



El Dorado County Career Technical Partnership

In Partnership: Folsom Lake College • El Dorado Union High School District • El Dorado County Office of Education

Do not write on this. Do all reporting in your laboratory notebook.

Title: Mixtures Lab

In this lab you will receive four different mixtures. You will examine them for clarity and color using appearance and the Tyndall effect. You will then filter them to see if there is an improvement in clarity. Lastly, you will add a flocculating agent to the appropriate mixture to see if that improves the clarity through additional precipitation. You will then identify each starting mixture as being a solution, suspension or colloid.

Purpose: State briefly in one sentence what you are expected to find out in this experiment.

Procedure:

1. If you are at an odd numbered lab station, you will use mixtures 1 and 3; if you are at an even numbered lab station you will use mixtures 2 and 4. At the end of the experiment you will exchange information with the folks across the table from you.
2. Construct the data table below:

Before filtering			After filtering		
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Sample	Color	Clarity	Tyndall Effect	Color	Clarity	Tyndall Effect

Number 4 after adding alum

3. Pour 30 mL of the samples assigned to you into a 50 mL beaker. Observe its color, clarity and whether or not it shows a Tyndall effect. On the Tyndall effect, please note if the beam passes through completely or not. If it does not pass through, measure how far it penetrates with a ruler.
4. Filter half of the solution and again examine it for color, clarity, and Tyndall effect.
5. Note if there were any improvements or degradation of quality.
6. For filtered sample number 4 only, add a small amount (about the size of ½ of a match's head) of alum. Wait 5 minutes and check for color, clarity and Tyndall effect.



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Questions: (Do not copy the questions. Answer them in a complete sentence so I know what you are answering.)

1. Which mixture would you judge to be most pure and why?
2. Which mixture(s) showed improvement upon filtering?
3. Did any mixture(s) have particles that settled out?
4. Did the addition of alum to number 4 cause any colloid to flocculate and settle out?

Conclusion:

Based on your results, classify the mixtures before filtration as solution, colloid or suspension. Also include a statement on how well number four was purified by the steps of filtering and flocculation and filtering.