1 How many moles of hydrogen atoms are there in 0.0010 mole (1.0 x 10-3 mol) of sucrose (C12H22O11)?

A 0.0010
B 2.2 x 10-20
C 0.011
D 0.022
E none of the above

2 How many hydrogen atoms are there in 0.0010 mole (1.0 x 10-3 mol) of sucrose (C12H22O11)? Avogadro's number (NA) = 6.0 x 1023.

A 1.3 x 1022
B 0.022
C 6.0 x 1020
D 22
E none of the above

3 How many moles of water molecules are in 1 L = 1000 mL = 1 kg = 1000g?

A ~ 1 mol
B ~ 10 mol
C ~ 50 mol
D much more than 50 mol

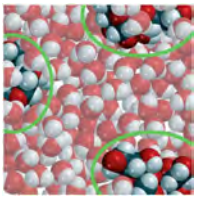
4 How many water molecules are there per sugar molecule in a 1 M solution of sugar, C6H12O6?

A 1 water : 1 sugar
B 1 water : 10 sugar
C 10 water : 1 sugar
D None of these

5 100 g of glucose (C6H12O6) dissolves in 100 mL of water. Estimate how many molecules of water there are for each molecule of glucose.

A 1000
B 100
C 10
D 1

6 Challenge: Estimate the molarity of the aqueous sugar solution represented in the figure.



A 0.3 M = 0.3 mol sugar/Liter water
B 1 M
C 3 M
D None of these