

# PHYSMATH

8: Unit prefixes

## LEARNING OUTCOMES

### Level 4

- Recall the prefix symbols and values of milli, centi, kilo, mega, giga and tera

### Level 5

- Convert between unit prefixes

### Level 6

- Explain why unit prefixes are used in everyday life

## NAME...

Lit

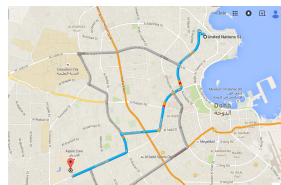
- 3 units for time
- 3 units for distance
- 3 units for speed

## KILO!

- What's the difference between a kilometre and a metre?
- What's the difference between a kilogram and a gram?
- Can you think of any other words that begin with kilo?

## KILO MEANS 1000!

United Nations DQ, Doha	11
Villaggio Shopping Mall, Al Wabab Street, Doha	12
Learn more	
Go to Al Wabab St	21 min
Walk without traffic	14 min
Details	
Al Wabab St	25 min
The Green St	30 min



So when you say that Villaggio is 14 kilometres away from school, what you're really saying is that Villaggio is 14 thousand metres away from school

## UNIT PREFIXES

Lit

- Prefix means something that goes before a word
- Eg. *Grand*father means your parent's father
- In Physics, we use prefixes to change the value of numbers
- Eg. *Kilo*metre means one thousand metres

What other prefixes could go in front of the word  
'metre'?

2 minutes: Think, pair, share

## COMPUTER STORAGE



- You've probably heard of the byte, which is the unit of information storage
- Have you heard of kilobyte?
- Can you put any other prefixes in front of the word byte?
- 1 min: Individual

Prefix	Symbol	Value in words	Numerical value
Milli	m	Thousandth	0.001
Centi	c	Hundredth	0.01
Kilo	k	Thousand	1000
Mega	M	Million	1 000 000
Giga	G	Billion	1 000 000 000
Tera	T	Trillion	1 000 000 000 000

### Convert the following

1. 15km to metres
2. 280Gm to metres
3. 300 ms to seconds
4. 4kg to grams
5. 50 Ms to seconds
6. 60 km/hr to m/hr
7. 20 Mm/min to m/min
8. 100 km/hr to km/min
9. 80 km/min to km/s
10. 900 km/hr to m/s

### Extension

Give examples of objects which would have physical quantities of this size

eg. Q1 could be the distance from your house to school

## PLENARY

- Write a two sentence summary which explains why Physicists use prefixes
- Share your ideas with the class

## LEARNING OUTCOMES

- ✓ **Level 4**
  - Recall the prefix symbols and values of kilo, mega, giga and tera
- ✓ **Level 5**
  - Convert between unit prefixes
- ✓ **Level 6**
  - Explain why unit prefixes are used in everyday life