

# Like Oil And Vinegar

**Grade Level:** 2nd - 4th; **Type:** Chemistry

## Objective:

To investigate emulsifiers that allow oil and vinegar to mix.

## Research Questions

- Why don't oil and vinegar mix?
- How do emulsifiers work to make oil and vinegar work?
- What are emulsifiers?

Oil and vinegar do not mix or even if they are mixed they will quickly separate when given the opportunity. Some proteins such as eggs are emulsifiers that will cause oil and vinegar to mix.

## Materials:

- 1 cup vegetable oil
- 1 cup white vinegar
- measuring cups
- 2 jars with lids
- egg
- water
- paper
- pencil

## Experimental Procedure:

1. Gather the necessary materials.
2. Add  $\frac{1}{2}$  cup of vegetable oil and  $\frac{1}{2}$  cup of vinegar to each jar. Put the lids on the jars and shake them. Record what happens.
3. Separate the white of the egg from the yolk. Put the yolk in one jar of oil and vinegar and the white of the egg in the other jar. Again replace the lids and shake. Record the results.
4. Analyze the data and draw a conclusion.

**Terms/Concepts:** emulsifier: a compound that keeps oil and vinegar together compound: a pure substance made up of two or more elements immiscible: not able to mix; Emulsifiers are compounds that cause immiscible substances such as oil and vinegar to mix.

## References:

“Making an Emulsion” at “Emulsifiers” at “The Perfect Mixture: Emulsifiers Make Our Food Enjoyable” at



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