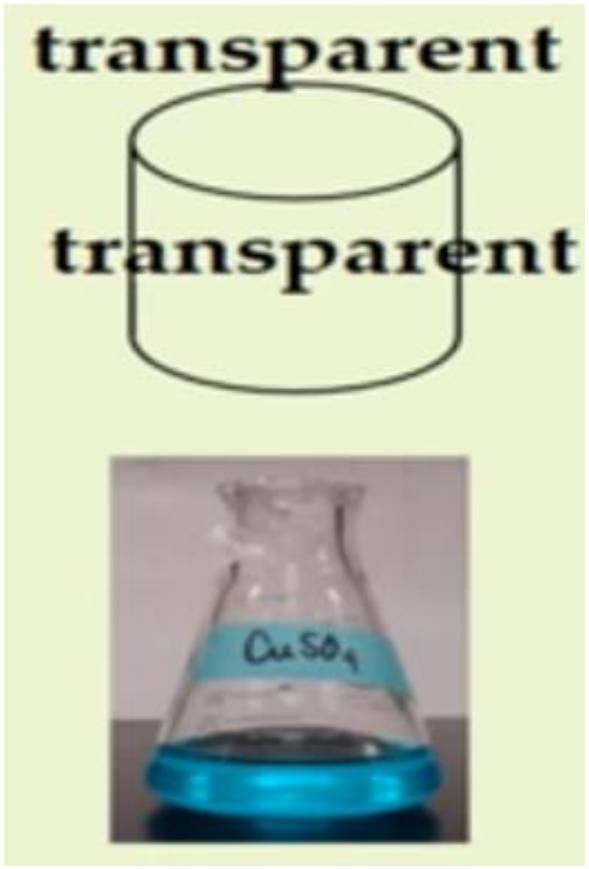
Classifying Mixtures: Reference Table of Properties for Solutions, Suspensions and Colloids ←STUDY NOTES

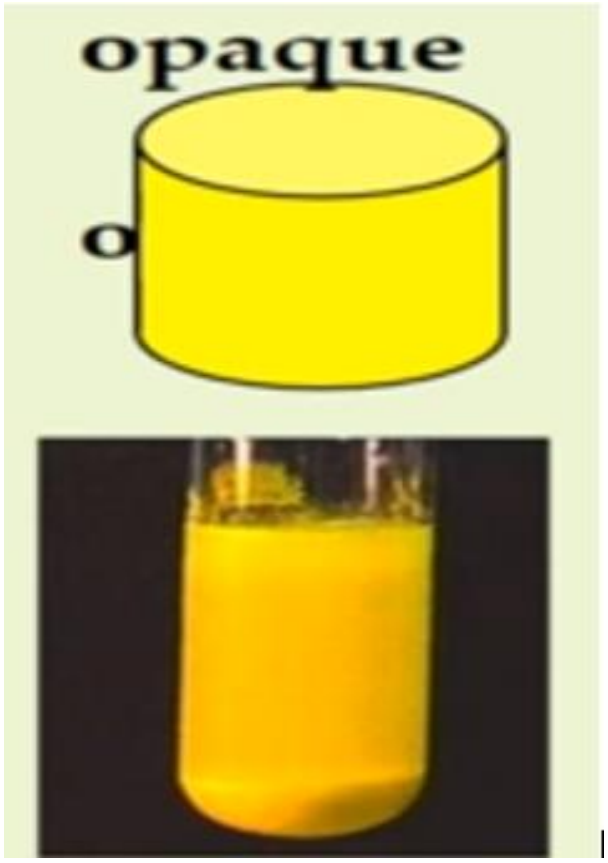
Directions: Fill in the table from the readings and to the best of your knowledge.	**Solutions** Mixture (Y or N)?	**Suspensions** Mixture (Y or N)?	**Colloids** Mixture (Y or N)?
Describe the spacing, arrangement or distribution of the particles in each. Draw a little picture next to your writing of the particles. List: Heterogeneous or Homogeneous			
Describe the size of the particles. Write the actual particles' range sizes.			
Answer the following questions =>	List the two parts of a solution: What is the process of forming a solution?	List 3 ways to separate suspensions.	List the two parts: What's a specific type of colloid and what makes it different?
List examples of each from the reading and class.			
Particle size compared to light-waves: Tyndall Effect: Does it scatter light? List: transparent, translucent, opaque	(Y or N or sometimes)	(Y or N or sometimes)	(Y or N or sometimes)

