 3 possible answers.

2 PS

2b. The lime weighs more than the carrot but less than the lemon.



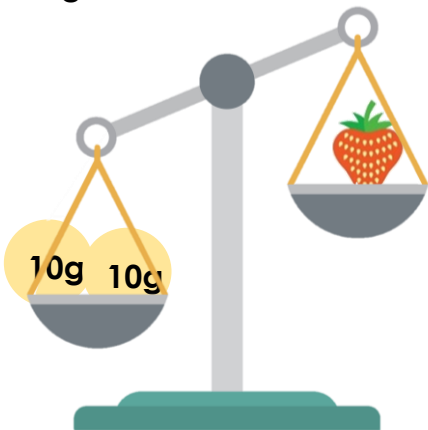
How much could the lime weigh?



Give 3 possible answers.

2 PS

3a. Amy thinks the strawberry could weigh 25g. Is she correct?



Explain your answer.



2 R

3b. Joe thinks the chilli could weigh 42g. Is he correct?



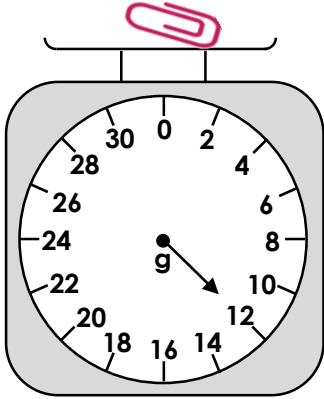
Explain your answer.



2 R

## Measure Mass in Grams

4a. A pencil 10g more than the paperclip below.



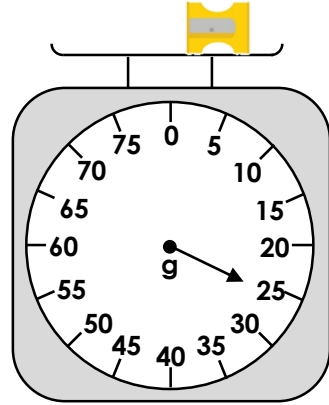
How much does the pencil weigh?



2 PS

## Measure Mass in Grams

4b. A rubber weighs 20g more than the pencil sharpener below.

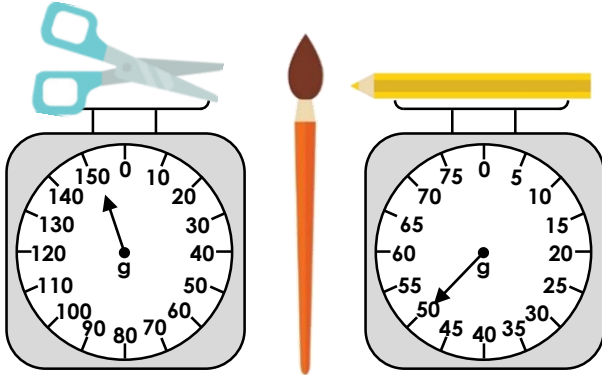


How much does the rubber weigh?



2 PS

5a. The paintbrush weighs more than the pencil but less than the scissors.

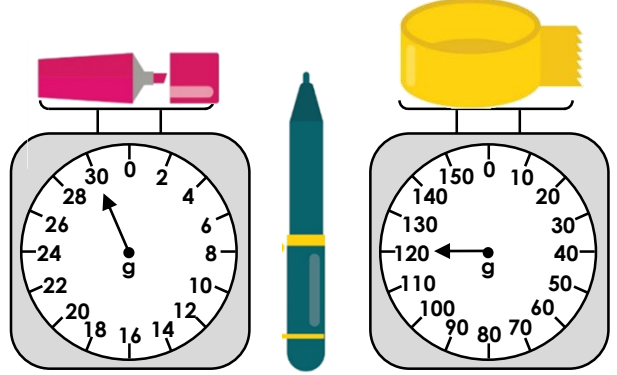


How much could the paintbrush weigh?  
Give 3 possible answers.



