Reasoning and Problem Solving
Step 2: Convert Metric Measures

National Curriculum Objectives:

Mathematics Year 6: (6M6) Convert between miles and kilometres
Mathematics Year 6: (6M9) Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate
Mathematics Year 6: (6M5) Use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places

Differentiation:

Questions 1, 4 and 7 (Reasoning)
Developing Convert and add the given metric measurements to determine whether a statement is correct. Using multiples of 5 with up to 1 decimal place.
Expected Convert and add the given metric measurements to determine whether a statement is correct. Using multiples of 5 with up to 3 decimal places. Sometimes includes zero as a place holder.
Greater Depth Convert and add the given metric measurements to determine whether a statement is correct. Using any number with up to 3 decimal places. Includes a number of zeros as place holders.

Questions 2, 5 and 8 (Problem Solving)
Developing Use three metric measurements to determine how many of each could make a given amount. Using multiples of 5 with up to 1 decimal place.
Expected Use three metric measurements to determine how many of each could make a given amount. Using multiples of 5 with up to 3 decimal places. Sometimes includes zero as a place holder.
Greater Depth Use three metric measurements to determine how many of each could make a given amount. Using any number with up to 3 decimal places. Includes a number of zeros as place holders.

Questions 3, 6 and 9 (Reasoning)
Developing Explain which statement is correct when converting metric measurements. Using multiples of 5 with up to 1 decimal place.
Expected Explain which statement is correct when converting metric measurements. Using multiples of 5 with up to 3 decimal places. Sometimes includes zero as a place holder.
Greater Depth Explain which statement is correct when converting metric measurements. Using any number with up to 3 decimal places. Includes a number of zeros as place holders.

More Year 6 Converting Units resources.

Did you like this resource? Don't forget to review it on our website.

classroomsecrets.co.uk

Convert Metric Measures

Convert Metric Measures

1a. Luke thinks that his horse ate the most hay on Thursday.

	9am	12pm	8pm
Mon	1.5kg	3,500g	2,300g
Tue	1,500g	0.5kg	3.2kg
Wed	2.5kg	3,300g	2.5kg
Thu	1.5kg	3,500g	3,400g
Fri	2,650g	1,635	4,015

Do you agree? Explain why.

D

R

1b. Farah thinks that her sunflower grew the most in week 4.

	Day 2	Day 4	Day 7
Wk 1	9.5cm	60mm	14.5cm
Wk 2	22.5cm	35mm	9cm
Wk 3	115mm	14.5cm	18cm
Wk 4	3.5cm	17.5cm	0.2m
Wk 5	85mm	2.5cm	4.5cm

Do you agree? Explain why.

D

R

2a. A supermarket trolley has a maximum weight allowance of 17.5kg.

Hamza buys 7 items in total and fills his trolley to capacity. How many of each item did he buy?

Barrel 5,500g	Horse 2.5kg	Toy Train 500g

D

PS

2b. A paddling pool has a maximum water allowance of 25,600ml.

Liam uses 6 bottles in total and fills his pool to capacity. How many of each size did he use?

Small 600ml	Medium 3.5L	Large 6L

D

PS

3a. Mike and Samara are converting 355mm into centimetres.

Mike: I need to divide by 100. The answer is 3.55cm.

Samara: I need to divide by 10. The answer is 35.5cm.

Who is correct? Explain why.

D

R

3b. Sophie and Jamal are converting 8.5L into millilitres.

Sophie: I need to multiply by 100. The answer is 850ml.

Jamal: I need to multiply by 1,000. The answer is 8,500ml.

Who is correct? Explain why.

D

R

Reasoning and Problem Solving – Convert Metric Measures – Year 6 Developing

Convert Metric Measures

4a. John thinks that his pet snail travelled the farthest on Tuesday.

	9am	12pm	3pm
Mon	5.1m	120cm	470cm
Tue	150cm	1,300mm	200cm
Wed	355cm	1.25m	6,350mm
Thu	2,340mm	1.65m	125cm
Fri	6.85m	2,300mm	65cm

Do you agree? Explain why.

E ⭐   R

Convert Metric Measures

4b. Ellie thinks that her container filled with the most rainwater on Monday.

	7am	10am	1pm
Mon	105ml	0.025L	0.105L
Tue	0.05L	5.5ml	95.5ml
Wed	0.075L	15ml	13.255ml
Thu	105.5ml	0.035L	0.055L
Fri	0.105L	0.025L	110ml

Do you agree? Explain why.

E ⭐   R

5a. A carrier bag has a maximum weight allowance of 2.875kg.

