

# Functional Skills Maths

## Level 1

Convert units of measure in the same system

v1.0

**Functional Skills Maths:**

Level 1

**Skill Standard:**

8

**Coverage and Range:**

Convert units of measure in the same system.

- For example, 70 minutes to 1 hour 10 minutes, 0.36 metres to 360 mm, 0.6 hours to 36 minutes.<sup>1</sup>

---

<sup>1</sup> QCA Functional Skills guidance: amplification of the standards June 2008 QCA/08/3700

**Explain the Skill****Time**

The units for time are:

$$60 \text{ seconds} = 1 \text{ minute}$$

$$60 \text{ minutes} = 1 \text{ hour}$$

$$24 \text{ hours} = 1 \text{ day}$$

To convert seconds, minutes and hours you multiply or divide by 60

To convert from minutes to seconds, multiply by 60

To convert from seconds to minutes, divide by 60

To convert from hours to minutes, multiply by 60

To convert from minutes to hours, divide by 60

To convert days and hours you multiply or divide by 24

To convert days to hours, multiply by 24

To convert hours to days, divide by 24

**Convert hours and minutes to minutes.**

$$1 \text{ hour } 45 \text{ minutes} = 60 \text{ minutes} + 45 \text{ minutes} = 105 \text{ minutes}$$

$$3 \text{ hours } 15 \text{ minutes} = 3 \times 60 \text{ minutes} + 15 \text{ minutes} = 195 \text{ minutes}$$

**Convert minutes to hours and minutes.**

$$90 \text{ minutes} = 90 \div 60 = 1 \text{ hour } 30 \text{ minutes}$$

$$450 \text{ minutes} = 450 \div 60 = 7 \text{ hours } 30 \text{ minutes}$$

**Convert hours to days.**

Convert 76 hours into days

$$76 \div 24 = 3 \text{ days with } 4 \text{ left over} = 3 \text{ days } 4 \text{ hours}$$

**Practise the Skill**

1) Convert the following times into hours.

120 minutes

\_\_\_\_\_ hours

4 days

\_\_\_\_\_ hours

45 minutes

\_\_\_\_\_ hours

2) Convert the following times into minutes.

140 seconds

\_\_\_\_\_ mins \_\_\_\_\_ seconds

240 seconds

\_\_\_\_\_ mins

1 hour 15 minutes

\_\_\_\_\_ mins

3) Convert the following times into hours and minutes.

85 minutes

\_\_\_\_\_ hr \_\_\_\_\_ mins

205 minutes

\_\_\_\_\_ hr \_\_\_\_\_ mins

444 minutes

\_\_\_\_\_ hr \_\_\_\_\_ mins

4) Convert the following times into days and hours.

56 hours

\_\_\_\_\_ days \_\_\_\_\_ hr

109 hours

\_\_\_\_\_ days \_\_\_\_\_ hr

165 hours

\_\_\_\_\_ days \_\_\_\_\_ hr

5) Josie is going to a conference in 120 hours.

How many days is this?

\_\_\_\_\_ days

6) There will be 280 minutes of presentations at the conference.

How many hours will she be at presentations?

\_\_\_\_\_ hr \_\_\_\_\_ mins

7) She is catching a train. It will depart in 1 hour 19 minutes.

How many minutes does she have to wait?

\_\_\_\_\_ minutes

8) At the conference the average presentation is 1980 seconds.

How many minutes is this?

\_\_\_\_\_ minutes

9) When the conference finishes she talks to some colleagues for 0.4 hours.

How many minutes is this?

\_\_\_\_\_ minutes

10) Jim is baking bread and he needs to let the dough prove for 210 minutes.

What is this time in hours and minutes?

\_\_\_\_\_ hr \_\_\_\_\_ mins

11) Bubba has gone camping and leaves his torch on for 3.75 hours.

How many minutes is this?

\_\_\_\_\_ minutes

## Explain the Skill

### Length

Length is how long something is. The metric units for length are:

**mm = millimetre**

**cm = centimetre**

**m = metre**

**km = kilometre**

**10 mm = 1 cm**

**100 cm = 1 m**

**1000 m = 1 km**

To convert from one unit to another you multiply or divide by 10, 100 or 1000

To convert mm to cm, divide by 10

To convert cm to mm, multiply by 10

To convert cm to m, divide by 100

To convert m to cm, multiply by 100

To convert m to km, divide by 1000

To convert km to m, multiply by 1000

Convert 20 cm to millimetres

Change cm into mm by multiplying by 10

$$20 \text{ cm} \times 10 = 200 \text{ mm}$$

Convert 450 cm to metres

Change cm to m by dividing by 100

$$450 \text{ cm} \div 100 = 4.5 \text{ m}$$

**Practise the Skill**

1) How many millimetres are there in:

50 cm

\_\_\_\_\_ mm

405 cm

\_\_\_\_\_ mm

3 m

\_\_\_\_\_ mm

2) How many metres are there in:

75 km

\_\_\_\_\_ m

8 km

\_\_\_\_\_ m

9500 cm

\_\_\_\_\_ m

3) What is 456 mm in metres?

