gridlocks – can you unlock the grid?

Concentration of solutions 1

Before you answer the puzzles below fill in the table of concentrations in mol/dm^3 using:

$$\text{concentration} = \frac{\text{moles}}{\text{volume (in dm}^3\text{)}}$$

moles	concentration of solution in mol/dm^3 when given number of moles is:			
	dissolved in 1 dm^3	dissolved in 2 dm^3	dissolved in 0.5 dm^3	dissolved in 0.25 dm^3
1	1			
2			4	
0.5		0.25		
0.4			0.8	
0.1				0.4

Gridlock 1

Each row, column and 2 x 2 box contains concentrations when 1, 2, 0.5 and 0.1 moles are dissolved in the various volumes. Use your problem solving skills and the answers in the table above to fill in the blank boxes.

in 1 dm^3		in 2 dm^3	
1			0.05
	0.1		
			10
		20	

in 0.5 dm^3 | in 0.1 dm^3

Gridlock 2

gridlocks – can you unlock the grid?

Each row, column and 2 x 2 box contains concentrations when 0.4, 0.2, 0.5 and 0.1 moles are dissolved in the various volumes.

in 1 dm^3		in 2 dm^3	
0.2			
		0.05	
		4	
	1		

in 0.5 dm^3 | in 0.1 dm^3

Gridlock 3

Each row, column and 2 x 2 box contains concentrations when 0.4, 0.2, 0.8 and 0.05 moles are dissolved in the various volumes.

in 1 dm^3		in 2 dm^3	
	0.4		0.025
			0.2
0.4			8

in 0.5 dm^3 | in 0.1 dm^3

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Concentration of solutions 1 – answers

Before you answer the puzzles below fill in the table of concentrations in mol/dm^3 using:

$$\text{concentration} = \frac{\text{moles}}{\text{volume (in dm}^3\text{)}}$$

moles	concentration of solution in mol/dm^3 when given number of moles is:			
	dissolved in 1 dm^3	dissolved in 2 dm^3	dissolved in 0.5 dm^3	dissolved in 0.25 dm^3
1	1	0.5	2	4
2	2	1	4	8
0.5	0.5	0.25	1	2
0.4	0.4	0.2	0.8	1.6
0.1	0.1	0.05	0.2	0.4

Gridlock 1 – answers

Each row, column and 2 x 2 box contains concentrations when 1, 2, 0.5 and 0.1 moles are dissolved in the various volumes. Use your problem solving skills and the answers in the table above to fill in the blank boxes.

in 1 dm^3		in 2 dm^3	
1	2	0.25	0.05
0.5	0.1	0.5	1
4	1	1	10
0.2	2	20	5
in 0.5 dm^3		in 0.1 dm^3	

gridlocks – can you unlock the grid?

Gridlock 2 – answers

Each row, column and 2 x 2 box contains concentrations when 0.4, 0.2, 0.5 and 0.1 moles are dissolved in the various volumes.

in 1 dm^3		in 2 dm^3	
0.2	0.1	0.25	0.2
0.5	0.4	0.05	0.1
0.2	0.4	4	5
0.8	1	2	1
in 0.5 dm^3		in 0.1 dm^3	

Gridlock 3 – answers

Each row, column and 2 x 2 box contains concentrations when 0.4, 0.2, 0.8 and 0.05 moles are dissolved in the various volumes.

in 1 dm^3		in 2 dm^3	
0.8	0.4	0.1	0.025
0.05	0.2	0.4	0.2
0.8	1.6	0.5	2
0.4	0.1	4	8
in 0.5 dm^3		in 0.1 dm^3	