Units of Measurement - Worksheet

Skill

Group A - metric units of length

Convert:

1) $9\ cm$ to mm

2) $9.7\ cm$ to mm

3) $30\ mm$ to cm

4) $34\ mm$ to cm

5) $6\ m$ to cm

6) $6.7\ m$ to cm

7) $800\ cm$ to m

8) $830\ cm$ to m

9) $4\ km$ to m

10) $4.1\ km$ to m

11) $700\ m$ to km

12) $7\ 100\ m$ to km

Group B - metric units of mass and capacity

Convert:

1) $4\ kg\ to\ g$

2) $4.2\ kg\ to\ g$

3) $5\ 000\ g\ to\ kg$

4) $5\ 900\ g\ to\ kg$

5) $6\ l\ to\ ml$

6) $6.1\ l\ to\ ml$

7) $2\ 000\ ml\ to\ l$

8) $2\ 300\ ml\ to\ l$

9) $3\ l\ to\ cm^3$

10) $3.7\ l\ to\ cm^3$

11) $5\ 000\ cm^3\ to\ l$

12) $5\ 700\ cm^3\ to\ l$

Group C - metric units of area and volume

Convert:

1) $3\ cm^2\ to\ mm^2$

2) $3.8\ cm^2\ to\ mm^2$

3) $400\ mm^2\ to\ cm^2$

4) $410\ mm^2\ to\ cm^2$

5) $8\ m^2\ to\ cm^2$

6) $8.2\ m^2\ to\ cm^2$

7) $9\ 000\ cm^2\ to\ m^2$

8) $9\ 300\ cm^2\ to\ m^2$

9) $7\ cm^3\ to\ mm^3$

10) $7.5\ cm^3\ to\ mm^3$

11) $2\ 000\ mm^3\ to\ cm^3$

12) $2\ 100\ mm^3\ to\ cm^3$

Units of Measurement - Worksheet

Applied

1) **(a)** Convert 7.5 hours to seconds.

(b) Convert 500 000 seconds to hours.
Give your answer to the nearest hour.

2) **(a)** Use 1 pint ≈ 0.473 litres.
A bottle of milk contains 4 pints.
Convert to litres.

(b) A tin of paint contains 15 litres of paint.
How many pints of paint does a tin contain?
Give your answer correct to 3 significant figures.

3) **(a)** Use 1 inch ≈ 2.54 cm.
The length of a rope is 23 inches.
Convert to centimetres.

(b) A piece of wood measures 152 cm.
Convert to inches.
Give your answer to the nearest inch.

(c) If 12 inches are 1 foot, how many feet is this?

4) **(a)** Use 1 ounce ≈ 28.3 grams.
A banana weighs 4 ounces.
Convert to grams.

(b) Karl has a 500 g bag of flour.
A recipe asks for 16 ounces of flour.
Does he have enough flour?
Explain your answer.

Units of Measurement - Exam Questions

1) Write down a sensible metric unit for each measurement.

(a) The height of a house.

.....

(1)

(b) The mass of a person

.....

(1)

(c) The capacity of a cup

.....

(1)

(3 marks)

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2) Aya is 1.71 m tall. Dara is 8 cm shorter than Aya.
How tall is Dara?

.....

(2 marks)

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3) **(a)** Change 6 litres into cm^3.

.....

(1)

(b) Change 5 cm^2 into mm^2.

.....

(2)

(c) Change 108 km/h into m/s.

.....

(3)

(6 marks)

Units of Measurement - Exam Questions

4) Use 1 stone = 14 pounds
1 pound ≈ 450 grams

John weighs 13 stones and 5 pounds.
How much does he weigh in kilograms?

.....kg
(4 marks)

Units of Measurement - Answers

	Question	Answer
	Skill Questions	
Group A	Convert: **1)** $9\ cm$ to mm **2)** $9.7\ cm$ to mm **3)** $30\ mm$ to cm **4)** $34\ mm$ to cm **5)** $6\ m$ to cm **6)** $6.7\ m$ to cm **7)** $800\ cm$ to m **8)** $830\ cm$ to m **9)** $4\ km$ to m **10)** $4.1\ km$ to m **11)** $700\ m$ to km **12)** $7100\ m$ to km	 **1)** $90\ mm$ **2)** $97\ mm$ **3)** $3\ cm$ **4)** $3.4\ mm$ **5)** $600\ mm$ **6)** $670\ cm$ **7)** $8\ m$ **8)** $8.3\ m$ **9)** $4000\ m$ **10)** $4100\ m$ **11)** $0.7\ km$ **12)** $7.1\ km$
Group B	Convert: **1)** $4\ kg$ to g **2)** $4.2\ kg$ to g **3)** $5000\ g$ to kg **4)** $5900\ g$ to kg **5)** $6\ l$ to ml **6)** $6.1\ l$ to ml **7)** $2000\ ml$ to l **8)** $2300\ ml$ to l **9)** $3\ l$ to cm^3 **10)** $3.7\ l$ to cm^3 **11)** $5000\ cm^3$ to l **12)** $5700\ cm^3$ to l	 **1)** $4000\ g$ **2)** $4200\ g$ **3)** $5\ kg$ **4)** $5.9\ kg$ **5)** $6000\ ml$ **6)** $6100\ ml$ **7)** $2\ l$ **8)** $2.3\ l$ **9)** $3000\ cm^3$ **10)** $3700\ cm^3$ **11)** $5\ l$ **12)** $5.7\ l$

