

Gases in Magma

Baby bottle demo

You need a blind nipple, or a nipple with no hole, found at *Petsmart*, and a baby bottle that will accommodate 12 oz. of soda. Pour COLD soda (diet soda works best) slowly into bottle, put top on and shake. Carbon dioxide bubbles escape into nipple and the nipple grows quite large but should not burst.

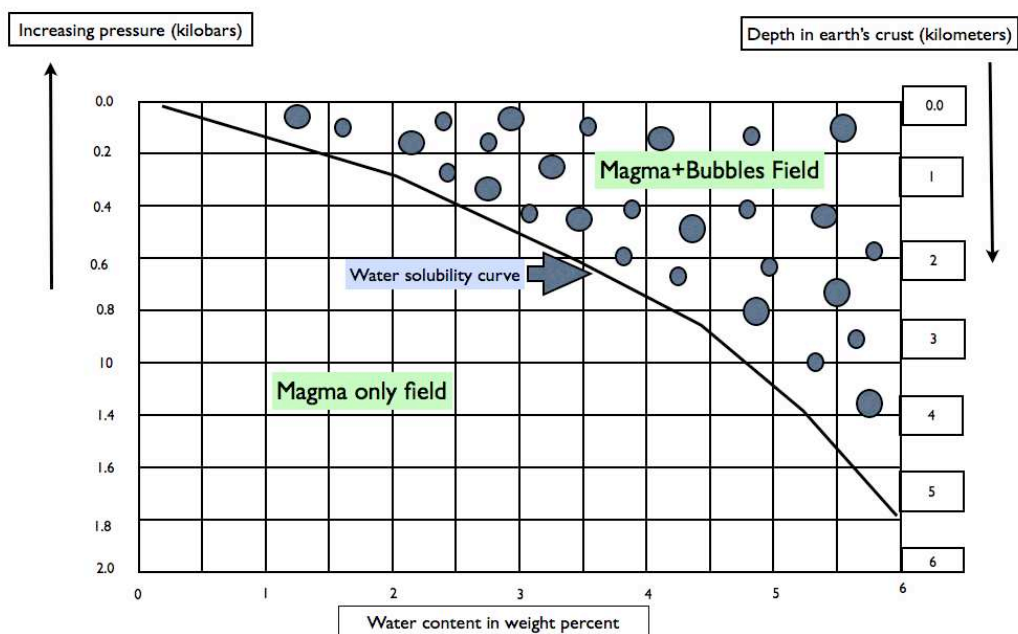
This demonstration was presented by Bette Bridges at ChemEd in 2007.

Magma and solubility

You can use club soda to demonstrate the expansion of gases. As magma body rises through the crust of the earth the pressure is decreasing. In order for pressure to be equal to 1/volume as the pressure goes down the volume goes up. Have your students give a small soda bottle two shakes and then carefully release the pressure by unscrewing the cap and then observe the instant gas bubbles formation. Do this a few time. Observe the sides of the bottle as well as the surface.

Directions for this lab and student worksheets are included under Labs/Chemistry of Magma.

Water content of Magma in Weight Percent



modified by Rhonda Spidell from Dr Neila Dunbar's "Rockin" presentation on magmatic gases (2000).