2 PS

5b. The pen weighs more than the marker but less than the tape.

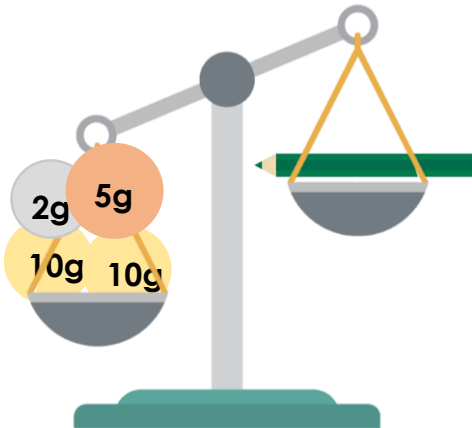


How much could the pen weigh?  
Give 3 possible answers.



2 PS

6a. Scott thinks the pencil could weigh 25g. Is he correct?

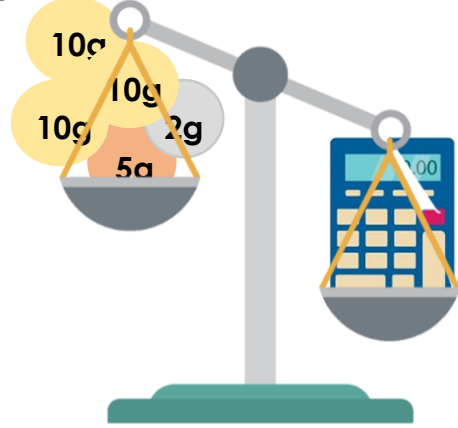


Explain your answer.



2 R

6b. Jenna thinks the calculator could weigh 65g. Is she correct?



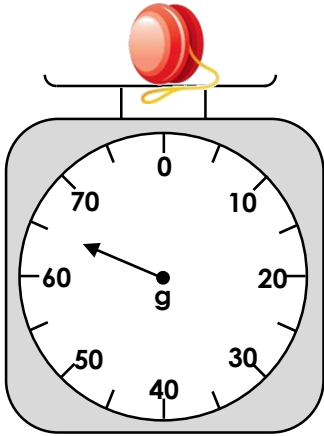
Explain your answer.



2 R

## Measure Mass in Grams

7a. A ball weighs 11g more than the yoyo below.



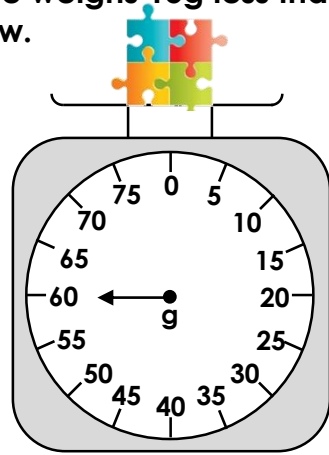
How much does the ball weigh?



2 PS

## Measure Mass in Grams

7b. A marble weighs 15g less than the jigsaw below.

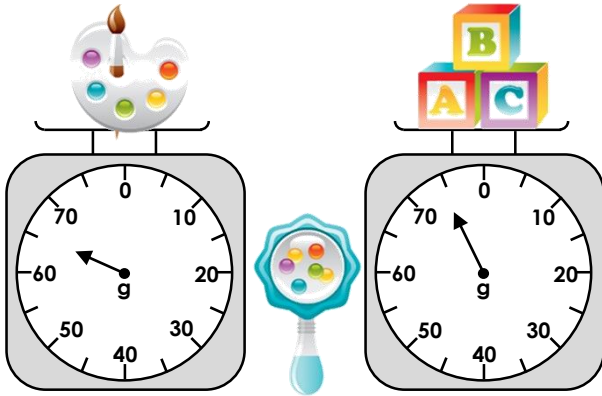


How much does the marble weigh?



2 PS

8a. The rattle weighs more than the paints but less than the bricks.



