



MARCH 2011



All truths are easy to understand once they are discovered; the point is to discover them. *Galileo Galilei*

Important Reminders

APEGGA TEACHER AWARDS

Get your entire school involved for a chance to win \$2000 for your math and science programs.

Nominate an outstanding math or science teacher. Someone who goes above and beyond to make learning fun and exciting.

For more information visit APEGGA's website: <http://www.apegga.org/members/Awards/taward.html>

OPERATION THOTH

Attention all grade 9 math and science teachers. Praxis is offering a new program for grade 9 boys interested in math and science. Operation Thoth is a

day long conference with the goal of exposing boys to science, math and engineering possibilities within Medicine Hat. The conference will take place on **April 13, at the Medicine Hat College.** The morning will consist of workshops in the college labs. After lunch the boys will have the opportunity to go on a field trip to DRDC Suffield, and see what neat things go on out there.

There are limited spaces available, so contact Praxis for more information and to register.



HERITAGE YOUTH RESEARCHER SUMMER PROGRAM

HYRS is a 6 week summer program offered to grade 11 students at the U of A, U of C and U of L. This program is a great opportunity for grade 11 students to be matched with a researcher and do paid work in their lab over the summer.

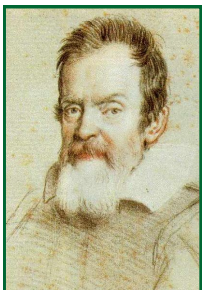
Applicants require at least an 85% in Math 20P, biology 20 and one additional grade 11 science.

The students also present their research at the end of the summer about their experiences and research.

For more information please visit: <http://www.ahfmr.ab.ca/HYRS/> Application Deadline is April 1, 2011.

Scientist of the Month: Galileo Galilei

- B. Feb 15, 1564
- Considered by some to be the father of modern science
- Publicly supported heliocentric views of the universe (the idea that the sun is the centre of the universe) which put him at odds with the Catholic church
- Studied astronomy, physics, and mathematics
- Made improvements to the telescope
- Galileo's paradox shows that there are as many perfect squares as there are whole numbers, even though most numbers are not perfect squares
- Proposed that a falling body falls at a uniform acceleration
- Died in 1642 while under house arrest



2011 Kiwanis Regional Science Fair Registration is OPEN!

Register Online at <https://secure.ysf-fsj.ca/sfiab/kiwanissoutheastalberta/index.php> or follow the links from our website: www.praxismh.ca

The Growing Connection <http://thegrowingconnection.blogspot.com/>

The Food and Agriculture Organization of the United Nations started a grassroots project a few years ago called The Growing Connection (TGC). Since then, TGC has worked to link people and cultures from around the world to provide a solution for a growing problem: growing healthy sustainable food.

Through the organization's blog

and other support materials they encourage youth to get involved by growing community and school gardens, start a composting project or to look for solutions to this problem that are cheap and easy.

With spring right around the corner, I cannot think of a better project for the youth of Medicine Hat and area. Plant-

ing a garden can help your students understand not only important science lesson, but also about being socially responsible and environmentally friendly.

Whether you plant a school vegetable garden, start a composting project or just talk about sustainable farming practices, get involved in this great project!

Trap a Rainbow!

With St. Patrick's Day coming up I thought it would be fun to try some experiments along that theme. Here we'll catch a rainbow and below we'll make the gold pieces found at the end of the rainbow.

Materials:

- Clear large drinking glass
- Piece of mirror that can fit in the glass
- Water

- Flashlight
- Darkened room

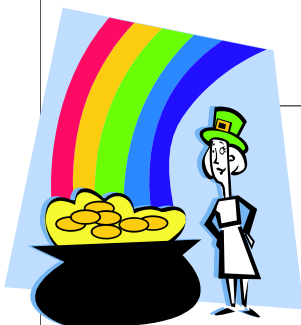
Procedure:

1. Place the mirror in the glass. It should be at an angle pointing upwards.
2. Fill the glass with clear clean water.
3. Place the glass so the mirror is facing a large white wall, or some white poster board hanging on the wall.
4. Dim the room, turn off the lights, over windows.
5. Shine the flashlight on the mirror. A rainbow should appear on the wall.

Explanation:

Rainbows that occur during naturally occur when light is refracted and reflected through rain drops. "White light" is actually composed of all the different colours we see in a rainbow. The refracting or bending of the light, changes the wave so that different colours can be seen, depending on how the angle the light has been refracted.

In this experiment, the water initially refracts the light from the flashlight. This light can then be reflected up by the mirror and refracted through the rest of the water in the glass. This creates the colourful display.



Leprechaun's Loot

This experiment uses caustic chemicals and flame, take the proper safety precautions. Use protective eye wear, and gloves. Do not leave the solution unattended.

Materials:

- Lye (sodium hydroxide powder)
- Zinc powder
- Glass beaker
- Tongs or tweezers
- Water
- Source of heat / flame
- Penny (the coin, not the person)

Procedure:

1. Ensure the penny is clean.
2. Pour a small amount of zinc powder and lye into the beaker. Add water.
3. Heat this to near boiling and then remove from heat.
4. Add the penny to the solution. If you are using more than one penny, do not allow them to touch.
5. After 5-10 minutes in the solution, the penny should be silver in colour. Remove from the solution using the tweezers and place in cold water.
6. To turn the penny gold, place the dry "silver" penny in direct contact with flame for upto 30 seconds, using tweezers, tongs or pliers to hold it in the flame.
7. Place the penny in cold water to cool it down. Once it is cool, you can polish the soot off of it. You

now have a "gold" penny!

Explanation:

Two reactions occurred in this experiment. In the first reaction, the copper penny was plated with zinc. This is called galvanization.

Once the penny has been heated, the copper in the penny and the zinc on the outside react to form brass. Brass is a shiny alloy of copper and zinc. It has a low melting point and can be destroyed with too much heat, so do not heat the penny for too long in step 7.

UPCOMING EVENTS:

MARCH 26: REGIONAL SCIENCE FAIR—MHC

APRIL 13: OPERTAION THOTH—MHC

APRIL 22—MAY 1: SPRING BREAK

For all your Science needs contact Praxis

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School Address Label

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