Sam buys 7 items in total and fills his bag to capacity. How many of each item did he buy?

Eggs 0.125kg	Cheese 745g	Carrots 0.505kg

E ⭐   PS

5b. A sports lesson has a maximum time limit of 1.75 hours.

Ange completes 5 courses and has no time left to spare. How many times did she complete each course?

Course 1 22.5 mins	Course 2 0.5 hours	Course 3 900 secs

E ⭐   PS

6a. Joey and Tina are converting 34,525cm into metres.

Joey: The answer is 345.25m.

Tina: The answer is 3,452.5m.

Who is correct? Explain why.

E ⭐   R

6b. Aelin and Rowan are converting 3.657L into millilitres.

Aelin: The answer is 3,657ml.

Rowan: The answer is 365.7ml.

Who is correct? Explain why.

E ⭐   R

Convert Metric Measures

	Convert Metric Measures

7a. Hannah thinks that her garden was watered the most in Week 2.

	Day 2	Day 4	Day 7
Wk 1	3.541L	4,058ml	6,205ml
Wk 2	2,604ml	3,006ml	3,840ml
Wk 3	5.004L	1.090L	2.005L
Wk 4	2,875ml	5,210ml	3,001ml
Wk 5	658ml	3.047L	3.254L

Do you agree? Explain why.

⭐GD
R

7b. Sartaq thinks that he built the tallest Lego tower in his group of friends.

	7am	10am	1pm
Sartaq	1.543m	2,875mm	35.4cm
Jean	81.63cm	2.652m	1,243.2mm
Rhoe	162.54mm	5.68m	10.5mm
Sue	1.489m	65.24cm	1,874.4mm
Bill	1,485mm	2,302.5mm	2.005m

Do you agree? Explain why.

⭐GD
R

8a. A shelf has a maximum height of 92.162cm.

Sol stacks 7 Items on his shelf and fills it to capacity. How many of each item did he put on the shelf?

Toy 200.3mm	Box 10.001cm	Book 0.107m

⭐GD
PS

8b. A paper bag has a maximum weight allowance of 1,810.97g.

Holly buys 4 items in total and fills her bag to capacity. How many of each item did she buy?

Nuts 81.23g	Sausages 352.51g	Apples 1.296kg

⭐GD
PS

9a. Rudie and Molly are converting 112.008m into millimetres.

Rudie: The answer is 112,008mm.

Molly: The answer is 1,1200.8mm.

Who is correct? Explain why.

⭐GD
R

9b. Sara and James are converting 259,200 seconds into hours.

Sara: The answer is 4,320 hours.

James: The answer is 72 hours.

Who is correct? Explain why.

⭐GD
R

Reasoning and Problem Solving
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Developing
1a. Luke is correct because his horse at 8.4kg of hay on Thursday, which is more than any other day.
2a. 2x Barrel; 2x Horse; 3x Toy Train
3a. Samara is correct because to convert mm to cm, you need to divide by 10. 355 ÷ 10 = 35.5

Expected
4a. John is incorrect because his pet snail travelled 11.15m on Wednesday, which is more than any other day.
5a. 3x Eggs; 2x Cheese; 2x Carrots
6a. Joey is correct because to convert cm to m, you need to divide by 100. 34,525 ÷ 100 = 345.25

Greater Depth
7a. Hannah is incorrect because her garden received 13.804L of water in Week 1, which is more than any other week.
8a. 2x Toy; 2x Box; 3x Book
9a. Rudie is correct because to convert m to mm, you need to multiply by 1,000. 112.008 x 1,000 = 112,008

Reasoning and Problem Solving
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Developing
1b. Farah is incorrect because her sunflower grew 44cm in Week 3, which is more than any other week.
2b. 1x Small; 2x Medium; 3x Large
3b. Jamal is correct because to convert L to ml, you need to multiply by 1,000. 8.5 x 1,000 = 8,500

Expected
4b. Ellie is incorrect because her container filled with 240ml on Friday, which is more than any other day.
5b. 2x Course 1; 1x Course 2; 2x Course 3
6b. Aelin is correct because to convert L to ml, you need to multiply by 1,000. 3.657 x 1,000 = 3,657

Greater Depth
7b. Sartaq is incorrect because Rhoe's tower was 585.304cm tall, which is taller than any of the other towers.
8b. 2x Nuts; 1x Sausages; 1x Apples
9b. James is correct because to convert seconds to hours, you need to divide by 3,600 (or divide by 60 and by 60 again). 259,200 ÷ 3,600 = 72