

Lesson 2: Do Fat and Soap Dissolve in the Same Liquid?

Activity 2.1

Hypothesis

Do you think fat and soap will have the same solubility? Why or why not?

Your Progress:

- Mastery
- Proficient
- Developing
- Beginning

Procedure

1. Label the test tubes with numbers 1 through 4.
2. Fill **test tube 1 and 2** with **water**.
3. Fill **test tube 3 and 4** with **oil**.
4. Acquire a very small amount of **fat** (the size of a grain of rice) using a toothpick. Put the fat into **test tube 1**. Repeat this process for **test tube 3**.
5. Acquire a very small amount of **soap** (the size of a grain of rice) using a toothpick. Put the soap into **test tube 2**. Repeat this process for **test tube 4**.
6. Each group member should pick a test tube. Firmly cover the opening with their thumb while holding it. Be sure the entire opening is sealed or the liquid will spill.
7. Rock the test tube upside down, and right side up again, over and over for 2 minutes.
8. Record your observations of the fat or soap for each test tube in the data table. Write down the solubility of each combination in the data table.
9. Pour out the contents of the test tube in the sink. Rinse the test tubes thoroughly.
10. Set up your materials nicely for the next group.

Data

Test Tube #	Contents	Observation After Shaking	Solubility (soluble or not soluble)
1	Water and Fat		
2	Water and Soap		
3	Oil and Fat		
4	Oil and Soap		

Conclusion

Based on the data from your lab, are fat and soap the same or different substances? Write a clear and complete claim and evidence from your **data table**.
