

The Science and Technology Hotline



#### Scientist of the Month:

##### Dorothy Hodgkin

- Born May 12, 1910 in Cairo, Egypt
- A British chemist credited with the development of protein crystallography
- Father was an excavator and scholar
- Spent a lot of her early years separated from her parents
- Her mother fostered her love of science early on in her life
- Studied chemistry at Somerville College and the University of Oxford
- Became interested in X-ray crystallography to determine the structure of proteins
- She developed the technology to determine the structure of insulin (a very complex protein)
- Received a Nobel Prize for her work on the X-ray crystallography structure of vitamin B12
- She also determined the structure of cholesterol and penicillin
- Her contribution to chemistry has been celebrated with many awards and honours including a lecture series named on her behalf
- She was a pioneer in her field
- *X-Ray Crystallography is the use of x-rays to determine the 3-D structure of biomolecules*

## Planning for 2011-2012 School Year

I can't believe there are only two months left to this school year! Time sure flew by. With that in mind, I wanted to remind you that Kit booking for next year is open. Some kits book up really quickly (like Insects and Creepy crawlies in the fall and spring).

Book your kits early to ensure you get the ones you want when you want them. To book a kit, or to look at the kits and their descriptions, please visit our website at [www.praxismh.ca](http://www.praxismh.ca). All kit bookings can be completed online,

by phone(403-527-5365), fax(403-528-6570), or email ([praxis@praxismh.ca](mailto:praxis@praxismh.ca)).

All of our resources are completely FREE, and are shipped through your school district mail. Contact me today to book your kits for next school year.

Praxis is open throughout the summer. If you have a student group or daycare that runs in the summer and you are looking for fun and educational activities to do, call Praxis!

## International Year of Chemistry

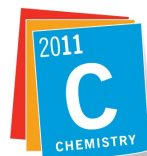
Praxis is celebrating the International Year of Chemistry with a Flash! Bang! Boom!

Dr. Lucio Gelmini, a professor at Grant MacEwan University and an active member of ASLA will be in Medicine Hat on May 9 to demonstrate how awesome chemistry is, and how we use it every day.

His presentation has been amazing children and

adults alike in Edmonton for many years. He has decided to take his show on the road, and we are very privileged to offer Medicine Hat this opportunity.

Please join us at the Medicine Hat College Theater on Monday May 9, 2011. The demonstrations will start at 7pm. If you have any questions, please contact Praxis at 403-527-5365 or [praxis@praxismh.ca](mailto:praxis@praxismh.ca).



## International Year of CHEMISTRY 2011



## Vanishing of the Bees

As a child I was terrified of bees and wasps. If you would have told me then that bees were disappearing, I would have been overjoyed. Now that I am an adult and I have a better understanding of what these insects do, I am much more concerned to hear they are disappearing.

**Vanishing of the Bees** is a documentary film that

looks into colony collapse disorder in an effort to save the honey bee. The movie informs us that *"commercial honeybee operations pollinate crops that make up one out of every three bites of food on our tables"*. A staggering statistic in a heavily populated world.

Please join Praxis and Cinema Politica for a screening

of Vanishing of the Bees at the Medicine Hat Public Library on Monday, May 30 at 7 pm.

Bring your family to this great documentary, some refreshments and a guest speaker. A guest speaker will lead discussions on the implications of colony collapse disorder as well as the possible causes of it.

## Antigravity?

Materials:

- modeling clay or plasticine
- Baby food jar or other small, clear container
- Water
- Food colouring
- Spoon

### High School Drop-In



Are you a high school student that is struggling to understand concepts in your math or science classes? Do you know a student like this?

Refer them to the Medicine Hat College Drop-In program.

Every **Monday and Wednesday from 4-6pm in room B307** (third floor above the MHC library) college professors are available for you to ask questions and get clarifications. They are eager to help you succeed. There is no cost to this service and you do not have to pay for parking.

Materials:

- 1/4 cup dish soap
- 1/4 cup water
- 1 tsp. sugar
- Spoon
- Large empty spool of thread
- Small bowl

Procedure:

1. Mix the dish soap, water and sugar very gently in the bowl.
2. Dip one end of the spool in the liquid.
3. Place your mouth on the other end of the spool and blow a large bubble, do this gently so you don't pop it.

**For all your Science needs contact Praxis**

P. 403-527-5365

F. 403-528-6570

E. [praxis@praxismh.ca](mailto:praxis@praxismh.ca)

[www.praxismh.ca](http://www.praxismh.ca)

Don't forget you can always get an extra copy of the newsletter off our website, or we can email you the newsletter directly

- Straw

Directions:

1. Press a small piece of clay against the bottom of the inside of the jar.
2. Fill the jar 1/2 full of water and add a couple drops of food colouring. Stir to mix.
3. Slowly lower the straw into the jar. Gently push it into the clay, so it will not come out.
4. Overtop of the sink, quickly flip the jar over, so the water falls out.
5. Flip the jar right side up and observe the straw (it should still be stuck in the clay).

Explanation:

You should still have coloured water in

the straw. The height of the water should be the same as the level of water in the jar before you emptied it.

Water molecules are very special and have interesting properties. They have a very strong attraction to each other. This is what causes surface tension. The water molecules at the surface of the glass are more attracted to each other than not attracted, so they will form a dome shape over the container.

In this experiment, the combination of the air pushing up on the water in the straw and the attraction of the water molecules combine together to have a greater force than gravity. Therefore, the straw contains water even though you dumped it out. Pretty neat.

*\*from 202 Oozing, Bubbling, Dripping & Bouncing Experiments by Janice VanCleave*

### It's never too early to start choosing your summer adventure

Once again, Praxis and the Medicine Hat College have partnered together to offer educational weekly summer camps. If you have a child or know of a child that is interested in dinosaurs, insects, plants, explosions, or astronomy we have a camp for that! For more information or to register, contact the Medicine Hat College Continuing Studies office, or check the website: <http://mhc.ab.ca/en/ContinuingStudies.aspx> to look at the online summer programs calendar. We also have links on our website: [www.praxismh.ca](http://www.praxismh.ca)

## More bubble fun

4. Quickly place your finger over the hole that you blew through. This prevents the air from leaking out of the bubble.
5. Hold the spool bubble side down and observe.

Results:

The bubble should be slightly pointed. You might see tiny streams of liquid swirling down the sides of the bubble that collects at the point and fall off in drops.

This is because gravity acts on the bubble, pulling it down. The dish soap helps the bubble hold its slightly spherical shape. The liquid from the top of the bubble is what you see swirling around. It will continue being pulled down until it's too thin and pops!

### Special Events:

- May 9—Flash! Bang! Boom! Presentation at MHC Theater 7pm
- May 14-21—Canada Wide Science Fair 2011, Toronto, ON
- May 23—Victoria Day
- May 30—Cinema Politica and Praxis present *Vanishing of the Bees* at the MHPL 7 pm
- June 2-4—Spectrum Festival, Downtown Medicine Hat
- June 19—Bow Island Children's Festival

Praxis  
c/o 200 7th Street S.W.  
Medicine Hat, AB T1A4K1

Founding Member of:



School Address Label