

Reasoning and Problem Solving

Step 4: Imperial Units

Teaching Note:

The conversions used in this resource are: 1 inch = 2.54cm, 1 pint = 568ml and 1kg = 2.2lbs.

National Curriculum Objectives:

Mathematics Year 5: (5M6) [Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints](#)

Mathematics Year 5: (5C6a) [Multiply and divide numbers mentally drawing upon known facts](#)

Mathematics Year 5: (5C6b) [Multiply and divide whole numbers and those involving decimals by 10, 100 and 1,000](#)

Differentiation:

Questions 1, 4 and 7 (Reasoning)

Developing Find the odd one out between three masses, where one is given in kg and the others in pounds. Conversion rate given in question; conversions require multiplying or dividing by 10.

Expected Find the odd one out between three masses, where two are given in kg and the others in pounds. Conversion rate given in question; conversions require multiplying or dividing by 2, 4, or 5.

Greater Depth Find the odd one out between three masses, where two are given in kg and the others in pounds. Conversion rate not given in question; conversions require multiplying or dividing by any number up to 12.

Questions 2, 5 and 8 (Problem Solving)

Developing Use all the digits card to find two different solutions to a problem involving pints and ml. Conversion rates as outlined in question 1.

Expected Use all the digits card to find three different solutions to a problem involving pints and ml. Conversion rates as outlined in question 4.

Greater Depth Use all the digits card to find four different solutions to a problem involving pints and ml. Conversion rates as outlined in question 7.

Questions 3, 6 and 9 (Reasoning)

Developing Determine whether the statement is correct and why. Conversion rates outlined in question 1.

Expected Determine whether the statement is correct and why. Conversion rates outlined in question 4.

Greater Depth Determine whether the statement is correct and why. Conversion rates outlined in question 7.

More [Year 5 Converting Units](#) resources.

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

Imperial Units

1a. If 1kg = 2.2lbs, which weight is the odd one out? Why?



2.2lbs



1.1lbs



1kg

- Ten tins of syrup
- Ten packets of spaghetti
- Five bags of sugar



R

Imperial Units

1b. If 1kg = 2.2lbs, which weight is the odd one out? Why?



2kg



1.1lbs



1lb

- One bag of flour
- Four tins of beans
- Four packets of biscuits



R

2a. Use all four digit cards to find two different solutions to this statement.

1 pint = 568ml



10 pints

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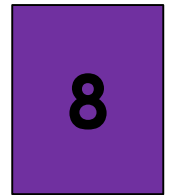
ml



PS

2b. Use all four digit cards to find two different solutions to this statement.

1 pint = 568ml



2 pints

<



ml

<

4 pints



PS

3a. Jim needs 100 inches of string. String is sold in 10cm lengths.

Lisa says,

“100 inches is about 254cm so you will need 26 pieces of string.”

If 1 inch = 2.54cm, is Lisa correct? Explain why.



R

3b. Hafsah needs some 10 inch lengths of fishing wire for a craft project. Fishing wire is sold in 100cm lengths.

Kyle says,

“10 inches is 25.4cm so you can get four 10 inch fishing wire from each length.”

If 1 inch = 2.54cm is Kyle correct? Explain why.



R

Imperial Units

4a. If 1kg = 2.2lbs, which weight is the odd one out? Why?



1.5kg



1,500g



3.3lbs

- Five bags of flour
- Five packs of spaghetti
- Three bags of sugar



R

Imperial Units

4b. If 1kg = 2.2lbs, which weight is the odd one out? Why?



400g



1.1lbs



2.5kg

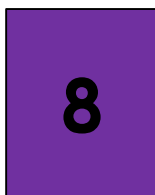
- Five tins of beans
- Four packets of biscuits
- One tins of syrup



R

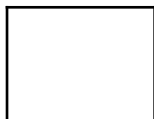
5a. Use all four digit cards to find three different solutions to this statement.

1 pint = 568ml



3 pints

>



ml



PS

5b. Use all four digit cards to find three different solutions to this statement.

