

Health Science Pathway

Module 4: Measurements, Units and Chemistry Calculations for Health Science

Complete the following unit conversions:

1. There are ___ in 2000 mm?

- A 200m
- B 2m
- C 0.002m
- D 0.02m

Answer: B

2000 mm = 2m (1 mm is 1 thousandth of 1 m). Therefore we need to divide 2000 mm by 1000)

2. There are _____ in 0.05 ml?

- A 0.00005 L
- B 5 L
- C 50 L
- D 0.0005 L

Answer: A

0.05 ml = 0.00005 L (1 ml is 1 thousandth of 1 L. Therefore we need to divide 0.05 ml by 1000).

3. 30 mg is the same mass as:

- A 300 decigrams
- B 0.3 grams
- C 0.0003 kg
- D 0.03 g

Answer: D

30 mg = 0.03 g (1 mg is 1 thousandth of 1 g). Therefore we need to divide 30 mg by 1000.

4. 30 microlitres is the same as:

- A 30000000 L
- B 30000 decilitres
- C 0.000003 L
- D 0.03 ml

Answer: D

$30\mu\text{L} = 0.03\text{ ml}$ (1 μL is 1 millionth of 1 L. Let us first convert 30 μL into litres. Now 1 μL is equal to 1 millionth of 1L so we need to divide 30 by 1000 000. Therefore:

$$30\ \mu\text{L} = 0.00003\text{L}$$

But our answer is somewhat in “disguise”. 1 L is equal to 1000 ml so we need to multiply 0.00003 L by 1000 to get 0.03 ml).

5. 20 grams is the same as:

- A 2000 mg
- B 20000 mg
- C 200000 mg
- D 200 mg

Answer: B

$20\text{ g} = 20\ 000\text{ mg}$ (1 g is equal to 1000 mg). Therefore we need to multiply 20 by 1000.

6. 4 g is equal to:

- A 0.04 mg
- B 0.4 mg
- C 400 mg
- D 4000 mg

Answer: D

$4\text{ g} = 4\ 000\text{ mg}$ (1 g is equal to 1000 mg). Therefore we need to multiply 4 by 1000).

7. There are ____ in 12.0 ml?

- A 12000 L
- B 120 L
- C 0.012 L
- D 0.12 L

Answer: C

$12\text{ ml} = 0.012\text{ L}$ (1 ml is 1 thousandth of 1 L. Therefore we need to divide 12 by 1000).