

PRAXIS THE SCIENCE AND TECHNOLOGY HOTLINE

JANUARY 2010

Operation Minerva Conference!

- Operation Minerva is quickly approaching! The date is scheduled for Friday January 29th, 2010. If you have not provided all of your students names you must do so ASAP! Any questions contact Praxis at praxis@praxismh.ca or (403) 527-5365.

Goals of Operation

Minerva

- To encourage girls, in grade nine, to consider science, math and technology related careers, especially those that represent non-traditional careers for women.
- To dispel, in the minds of students "scientists" myths and stereotypes and to show that science and technology can be interesting.
- To show the work of women in science, technology and mathematics.
- To allow participants a "fun" experience in an effort to enhance and develop such attitudes towards courses and careers in science, technology and mathematics.



Welcome to 2010!

Well it's a New Year and Praxis is ready to serve all of your science needs! Just a reminder that we still have a variety of resource kits available for the second semester. We also have a variety of guest speakers available who are ready to give presentations on a vast array of topics. Contact us for more

There will also be a slight change at Praxis in the next several weeks. I have accepted a position elsewhere and will have to relinquish my position as Director! Service interruptions should be brief or none at all. The email remains the same praxis@praxismh.ca and the phone number is (403) 527-5365.



Praxis Resource Kits

Here is a snapshot of some of the kits Praxis has available. Visit our website at www.praxismh.ca for a complete list!

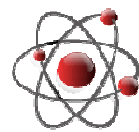
- Air and Aerodynamics Kit.
- Boats and Buoyancy.
- Building things—Levers and Gears.
- Evidence and Investigation (one of my personal favorites!)
- Insects and Creepy Crawlies.
- Lights and Shadows.
- A variety of seasonal kits!
- Rocks and Minerals.
- Trees and Forests!

And many more! We also have a variety of models, including plant and animal cells, DNA, and a fetal pig model! Give us a call for more information!

Kiwanis Southeast Alberta Regional Science Fair

Just a reminder that the Kiwanis Southeast Alberta Regional Science fair is scheduled for March 27, 2010. Registration is available online but closes on March 20, 2010. Visit <https://secure.ysf.fsj.ca/sfiab/kiwanissoutheastalbum/erta/> to register!

Praxis is available to assist with your schools local science fair. Whether you need help organizing the fair, finding judges, or just have questions regarding science fair in general - we're here to help! Contact us at praxis@praxismh.ca or give us a call at (403) 527-5365.



**Keep your eyes
peeled for the
new "Waste
and Our
World" Kit
which should
make it's debut
shortly!**

Keep Your Pennies Clean

- The slowest drip on record is a sample of molten tar in Australia. The tar drops a single drip every 8 – 10 years. Makes your faucet drips seem incredibly fast!
- The highest parachute jump on record was 102 500 feet (your standard airliner flies at 35 - 40 000 feet. A special pressurized suit was required and due to the thin air the skydiver reached speeds of 1000 km/hr!
- The longest burning light bulb is in a fire station in Livermore California. It has been burning now for 108 years!

So if you're anything like me you like your pennies nice and shiny! Give this experiment a shot and keep your coins nice and clean!

Materials

- dirty pennies
- 2 paper cups
- salt
- water
- vinegar
- measuring spoons
- measuring cup
- 2 pipettes
- paper towels
- flat, plastic container

Procedure

1. Measure 250 mL (1 cup) of water and place in each of the paper cups.
2. Measure 15 mL (1 teaspoon) of salt. Add to one of the cups of water and stir well.
3. Measure 30 mL (2 teaspoons) of vinegar and add to the second cup of water.
4. Place the dirty pennies in the flat container.
5. Using the pipette add a couple of drops of the salt solution to the pennies followed by a couple of drops of the vinegar solution. Keep doing this for five minutes.

6. Remove the pennies from the solution and rub with the paper towels.
7. What happened?

Explanation

The pennies came very clean because of the solution you made by mixing the vinegar and the salt. When you mix vinegar (acetic acid) and salt (sodium chloride), it chemically changes to form a weak form of hydrochloric acid. Hydrochloric acid cleans metals such as copper very well.

Crystal Snowflakes

Grow your own snowflake inside!

Materials

- String
- Wide mouth jar
- White pipe cleaners
- Blue food colouring
- Boiling water
- Borax
- Pencil

Procedure

1. Cut the pipe cleaner into 3 equal sections/pieces.
2. Twist the sections together in the centre so that you have a six sided star shape.
3. Take a piece of string and go around the pipe cleaners in a circle so that

you form a snowflake pattern.

4. Attach a piece of string to the top of one of the points of the pipe cleaners.
5. Tie this piece of string to a pencil.
6. Fill the jar with boiling water.
7. Mix the borax into the boiling water, one tablespoon at a time. (It should take approximately three tablespoons.)
8. You can add a couple of drops to the borax solution. This will give the snowflake a bluish hue.
9. Insert your pipe cleaner snowflake into the jar so that the pencil is resting on the lip of the jar and the snowflake is suspended in the liquid.
10. Wait overnight and by morning the snowflake should be

covered with shiny crystals!

How does this happen?

Borax is an example of a crystal—a solid with flat sides and a symmetrical shape because its molecules are arranged in a unique repeating pattern”.

Every crystal has a repeating pattern based on its unique shape. They may be big or little, but they all have the same “shape”. Salt sugar and Epson salts are all examples of crystals. Salt crystals are always cube shaped while snow crystals form a six sided structure.

The Borax “grows” on your pipe cleaner because the hot water holds more borax crystals than cold water. This is due to the

hot water molecules moving farther apart and making room for the borax crystals to dissolve. When no more of the solution can be dissolved, you have reached saturation. As this solution cools, the water molecules move closer together again. Now there's less room for the solution to hold onto as much of the dissolved borax. Crystals begin to form on one another as the water lets go of the excess and evaporates.

This also applies to snowflakes—As water cools the molecules move closer together. Since all water molecules are shaped the same they align in a six sided crystal.

Source: www.teelfamily.com

For all your science needs contact Praxis

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F: 403-528-6570
E: praxis@praxismh.ca
W: www.praxismh.ca

Founding Member of:



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