



Giga, Mega, Kilo, etc. are prefixes.

Giga means one billion, such as Gigabytes for computer memory or Gigacows for 1 billion cows.

The most common base units in the metric system are listed in the box above.

On the following sheets are practice conversion problems. Work with your partners to not only finish the work but to improve your understanding of the material.

Students who received a poor grade have the chance to improve their test score with a retake. Students who are helping will have points added to their existing test based on how much the students they are helping improve their test scores.

Conversions: Use the stair steps on the previous page to convert the following measurements:

1. $125.67\text{mm} = \underline{\hspace{2cm}}\text{dm}$

2. $23.43\text{m} = \underline{\hspace{2cm}}\text{cm}$

3. $4.56\text{Km} = \underline{\hspace{2cm}}\text{m}$

4. $356.8\mu\text{m} = \underline{\hspace{2cm}}\text{m}$

5. $225\text{Mm} = \underline{\hspace{2cm}}\text{dm}$

6. $3.4567\text{dk} = \underline{\hspace{2cm}}\text{mm}$

7. $345.7\text{Gm} = \underline{\hspace{2cm}}\mu\text{m}$

8. $0.007867\text{Mm} = \underline{\hspace{2cm}}\text{mm}$

9. $22987543\text{mm} = \underline{\hspace{2cm}}\text{Gm}$

10. $0.000000987\text{mm} = \underline{\hspace{2cm}}\text{Km}$

11. $1000000000\text{Gm} = \underline{\hspace{2cm}}\text{dm}$

12. $343.435\text{cm} = \underline{\hspace{2cm}}\text{nm}$

13. $234.567\text{nm} = \underline{\hspace{2cm}}\text{pm}$

14. $0.000090089\text{Km} = \underline{\hspace{2cm}}\text{cm}$

15. $600023.9\text{Km} = \underline{\hspace{2cm}}\mu\text{m}$

16. $0.000098\text{nm} = \underline{\hspace{2cm}}\text{m}$

17. $789\text{cm} = \underline{\hspace{2cm}}\text{Mm}$

Answer the following; using formal dimensional analysis method - show your work!

18. How many cm in a meter?

19. How many mm in a hm?

20. How many μm in a dm?

21. How many nm in a μm ?

22. How many dm in a Km?

23. How many dekaseconds in a Kilosecond?

24. How many mg in a Kg?

25. How many mL in a L?

26. How many Mg in a Gg?

27. How many Kg in a Gg?

Match the following:

_____gram

_____micro

_____Kilo

_____deca

_____deci

_____milli

_____hecto

_____Liter

_____Giga

_____meter

_____centi

_____second

_____nano

_____Mega

a) Billion

b) million

c) thousand

d) hundred

e) ten

f) standard or reference unit

g) tenth

h) hundredth

i) thousandth

j) millionth

k) billionth

Circle the smaller unit. In the space to the right put how many times bigger the larger unit is compared to the smaller unit:

milligram	Kilogram	_____
deciLiter	dekaLiter	_____
Gigameter	Megameter	_____
centigram	microgram	_____
nanosecond	microsecond	_____
hectometer	decimeter	_____
KiloLiter	MegaLiter	_____

Do the following conversions; be sure to include units with your answer.

- 1) Convert 14 mm to cm
- 2) Convert 0.63 m to mm
- 3) Convert 7.54 km to cm
- 4) Convert 0.00921 cm to μm
- 5) Convert 1.3 μm to mm
- 6) Convert 2.06 m to km
- 7) Convert 0.58 nm to μm
- 8) Convert 231 mm to nm
- 9) Convert 59 km to m
- 10) Convert 4.27 μm to km
- 11) Convert 240000 nm to cm
- 12) Convert 0.00061 m to μm
- 13) Convert 489 cm to mm
- 14) Convert 0.23 mm to m
- 15) Convert 0.015 m to cm
- 16) Convert 196 nm to mm