

Simulation Lab – The Dozen

Press Release – Scientists have, through countless hours of research and experimentation, derived a remarkable new constant – the dozen. Study the exciting, highlighted conclusion in the box below:

1 dozen = 12 particles

It is expected to be the breakthrough discovery that will change life and laws of chemistry and physics, as we know them, forever!

Your Task?? As with any new scientific discovery, this one must be exposed to the rigorous testing of the scientific community. Can this constant withstand such scrutiny?

1. Use the balances to complete the following calculations
 - 1 dozen jellybeans = _____ pieces of jellybeans
= _____ g Therefore, one dozen jellybeans has a mass of _____ g
 - 1 dozen rotini = _____ pieces of rotini
= _____ g Therefore, one dozen rotini has a mass of _____ g
 - 1 dozen of rice = _____ pieces of rice
= _____ g Therefore, one dozen rice has a mass of _____ g

Use your calculations from question 1 to complete the table below.

Substance	# of dozens	Mass	# of Particles
jellybeans	2		
			62
			4
	7.5		
Rotini	22		
	5		
			210
			1.3×10^3
Rice	6.4		
			6.0×10^6
			75
	12		

2. How many dozens are present in each of the following quantities? Show your calculations.
 - a) 300 g of jellybeans
 - b) 600 g of rotini
 - c) 1 kg of rice