2 pints = 1,136ml



3 pints

<



ml

<

4 pints



PS

6a. Kaitlyn needs 2m of bamboo in total. Sticks of bamboo are sold in 6 inch lengths.

Michelle says,

“6 inches is 15.24cm, which means that you will need to buy 12 lengths of bamboo to have 2m.”

If 1 inch = 2.54cm, is Michelle correct? Explain why.



R

6b. Cameron needs to cut six 5 inch lengths of fabric to make a puppet. He has 70cm of fabric.

Lacey says,

“70cm is about 70 inches so you can easily cut five lengths of 5 inches.”

If 1 inch = 2.54cm, is Lacey correct? Explain why.



R

Imperial Units

Imperial Units

7a. Which weight is the odd one out? Why?



1.65kg



600g



1.1lbs

- Two bags of flour
- Five packets of biscuits
- Six tins of beans



R

7b. Which weight is the odd one out? Why?



0.25kg



0.9lbs



1000g

- Eight packs of spaghetti
- Six bags of sugar
- Two tins of syrup



R

8a. Use all four digit cards to find four different solutions to this statement.



2.5 pints

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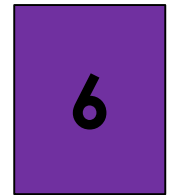


ml



PS

8b. Use all four digit cards to find four different solutions to this statement.



2.2 pints

<



ml

<

2.8 pints



PS

9a. Hana needs 50 inch lengths of ribbon to wrap presents. Ribbon is sold in 6m spools.

Justin says,

“You will be able to wrap 5 presents with one spool of ribbon.”

Is Justin correct?
Explain why.



R

9b. Marsha needs 3.5m of wood for her window box. Wood is sold in 40 inch planks.

Xin says,

“ You will need to buy 3 planks of wood so you have enough.”

Is Xin correct?
Explain why.



R

Reasoning and Problem Solving Imperial Units

Developing

- 1a. Syrup because they weigh 10kg, whereas the others weigh 5kg.
2a. Various answers, for example: 2,399ml, 2,939ml, 2,993ml, 3,299ml, 3,929ml
3a. Yes. $10\text{cm} \times 26 = 260\text{cm}$ and that is enough for 100 inches

Expected

- 4a. Sugar because it weighs 9.9lbs, whereas the others weigh 16.5lbs.
5a. Various answers, for example: 1,258ml, 1,285ml, 1,528ml, 1,582ml
6a. No, Michelle is not correct. 6 inches = 15.24cm. $15.24 \times 12 = 182.88\text{cm}$. Michelle will need 14 lengths of bamboo.

Greater Depth

- 7a. Two bags of flour are the odd ones out because they weigh 7.26lbs, whereas the others weigh 6.6lbs.
8a. Various answers, for example: 1,542ml, 1,524ml, 1,425ml, 1,452ml
9a. No, Justin is not correct. 50 inches = 127cm, and $5 \times 127\text{cm} = 635\text{cm}$. She would only be able to wrap 4 presents.

Reasoning and Problem Solving Imperial Units

Developing

- 1b. Biscuits because they weigh 4lbs, whereas the others weigh 4.4lbs.
2b. Various answers, for example: 1,278ml, 1,287ml, 1,728ml, 1,782ml, 1,827ml, 2,178ml, 2,187ml
3b. No, Hafsah is not correct. 10 inches = 25.4cm, so $4 \times 25.4\text{cm} = 101.6\text{cm}$. Hafsah will only get 3 from each length.

Expected

- 4b. Syrup because it weighs 2.5kg, whereas the others weigh 2kg
5b. Various answers for example: 2,019ml, 2,091ml, 2,109ml
6b. No, Lacey is not correct. Cameron needs 30 inches which is 76.2cm, so 70cm of fabric is not enough.

Greater Depth

- 7b. Sugar because it weighs 5.4lbs, whereas the others weigh 2kg.
8b. Various answers, for example: 1,256ml, 1,265ml, 1,526ml, 1,562ml
9b. No, Xin is not correct. 40 inches = 101.6cm, so 3 planks would only give her 304.8cm and she needs 350cm. Marsha will need to buy 4 planks.