

Visualizing a Mole

Recommended for Chapter(s): 3

Demo #011

Procedure

1. Show students the bottles containing 1 mole of water (H_2O), 1 mole of mercury (Hg), 1 mole of copper (I) oxide (Cu_2O), and 1 mole of potassium chromate (K_2CrO_7) (to make a mole you need all three bottles of K_2CrO_7).
2. Show students the bars made from 1 mole of zinc (bar A), 1 mole of aluminum (bar B), 1 mole of iron (bar C), and 1 mole of copper (bar d).

Clean Up

1. Return the materials to the cart in the demonstration library room.

Stockroom Notes

1. Return all items to the demonstration tube.
2. Return tub to the demonstration library.

Discussion

This demonstration shows the students what 1 mole of different materials looks like and is an excellent way of reinforcing the idea that a mole is only an indication of the number of particles and does not indicate the volume or weight of a material.

A fun youtube video to go along with this demo is “A Mole is Unit”

<http://www.youtube.com/watch?v=PvT51M0ek5c>

This video discusses how much volume a mole of other objects would take up.

Materials in the box

1. Bottle with 1 mol Hg
2. Bottle with 1 mol H₂O
3. Bottle with 1 mol Cu₂O
4. 3 bottle containing a total of 1 mol K₂CrO₇
5. 1 mole of Zn, Al, Cu, and Fe