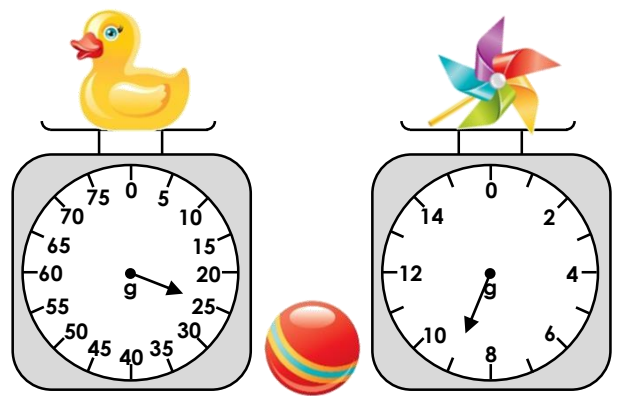
How much could the rattle weigh?



Give 3 possible answers.

2 PS

8b. The ball weighs more than the windmill but less than the duck.



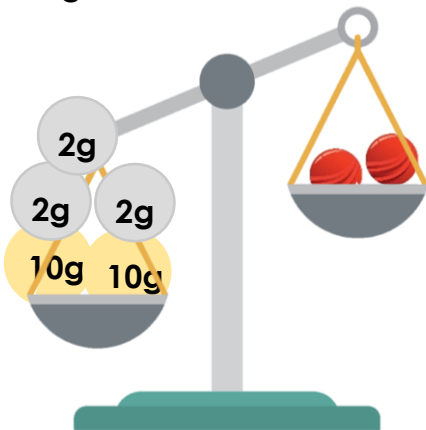
How much could the ball weigh?



Give 3 possible answers.

2 PS

9a. Imran thinks each marble could weigh 15g. Is he correct?

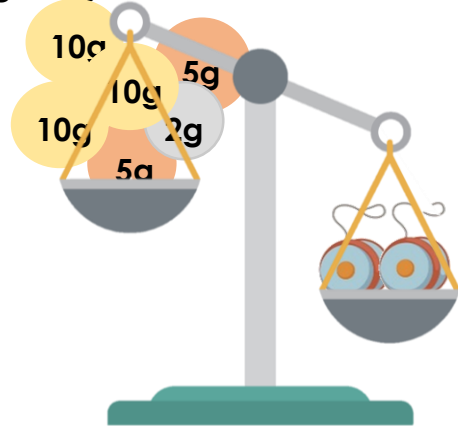


Explain your answer.



2 R

9b. Solomon thinks each yoyo could weigh 42g. Is he correct?



Explain your answer.



2 R

## Reasoning and Problem Solving

### Measure Mass in Grams

#### Developing

- 1a. 25g  
2a. Any 3 weights in the range: 81g – 89g.  
3a. Amy is not correct. The balance scale shows the strawberry weighs less than 20g so cannot weigh 25g.

#### Expected

- 4a. 22g  
5a. Any 3 weights in the range: 51g – 149g.  
6a. Scott is correct. The balance scale shows the pencil weighs less than 27g so could weigh 25g.

#### Greater Depth

- 7a. 76g  
8a. Any 3 weights in the range: 66g – 74g.  
9a. Imran is not correct. The balance scale shows that two marbles weigh less than 26g so each marble must be less than 13g.

## Reasoning and Problem Solving

### Measure Mass in Grams

#### Developing

- 1b. 77g  
2b. Any 3 weights in the range: 41g – 49g.  
3b. Joe is correct. The balance scale shows the chilli weighs more than 30g so could weigh 42g.

#### Expected

- 4b. 45g  
5b. Any 3 weights in the range: 31g – 119g.  
6b. Jenna is correct. The balance scale shows the calculator weighs more than 37g so could weigh 65g.

#### Greater Depth

- 7b. 45g  
8b. Any 3 weights in the range: 10g – 24g.  
9b. Solomon is correct. The balance scale shows that the two yoyos weigh more than 42g so each yoyo must weigh more than 21g.