Units of Measurement - Answers

Group C	Convert: **1)** $3\ cm^2\ to\ mm^2$ **2)** $3.8\ cm^2\ to\ mm^2$ **3)** $400\ mm^2\ to\ cm^2$ **4)** $410\ mm^2\ to\ cm^2$ **5)** $8\ m^2\ to\ cm^2$ **6)** $8.2\ m^2\ to\ cm^2$ **7)** $9\ 000\ cm^2\ to\ m^2$ **8)** $9\ 300\ cm^2\ to\ m^2$ **9)** $7\ cm^3\ to\ mm^3$ **10)** $7.5\ cm^3\ to\ mm^3$ **11)** $2\ 000\ mm^3\ to\ cm^3$ **12)** $2\ 100\ mm^3\ to\ cm^3$	**1)** $300\ mm^2$ **2)** $380\ mm^2$ **3)** $4\ cm^3$ **4)** $4.1\ cm^3$ **5)** $80\ 000\ cm^2$ **6)** $82\ 000\ cm^2$ **7)** $0.9\ m^2$ **8)** $0.93\ m^2$ **9)** $7\ 000\ mm^3$ **10)** $7\ 500\ mm^3$ **11)** $2\ cm^3$ **12)** $2.1\ cm^3$

Units of Measurement - Answers

	Question	Answer
	Applied Questions	
1)	**a)** Convert $7.5\ hours$ to $seconds$ **b)** Convert $500\ 000\ seconds$ to $hours$. Give your answer to the nearest hour.	**a)** $7.5 \times 60^2 = 27\ 000\ s$ **b)** $500\ 000 \div 60^2 = 138.88...$ $139\ hours$
2)	**a)** Use 1 pint ≈ 0.473 litres. A bottle of milk contains 4 pints. Convert to litres. **b)** A tin of paint contains 15 litres of paint. How many pints of paint does a tin contain? Give your answer correct to 3 significant figures.	**a)** $4 \times 0.473 = 1.892\ l$ **b)** $15 \div 0.473 = 31.71...$ $31.7\ pints$
3)	**a)** Use 1 inch ≈ 2.54 cm. The length of a rope is 23 inches. Convert to centimetres. **b)** A piece of wood measures 152 cm. Convert to inches. Give your answer to the nearest inch. **c)** If 12 inches are 1 foot, how many feet is this?	**a)** $23 \times 2.54 = 58.42\ cm$ **b)** $152 \div 2.54 = 59.84...$ $= 60\ inches$ **c)** $60 \div 12 = 5\ foot$
4)	**a)** Use 1 ounce ≈ 28.3 grams. A banana weighs 4 ounces. Convert to grams.	**a)** $4 \times 28.3 = 113.2\ g$
	b) Karl has a 500 g bag of flour. A recipe asks for 16 ounces of flour. Does he have enough flour? Explain your answer.	**b)** $500 \div 28.3 = 17.66...\ ounces$ Yes, Karl has enough flour

Units of Measurement - Mark Scheme

	Question	Answer	
	Exam Questions		
1)	Write down a sensible metric unit for each measurement.		
(a)	The height of a house	**(a)** Metres (m)	**(1)**
(b)	The mass of a person	**(b)** Kilogram (kg)	**(1)**
(c)	The capacity of a cup.	**(c)** Millilitre (ml)	**(1)**
2)	Aya is 1.71 m tall. Dara is 8 cm shorter than Aya. How tall is Dara?	$1.71 - 0.08$ $= 1.63\ m$ or $163\ cm$	**(1)** **(1)**
3) **(a)**	Change 6 litres into cm^3.	**(a)** $6000\ cm^3$	**(1)**
(b)	Change 5 cm^2 into mm^2.	**(b)** 5×10^2 $= 500\ mm^2$	**(1)**
(c)	Change 108 km/h into m/s.	**(c)** $108 \times 1000 = 108\,000$ $= 108\,000 \div 60^2$ $= 30\ m/s$	**(1)**
4)	Use 1 stone = 14 pounds 1 pound ≈ 450 grams John weighs 13 stones and 5 pounds. How much does he weigh in kilograms? Give your answer correct to 3 significant figures	$13 \times 14 + 5 = 187\ pounds$ $187 \times 450 = 84\,150\ grams$ $84\,150 \div 1000 = 84.15$ $= 84.2\ kg$	**(1)** **(1)** **(1)** **(1)**