



The Science & Technology Hotline

Important Information For The Classroom

Free Resources For The Classroom

1. Visual Mixing CD.

- Praxis has just received five copies of this CD from the author Suzanne Kresta. The first five educators to contact **P r a x i s** @ mhpraxis@telusplanet.net will receive the CD.
- This CD has specific **GRADE 8 curriculum links.**
- Visual Mixing is a collection of mixing videos which illustrate mixing in industrial equipment.
- There are instructions on how to set up and run the program.
- There is an article about Professor Susanne Kresta and the handbook production. This story illustrates how science and technology move forward. It will be of particular interest to students considering a

career in engineering, and teachers seeking to better understand what engineers do.

2. Science Challenge 2003/2004

- Praxis is looking for Junior and Senior High students to submit their projects for the Science Challenge. Students can win up to \$200 or the grand prize of \$1000. As well, teachers, if one of

your students is chosen as the winner, you will receive a prize of \$200.

- For more information, please visit <http://www.telusplanet.net/public/mhpraxis>.

3. Learning Kits

- Praxis has a variety of Learning Kits available. There are even some kits that are focused on the Holidays. These include:
 - Christmas
 - Easter
 - Thanksgiving
 - Halloween
- These kits are also a bit different format than the traditional Learning Kits Praxis has. The "seasonal kits" contain all of the materials for hands on experiments, as well as puzzles, and activities to keep your class occupied throughout the busy holiday season.



Take advantage of these great FREE re-

December 2004

Newsletter

Renewable Energy Facts and Information

- *Renewable energy refers to several energy sources that share one characteristic: they all produce electrical, thermal or mechanical energy without unnecessarily depleting resources.*
- *There are five main sources of renewable energy: water, biomass, wind, solar, and the earth.*
- *Waste is an excellent source of energy. Solid waste generates both methane and carbon dioxide gases. The methane gas can be sold to electrical companies in order to be converted to electricity.*
- *Power can also be generated from water. Hydro electricity power plants are becoming very popular on large bodies of water. At a hydroelectric plant, small and large turbines convert the energy in falling water into electricity.*
- *Wind turbines are very popular in southern Alberta. Near Pincher Creek, there is a wind farm with many of the large turbines working. Electricity is generated from the wind and used just like any other power source.*
- *Solar electricity is another popular form of generating electricity. Photovoltaic or solar electrical systems convert the light from sun into electricity.*

Source: Government of Canada
**Quick Facts On Renewable Energy
It's Only Natural**

Operation Minerva

Operation Minerva is a one day conference for southeastern Alberta girls. The conference is designed to encourage girls to participate in math, science and technology related courses in high school, university and hopefully a career. Traditionally, women have been underrep-

resented in these professional careers.

The one day conference consists of mentoring a female with a math, science or technology related career as well as participation in hands on science activities.

The invitations for Operation Minerva were sent out in November. If you know of some girls that may be interested in taking part, and you did not receive an invitation, please contact Patty Rooks @ (403) 527-5365. Deadline for registrations is early December.



Ice Fishing

Materials

ice cubes
salt
tall clear glass
water
string
sturdy, flat work surface
ruler
scissors

Procedure

1. Fill the glass full of water.
2. Set aside on the work surface.
3. Using the ruler, measure out 15 centimeters of string. Cut and set

- aside.
4. Remove an ice cube from the freezer and place in the glass of water.
 5. Push the ice cube down in the water with your finger.
 6. What does the ice cube do? Do you know why?
 7. Lay your string on top of the ice cube.
 8. Sprinkle some salt on the ice cube.



Are you able to catch the ice?

9. Wait about thirty seconds.
10. Try to lift the ice cube up with the string.
11. What happens?

Explanation

When you sprinkle salt onto the ice cube, it melts the cube of ice. As the ice cube melts, the water begins to surround the string in a little puddle. As the puddle forms, the string begins to absorb this water. Because the ice cube is still freezing under the string, it sticks to the wet string and you are able to lift it out of the water

Incredible Ice

Materials

ice cube tray
water
access to a freezer
cooking oil
tall, clear glass
food colouring
container to mix in
spoon or something to stir with



Procedure

1. Fill the container full of water.
2. Add a couple of drops of your favor-

- ite food colouring to the water. Stir well. Note: The colour should be quite dark.
3. Pour into the ice cube tray.
 4. Place the ice cube tray in the freezer and allow the cubes to freeze solid. You may have to wait overnight.
 5. Fill the glass approximately 3/4 full of oil.
 6. Gently place one of the ice cubes in the glass.
 7. Wait for the ice cube to start to

melt.

8. What happens?

Explanation

When water freezes, it turns to ice. When water is in the form of ice, it takes up more space. Water in the form of ice is less dense than the oil, and as a result it will float on top of the oil. As the ice cube begins to melt, you will see that the water will begin to sink to the bottom of the glass. The oil will not mix with the melting water. This is because water in its liquid form is much more dense than oil and just sinks down into the glass.

For all of your science questions or needs, contact
Praxis :
p/f: (403) 527-5365
e: mhpraxis@telusplanet.net
w: <http://www.telusplanet.net/public/mhpraxis>

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