

# Reasoning and Problem Solving

## Step 1: Introduce Weight and Mass

### National Curriculum Objectives:

Mathematics Year 1: (1M1) [Compare, describe and solve practical problems for: mass/weight \[for example, heavy/light, heavier than, lighter than\]](#)

Mathematics Year 1: (1M2) [Measure and begin to record: mass/weight](#)

### Differentiation:

Questions 1, 4 and 7 (Reasoning)

**Developing** Explain if a statement is correct. Using seesaw scales and language of heavier and lighter.

**Expected** Explain if a statement is correct. Using a balance scale and language of heavier, lighter and equal.

**Greater Depth** Explain if a statement is correct. Using a balance scale where the weight of two objects must be used to determine the weight of another object. Using language of heavier, lighter and equal.

Questions 2, 5 and 8 (Problem Solving)

**Developing** Predict how the scales will look when weighing given objects. Using seesaw scales and language of heavier and lighter.

**Expected** Predict how the scales will look when weighing given objects. Using a balance scale and language of heavier, lighter and equal.

**Greater Depth** Predict how the scales will look when weighing given objects. Using a balance scale where the weight of two objects must be used to determine the weight of another object. Using language of heavier, lighter and equal.

Questions 3, 6 and 9 (Problem Solving)

**Developing** Identify the missing object. Using seesaw scales and language of heavier and lighter.

**Expected** Identify the missing object. Using a balance scale and language of heavier, lighter and equal.

**Greater Depth** Identify the missing object. Using a balance scale where the weight of two objects must be used to determine the weight of another object. Using language of heavier, lighter and equal.

More [Year 1 Weight and Volume](#) resources.

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# Introduce Weight and Mass

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1a. Amy thinks the ladybird is heavier than the flower.



Is she correct? Explain your answer.



R

1b. Orla thinks the fork is lighter than the cup.

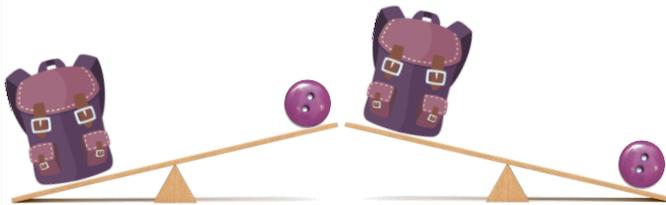


Is she correct? Explain your answer.



R

2a. A button and a bag are placed on the scales.



A.

B.

Would the balance scales look like A or B?



PS

2b. A ball and a book are placed on the scales.



A.

B.

Would the balance scales look like A or B?



PS

3a. These objects have been ordered from lightest to heaviest.



A.



B.



C.

Which object is missing from the scale?



PS

3b. These objects have been ordered from lightest to heaviest.



A.



B.



C.

Which object is missing from the scale?



PS

# Introduce Weight and Mass

# Introduce Weight and Mass

4a. Zoya thinks the pencil is heavier than the doll.

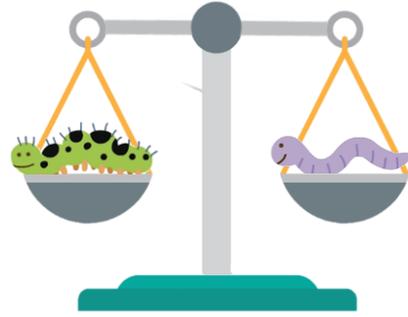


Is she correct? Explain your answer.



R

4b. Imran thinks the caterpillar is lighter than the worm.



Is he correct? Explain your answer.



R

5a. Two identical apples were put on either side of a scale.



A.

B.

Would the balance scales look like A or B?



PS

5b. A pumpkin was put on one side of a scale and a lemon was put on the other.



A.

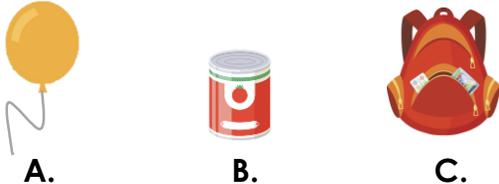
B.

Would the balance scales look like A or B?



PS

6a. These objects have been ordered from lightest to heaviest.



A.

B.

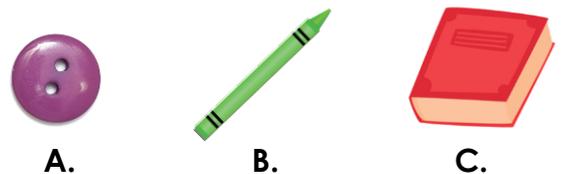
C.

Which object is missing from the scale?



PS

6b. These objects have been ordered from lightest to heaviest.



A.

B.

C.

Which object is missing from the scale?



PS

## Introduce Weight and Mass

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7a. Ash thinks that 2 balls would be heavier than 2 yo-yos.



Is he correct? Explain your answer.



R

7b. David thinks that 2 books would be an equal weight to 2 pencils.



Is he correct? Explain your answer.



R

8a. There is 1 brick on each side of a scale. Another brick is added to one side.



A.

B.

Would the balance scales look like A or B?



PS

8b. There are 2 conkers on each side of a scale. One conker is removed.



A.

B.

Would the balance scales look like A or B?



PS

9a. These objects have been ordered from heaviest to lightest.



A.



B.



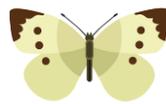
C.

Which object(s) could be missing from the scale?



PS

9b. These minibeasts have been ordered from lightest to heaviest.



A.



B.



C.

Which minibeast(s) could be missing from the scale?



PS

## Reasoning and Problem Solving Introduce Weight and Mass

### Developing

1a. Amy is incorrect because the ladybird is lighter than the flower.

2a. A

3a. A

### Expected

4a. Zoya is incorrect because the doll is the heavier than the pencil.

5a. A

6a. C

### Greater Depth

7a. Ash is correct because 2 yo-yos and 1 ball are an equal weight, adding another ball would make them heavier.

8a. B

9a. C

## Reasoning and Problem Solving Introduce Weight and Mass

### Developing

1b. Orla is correct because the cup is heavier than the fork.

2b. B

3b. C

### Expected

4b. Imran is incorrect because the worm and the caterpillar are an equal weight.

5b. B

6b. A

### Greater Depth

7b. David is incorrect because 1 book is heavier than 2 pencils, so 2 books will also be heavier.

8b. B

9b. A