

Gas laws 1

Before you answer the puzzle below fill in the table showing what you do to convert to SI units

Eg ÷1000

non SI unit	SI unit	conversion into SI unit
atm		
°C		
cm ³		
litre		

Gridlock 1

Each row, column and 2×2 box contains information about the four non SI units above. Use your problem solving skills and the answers in the table above to fill in the blank boxes.

non SI units		conversion into SI units	
	atm		÷ 1000
			x 100,000
+ 273			cm ³
conversion	into SI units	non S	l units



gridlocks – can you unlock the grid?

Gridlock 2

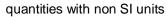
Each row, column and 2 x 2 box contains four different temperatures.

temperature in °C		temperature in K	
0			373
	100	273	
	298		
		-273	
tempera	ture in K	temperat	ure in °C

Gridlock 3

This puzzle contains data for p, V, n, and T. Convert the pressure, volume and temperature into SI units, solve the puzzle and calculate the value of n. (R = 8.31 J/K/mol)

quantities with SI units		quantities with non SI units	
			1 atm
		25 °C	1 litre
	25 °C		
1 litre	mol		



quantities with SI units





gridlocks - can you unlock the grid?

Gas laws 1 - answers

Before you answer the puzzle below fill in the table showing what you do to convert to SI units

Eg ÷1000

non SI unit	SI unit	conversion into SI unit
atm	Pa	x 100,000
°C	К	+ 273
cm ³	m³	÷ 1 million
litre	m³	÷1000

Puzzle 1 - answers

Each row, column and 2 x 2 box contains information about the four non SI units above Use your problem solving skills and the answers in the table above to fill in the blank boxes.

non SI units		conversion into SI units	
cm ³	atm	+ 273	÷ 1000
litre	°C	÷ 1 million	x 100,000
x 100,000	÷ 1 million	litre	°C
+ 273	÷ 1000	atm	cm ³

conversion into SI units

non SI units





gridlocks - can you unlock the grid?

Puzzle 2 - answers

Each row, column and 2 x 2 box contains four different temperatures.

temperature in °C		temperature in K	
0	-273	298	373
25	100	273	0
0	298	100	0
373	273	-273	25
temperature in K		temperature in °C	

Puzzle 3 – answers

This puzzle contains data for p, V, n, and T. Convert the pressure, volume and temperature into SI units, solve the puzzle and calculate the value of n. (R = 8.31 J/K/mol)

quantities with SI units		quantities with non SI units	
298 K	0.001 m ³	0.040 mol	1 atm
0.040 mol	100000 Pa	25 °C	1 litre
1 atm	25 °C	0.001 m ³	0.040 mol
1 litre	0.040 mol	100000 Pa	298 K
quantities with non SI units		quantities with SI units	



