

Lesson 04: Suspensions and Colloids

Lesson Objectives:

- Students will compare and identify suspensions, colloids and emulsions.
Students will apply knowledge of solutions, suspensions, colloids and emulsions.
Students will understand that mixtures are not always clearly defined.

Read the entire lesson including the questions before you begin.

You will need:

A small amount of heavy whipping cream

A small jar (preferably glass, Mason jar or baby food jar ideal)



Place a small amount of whipping cream in your jar, about 1/4 of the jar will be plenty if you're using a small jar. (The larger the jar the more difficult this will be.) Make sure the lid is tight, and shake the jar. You'll be shaking for about 10 minutes, so plan to switch hands or even pass off to friends and family members if necessary. Brief breaks to shake out tiredness are fine.



Grading Rubric:

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To get a 10: All answers are correct the first time, or within first revision. You can have no grammatical or structural errors, within the first revision. Answer in complete sentences; all lesson requirements have been met.

To get a 9: You can have 1 incorrect answer. You can have 1 grammatical errors (spelling, punctuation, capitalization, wrong word, etc.) Answer in complete sentences; all lesson requirements have been met.

To get an 8: You can have 2 incorrect answers. You can have 2 grammatical errors (spelling, punctuation, capitalization, wrong word, etc.). Answer in complete sentences; all lesson requirements have been met.

To get a 7: You can have 3 incorrect answers. You can have 3 minor grammatical errors (spelling, punctuation, capitalization, wrong word, etc.). Answer in complete sentences; all lesson requirements have been met.

To get a 6: This grade is reserved for administrative use

To get a 5: 6 or more incorrect answers. Plagiarism - purposeful or mistaken, which will lower your final grade for the course (so be very careful when posting your work!); lack of effort, disrespect, or attitude (we are here to communicate with you if you don't understand something); or 6 or more errors of any kind. Answer in complete sentences; lesson requirements have not been met.

Note: For this class it is necessary to post the questions over each answer. Failure to do so will result in asking for a revision. You will also be given two chances to revise your work after your initial post. **No grade will be given for incomplete work.**

Assignment:

Do not submit text that you have copied from sources, including websites. All of your work should be in your own words. Using copied text would be considered plagiarism. For more information, review our page on [Plagiarism and Citation](#).

If you use any references for research, then the sources **must** be cited.

Also, do not use any one site as your sole source for a lesson (in other words, *Wikipedia* **cannot** be your cited source for every question). Be sure to seek out a variety of sources.

Activity

1. What happened? Describe the process, and the result.



2. What color is the liquid?
3. Drain off the liquid carefully. What is left behind? Describe it.
4. Spread a little of what you have left in the jar (after draining the liquid) onto a piece of bread or a cracker and taste it. What is it?

Research

You will be using outside sites to research these answers, but be sure to use your own words! Cutting and pasting from another source is plagiarism and will severely dock your grade. The point of this section is to show that you understand the answers, not just to quote another site. Please paste the url(s) of the sites where you obtained your answers after the question.

5. What is a suspension? Do the solids settle out?
6. What is a colloid? Do the solids settle out?
7. Is heavy whipping cream a suspension or a colloid? Why?
8. What is the difference between a solution, a suspension, and a colloid?
9. What is an emulsion?
10. Is the substance you made in this lesson a solution, a suspension, a colloid, an emulsion, or a combination of these? If a combination, name which one. Explain your reasoning for your answer.

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