\_\_\_\_\_ m

4) What is 192 300 mm in kilometres?

\_\_\_\_\_ km

5) Louise needs a new washing machine. She measures the space in the kitchen where the machine will go. It measures 65 cm. She goes to the shop and the machine she likes is 600 mm wide.

Will the machine fit in the space in her kitchen? Circle your answer.

Yes / No

6) Jim needs a photograph for his passport. It must be 45 mm x 35 mm. Jim says this is the same as 0.45 cm x 0.35 cm.

Is he right? Circle your answer.

Yes / No

- 7) Ronnie is training for a charity swim. The pool where she swims has a 25 metre pool.

What is the length of the pool in centimetres?

\_\_\_\_\_ cm

- 8) As part of her training, Ronnie also goes running. She needs to run 15 kilometres and is plotting a route.

What is 15 km in centimetres?

\_\_\_\_\_ cm

- 9) You buy a 4310 cm climbing rope.

How many metres is this?

\_\_\_\_\_ m

- 10) The famous youth sprinter Jesse Jolt was able to run 9400 cm in just over 9 seconds.

How many metres is this?

\_\_\_\_\_ m

- 11) Becky Mansfield is swimming across the English Channel, which is 35010 m.

How many km is this? Circle your answer.

3.501 km

350.1 km

35.01 km

3501 km

- 12) You want to send a package in the post. Your box is 305 mm long.

How many cm is this?

\_\_\_\_\_ cm

## Explain the Skill

### Weight

Weight is how heavy something is. The metric units for weight are:

**g = gram**

**kg = kilogram**

**1000 g = 1 kg**

To convert from one unit to another you multiply or divide by 1000

To convert g to kg, divide by 1000

To convert kg to g, multiply by 1000

How many grams are there in 12 kg?

To change g to kg, you multiply by 1000

$$12 \text{ kg} \times 1000 = 12\,000 \text{ g}$$

How many kilograms are there in 7200 g?

To change kg to g, you divide by 1000

$$7200 \text{ g} \div 1000 = 7.2 \text{ kg}$$

**Practise the Skill**

- 1) Convert these grams to kilograms.

4500 g

\_\_\_\_\_ kg

845 g

\_\_\_\_\_ kg

30 g

\_\_\_\_\_ kg

- 2) Convert these kilograms to grams.

7 kg

\_\_\_\_\_ g

5.5 kg

\_\_\_\_\_ g

2.08 kg

\_\_\_\_\_ g

- 3) Which is the heavier weight, 3.7 kg or 3 kg 70g? Circle your answer.

3.7 kg

3 kg 70 g

- 4) Dave is lifting a bag of cement. It weighs 25 kg. He has been told that if anything weighs over 30 000 grams he needs to get another person to help.

Does Dave need to ask for help?

Yes /No

- 5) Wendy buys a chicken for dinner. It weighs 4560 grams.

How many kilograms is this?

\_\_\_\_\_ kg

- 6) Laura is baking some bread and needs 1.25 kilogram of strong flour. Her kitchen scales only weigh in grams.

How much flour does she need in grams?

\_\_\_\_\_ g

7) You buy some cycling shoes. They weigh 0.235 kilograms.

How many grams is this?

\_\_\_\_\_ g

8) Craig goes on a diet. He loses 3.2 kg over a month.

How many grams did he lose?

\_\_\_\_\_ g

9) You buy a small bag of sugar which weighs 750 grams.

What is this in kilograms?

\_\_\_\_\_ g

10) You are preparing a large meal. You need 6 kg of Turkey. At the supermarket you see the following sizes of Turkey.

Circle the most appropriate answer.

- Turkey A: 600 g
- Turkey B: 60 g
- Turkey C: 6000 g
- Turkey D: 9000 g

## Explain the Skill

### Capacity

Capacity is the amount that something will hold. Liquid is measured in millilitres, centilitres, and litres.

The metric units for capacity are:

**ml = millilitre**

**cl = centilitre**

**L = litre**

**1000 ml = 1 litre**

**100 cl = 1 litre**

To convert ml to litres, divide by 1000

To convert cl to litres, divide by 100

To convert litres to ml, multiply by 1000

To convert litres to cl, multiply by 100

You can write capacity using decimals, e.g., this bottle of liquid is 1250 ml or 1 litre 250 ml  
This is the same as 1.25 litres

How many millilitres are there in 1.25 L?

