

Chemistry Lab: Following Directions Lab

Pre-Lab Questions:

1. In the scientific method, why is a purpose listed?
2. What is a hypothesis?
3. According to the scientific method, how do you determine if your hypothesis is correct?

Purpose:

1. To learn how to read and follow directions
2. To practice measuring volume accurately

Materials: 6 test tubes (midsize, 25-28 mL) 3—50 mL beakers wax pencil water stirring rod
10 mL and 20 mL graduated cylinders red, blue, yellow food coloring test tube rack

Procedures:

1. Label the 6 test tubes A, B, C, D, E, and F.
2. Label the beakers 1, 2, and 3.
3. Fill the 3 beakers with tap water to the 40 mL mark.
4. Add 3 drops of red food coloring to beaker 1.
5. Add 2 drops of blue food coloring to beaker 2.
6. Add 3 drops of yellow food coloring to beaker 3.
7. Put 16 mL of red water into test tube A.
8. Put 21 mL of yellow water into test tube C.
9. Put 18 mL of blue water into test tube E.
10. From test tube C, measure 4 mL of water and pour it into test tube D.
11. From test tube E, measure 7 mL of water and pour it into test tube D. Mix
12. From the blue beaker, measure 2 mL of water and pour it into test tube F.
13. From the red beaker, measure 2 mL of water and pour it into test tube F. Mix.
14. Add 7 mL of tap water and pour it into test tube F. Mix
15. From test tube A, measure out 5 mL of water and pour it into test tube B.
16. From test tube C, measure out 6 mL of water and pour it into test tube B. Mix
17. Record color in the data table. Request teacher initials: _____
18. Measure the volume of water in each test tube and record in the data table.
19. Clean up. Dispose down the sink. Rinse and dry test tubes. Request teacher initials: _____
20. Answer all questions.

Data:

Test Tube	Color of Water	Volume of Water
A		
B		
C		
D		
E		
F		

As part of your data section, sketch a diagram of your test tubes and color code them based on your results.

Conclusion:

1. How do the final volumes of water in each test tube compare to the other test tubes?
2. Describe any possible sources of errors that occurred while conducting this experiment.
3. State where the range of colors in your test tubes occur in nature. (Hint: It is one thing.)