

GLUE BALL CHEMISTRY

Polymers are special organic molecules that form very long chains. Usually polymers make compounds that are stronger and more flexible than other compounds. Examples of polymers are rubber, latex, and nylon.

Purpose: To make a polymer and practice finding density of an object.

Materials: Saturated solution of borax and water, white glue, stir stick, graduated cylinder, triple beam balance scale.

Procedure:

1. Measure out 10 ml water. Pour into paper cup.
2. Mark the water level on cup. Pour out water.
3. Find mass of empty cup. Record in table 1.
4. Pour 10 ml glue into cup.
5. Find mass of glue. Record in table 1.
6. Find density of glue. Record in table 1.
7. Find mass of graduated cylinder. Record in table 1.
8. Pour 40 ml borax solution into graduated cylinder.
9. Record mass of graduated cylinder and borax solution in table 1.
10. Find the density of the borax solution. Record in table 1.
11. Pour borax solution from graduated cylinder into cup with glue and mix to combine the two substances.
12. Roll into a ball.
13. Using displacement, find the volume of the glue ball. Record in table 2.
14. Find mass of glue ball. Record in table 2.
15. Find density of the glue ball. Record in table 2.

Analysis Questions:

1. What is a polymer?
2. What are some examples of polymers?
3. How does the density of the glue ball compare to the density of the borax solution alone or the glue alone?
4. What are possible sources of error in your experimentation?

Table 1:

	Mass of Substance and Container (g)	Mass of Container (g)	Mass of Substance (g)	Volume of Substance (ml)	$D=M/V$ Density
Glue					
Borax					

Table 2:

	Mass of Polymer (g)	Final Volume (ml)	Original Volume (ml)	Volume of Polymer (ml)	$D=M/V$ Density
Polymer					