To change L to ml, you multiply by 1000

$$1.25 \text{ L} \times 1000 = 1250 \text{ ml}$$

How many litres are there in 850 ml?

To change ml to L, you divide by 1000

$$850 \text{ ml} \div 1000 = 0.85 \text{ L}$$

How many centilitres are in 650 ml?

To change ml to cl you divide by 10

$$650 \text{ ml} \div 10 = 65 \text{ cl}$$

**Practise the Skill**

- 1) Convert these capacities into litres.

4500 ml

\_\_\_\_\_ litres

950 ml

\_\_\_\_\_ litres

450 ml

\_\_\_\_\_ litres

- 2) Convert these capacities into millilitres.

0.4 litres

\_\_\_\_\_ ml

80 cl

\_\_\_\_\_ ml

1.06 litres

\_\_\_\_\_ ml

- 3) Convert these capacities into millilitres.

6.3 litres

\_\_\_\_\_ ml

0.125 litres

\_\_\_\_\_ ml

2.05 litres

\_\_\_\_\_ ml

- 4) Circle all of the capacities that are the same.

0.025 litres

2.05 litres

250 ml

2500 ml

0.25 litres

- 5) Laura is making bread and she needs to add 65 centilitre of water. Her measuring jug only measures in ml.

How many millilitres of water does she need to add?

\_\_\_\_\_ ml

- 6) Aimee works in a hair salon and she has been asked to order shampoo from the supplier. The size of bottle used in the salon is 1500 ml.

Which size does Aimee need to order? Circle your answer.

15 L

1.005 L

1.05 L

5 L

0.15 L

1.5 L

- 7) For every hour of intense exercise, athlete Edward Greytree drinks 1045 ml of water.  
How many litres is this?  
  
\_\_\_\_\_ litres
- 8) It is recommended that the average adult drinks 2.5 litres a day.  
How many centilitres is this?  
  
\_\_\_\_\_ cl
- 9) Studies show that the average person in the UK drinks at least three cups of tea per day. That's 900 millilitres.  
How many centilitres is it?  
  
\_\_\_\_\_ cl
- 10) You are going camping. Your water container can carry up to 7.5 litres.  
How many millilitres is this?  
  
\_\_\_\_\_ ml
- 11) You are looking to buy the largest capacity kettle.  
Which of the kettles below has the largest capacity?  
Circle your answer.
- **Kettle A:** 1 Litre
  - **Kettle B:** 150 cl
  - **Kettle C:** 400 ml
  - **Kettle D:** 1020 ml

**Apply the Skill**

- 1) Gerry has booked a flight to Belfast. The flight takes 1 hour and 5 minutes.  
How many minutes will it take?

\_\_\_\_\_ minutes

- 2) He lives 20 kilometres from the airport. Gerry tells the taxi driver it is 2000 metres to the airport.

Is he correct? Circle your answer.

Yes / No

- 3) The taxi journey takes 0.6 hour.  
How many minutes does it take?

\_\_\_\_\_ minutes

- 4) Gerry is taking hand luggage and has read online that his bag should be 550 mm x 400 mm x 230 mm. His bag measures 52 cm x 39 cm x 24 cm.

Does his bag meet the requirements? Circle your answer.

Yes / No

- 5) At check-in the person in front of Gerry has a suitcase weighing 22 900 g. The weight limit is 23 kg.

Is the suitcase above or below the limit? Circle your answer.

Above / Below

- 6) Liquids have to be in a container with a maximum volume of 100 ml. Gerry has a 0.12 litre bottle of aftershave.

Will he be allowed to take it onto the plane? Circle your answer.

Yes / No

- 7) He decides to buy some chocolate but has to buy the lightest amount as his bag is close to the maximum weight allowance.

**Circle the lightest weight.**

750 g

0.7 kg

7.5 kg

705 g

7.05 kg

- 8) Gerry is tall and finds the seats cramped. Regular seats have 43 cm of leg room but there are some priority seats with 470 mm of leg room.

What is the leg room of priority seats in centimetres?

\_\_\_\_\_ cm

- 9) He buys a cup of coffee on the flight. On the menu it states that coffee is in a 0.35 L cup. When he gets his coffee, the cup measures 335 ml.

Has he got more or less coffee? **Circle your answer.**

More / Less

- 10) Gerry spends 57 hours in Belfast.

How many days and hours is this?

\_\_\_\_\_ days \_\_\_\_\_ hours