Explanation of macroscopic scientific phenomena with sub-microscopic particle theory

♦ Mixing water and alcohol (*Particle view at liquid state*)



	Before mixing		After mixing	
	Volume	Mass	Volume	Mass
Water	50 cm^3	g	cm ³	
Water	50 cm^3			g



	Before mixing		After mixing	
	Volume	Mass	Volume	Mass
Water	50 cm^3	- g	cm ³	g
Alcohol	50 cm^3			

- The mass is _____.
- BUT the volume is _____.
 - ► WHY?
 - \Rightarrow Is it caused by the evaporation of alcohol?
 - \Rightarrow Is it a measurement error?

✤ The observable analogy for the particle view – mixing beads of different sizes



	Before mixing		After mixing	
	Volume	Mass	Volume	Mass
Red beads	50 cm^3	g	cm ³	g
White beads	50 cm^3			

- > The mass is _____.
- > BUT the volume is _____.
 - \Rightarrow WHY?

	Red beads / white beads	
Change in mass after mixing?		
WHY?		
Change in volume after mixing?		
WHY?		

> Draw a diagram to show the mixture of red and white beads in the space provided.



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The smaller white beads ______ between the larger red beads.

- Particle view of water
 - ➤ When a drop of water is being magnified:



• Explain the phenomenon using the particle model of water and alcohol



- > The mass is conserved.
- \succ BUT the volume is reduced.