

Find out

1. Complete the table of units.

2. Find out the distance between the Earth and the Andromeda galaxy in km.

3. Find out how the metre was first calculated.

Quantity	SI unit name	Symbol
electrical current		
force		
frequency		
power		
pressure		
speed		
temperature		
time		

Test yourself

4. a. How many centimetres are there in 1 m? _____

b. How many millimetres are there in 1 m? _____

c. What fraction of a 1 m is 1 mm? _____

5. The spike protein that sticks out of SARS-CoV-2 is 23 nm long and its head is 7 nm wide.

a. How long is 23 nm in metres? (Remember that 1 nm is $1 \text{ m} \div 1\,000\,000\,000$.)

b. Write your answer to a in standard form/scientific notation. _____

c. Write 7 nm in m in standard form.

6. A common bacterium, *E. coli*, is 2 μm long.

a. Write this length in m in standard form. _____

b. How many orders of magnitude bigger is *E. coli* compared with SARS-CoV-2?

Check-up

I. Check your answers.

II. Draw a table to compare your height with some different things (e.g. the diameter of the Sun, a bacterium, an atom). Show all measurements in metres in standard form and state the orders of magnitude. (Remember that if you are 1.5 m high, this is 1.5×10^0 m in standard form, which means 1.5 multiplied by 10 zero times, i.e. not multiplied.)