

Classroom Chemistry – Fireworks in a Glass

Since tomorrow is Canada Day I thought it would be appropriate to make “Fireworks in a Glass”.

Materials:

- Tall glass
- Warm water
- Cooking oil
- Liquid food colouring
- Measuring spoon
- Measuring cup



Procedure: (Remember to have your parent’s permission and have them watch and help you.)

- Fill the glass 2/3 full with warm water.
- Put 2 tablespoons of cooking oil in a measuring cup and add 3 drops of each colour of the food colouring.
- Stir the oil and the food colouring to break up the dye into tiny droplets.
- Slowly pour the oil and dye mixture onto the top of the water.
- Wait a few moments. The fireworks will begin as the dye slowly drops out of the oil suspension and falls through the water.

What's happening?

Oil and water do not mix! Oil is less dense than water (meaning there is less of it in the same volume) and it therefore floats on top of water in a nice layer. This activity demonstrates the scientific concept of density.

The food colouring is water based and therefore does not mix with the oil; instead it slowly sinks through the oil into the water below.

Although the food colouring is mostly water it is heavier than the warm water so it sinks to the bottom leaving trails (resembling fireworks) as some of the colour dye diffuses (slowly dissolves) into the water.

Extension:

Try adding more drops of food dye to the oil (without stirring) and see what happens. Sometimes blobs of food colouring sank to the bottom and then after a few moments shoot up (resembling a more conventional firework). Can you figure out why?

This activity is based on our “Classroom Chemistry” kit that is currently under development. The source for this lab is: <http://www.science-sparks.com/2011/11/02/firework-in-a-glass/>. Our teaching kits (described on our website) are loaned out FREE to provide classroom teachers and parents of home schooled children an opportunity to explore Science in interesting ways. Please consider volunteering as a classroom speaker or allow your business as a field trip location.



Future Event: Praxis sets up the Science Kits used in the Summer Camps for Kids hosted by Medicine Hat College. <http://www.praxismh.ca/MHCsummercamp.html>.

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PRAXIS, “Making Science Fun”. Contact Praxis at praxis@praxismh.ca, www.praxismh.ca, Tweet or follow us @PraxisMedHat, or friend us on Facebook. Address: c/o 200 7th Street S.W., Medicine Hat, AB, T1A 4K1 Phone: 403-527-5365, Fax: 403-527-6570.