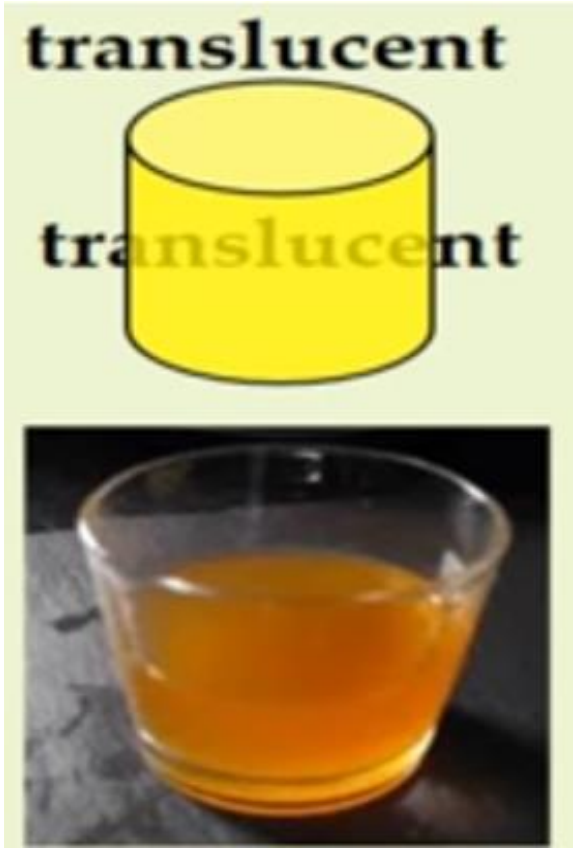
VIBGYOR

400ηm 750 ηm

solutions	colloids	suspensions
$1\eta m$ to $10^{-9}m$	$1\mu m$ to $10^{-6}m$	$10\mu m$ to $10^{-5}m$
• won't separate on standing (indefinitely stable) • non-filterable	• separates slowly on standing (60 years ↔ 2 days) • separable by semi-permeable membranes (cell walls)	• separate on standing (48 hr ↔ 30 min) • filterable







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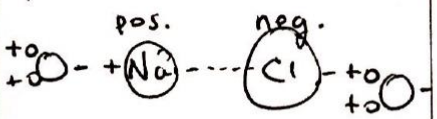
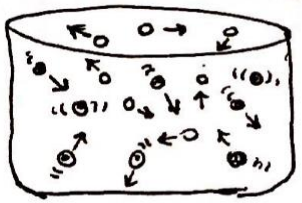
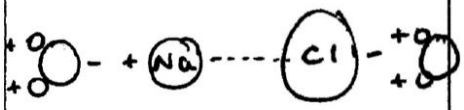
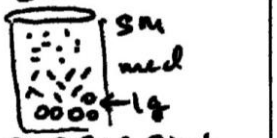
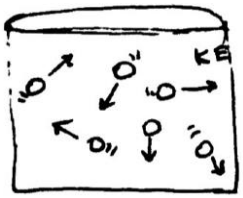
Directions: Fill in the table from the readings and to the best of your knowledge.	**Solutions** Mixture (Y or N)?	**Suspensions** Mixture (Y or N)?	**Colloids** Mixture (Y or N)?
Describe the spacing, arrangement or distribution of the particles in each. Draw a little picture next to your writing of the particles. List: Heterogeneous or Homogeneous	Molecular arrangement of particles due to "ionic dissociation" particles dissolve  		KE - Kinetic Energy rules the particle KE greater than gravity Particles don't settle 
Describe the size of the particles. Write the actual particles' range sizes.	Smallest - atomic scale	Largest -	Medium (approx) size ≤ 1000nm to size ≥ 100nm
Answer the following questions =>	List the two parts of a solution: What is the process of forming a solution? ionic dissociation dissolving	List 3 ways to separate suspensions.	List the two parts: dispersing & medium Colloidal Particles What's a specific type of colloid and what makes it different?
List examples of each from the reading and class.			
Particle size compared to light-waves: 400nm ⟷ 800nm Tyndall Effect: Does it scatter light? List: transparent, translucent, opaque	Smaller ≤ 1nm (Y or N or sometimes)	Larger light wave (Y or N or sometimes)	Same size range (Y or N or sometimes)

Classifying Mixtures: Reference Table of Properties for Solutions, Suspensions and Colloids ←STUDY NOTES

Directions: Fill in the table from the readings and to the best of your knowledge.	**Solutions** Mixture (Y) or N)? solute solvent	**Suspensions** Mixture (Y) or N)?	**Colloids** Mixture (Y) or N)? Colloidal particle dispersing medium
Describe the spacing, arrangement or distribution of the particles in each. Draw a little picture next to your writing of the particles. Heterogeneous or Homogeneous	Molecular arrangemait of particles due to ionic dissociation Particles dissolve  homogeneous	Gravity rules the particle Particles unevenly distributed and settle out based on size over time  heterogeneous	KE - Kinetic energy rules the particle. KE greater than gravity Particles don't settle  homogeneous
Describe the size of the particles. Write the actual particles' range sizes. size	Smallest - atomic (Atoms) scale size ≤ less than 1 nano-meter	largest 1000nm (Sand grain) 1 micro-meter or greater	medium - approx. size ≤ 1000nm size ≥ 100nm eye cannot see
Answer the following questions =>	List the two parts of a solution? Solute & Solvent What is the process of forming a solution? Dissolving	List 3 ways to separate suspensions. Coagulation filtration Settling centrifuge	What's a specific type of colloid and what makes it different? Emulsion liquid in liquid
List examples of each from the reading and class.	salt water sugar water lemonade Hot Cocoa	silt in water run off storm water soup	milk latex paints whipped cream Jello butter Jelly
Particle size compared to light: Tyndall Effect: Does it scatter light? List: transparent, translucent, opaque	smaller (Y or (N) or sometimes) Transparent	larger ((Y) or N or sometimes) translucent	same size range ((Y) or N or sometimes) opaque