

# PRAXIS

JANUARY 2003  
NEWSLETTER

## Free Video For Teachers

Did you know that an Albertan is making drinking water safe all over the world?

Or that an Alberta company has a multimillion dollar contract with Nike that is helping world class athletes?

Or that an Albertan's discovery could lead to reversing Brain disease like Parkinson's, Alzheimer's and Multiple Sclerosis?

There's more...an Alberta has developed a revolutionary microchip technology called "lab-on-a-chip" that could become a soldier's most valuable tool. And there's a science education program that is inspiring children right across the province.

These are just some of stories

on a brand new documentary called *Alberta Innovation 2002*, which is now available to science teachers across Alberta. The video takes viewers on an incredible journey behind the scenes and into the laboratories where breakthroughs are being discovered and Albertans are improving our quality of life.

To receive your free copy of the video, simply fax the order form enclosed in this issue of the Praxis newsletter. If your newsletter is missing the order form, please fax your name, address and phone number to (780) 415-9824 or call Praxis @ (403) 527-5365 for another.

If you missed last year's documentary, which was first broadcast on Global in Octo-



Discover Alberta's  
Scientists .

ber 2001, don't worry! You can still view it at the Science and technology Week Website—which remains open all year—at [www.scitechweek.ab.ca](http://www.scitechweek.ab.ca). If you'd like to share your comments on either documentary, please e-mail them to [is.inq@gov.ab.ca](mailto:is.inq@gov.ab.ca).

### Did you know...

- The air you breathe is composed of 78% nitrogen, 21 % oxygen as well as argon, carbon dioxide, hydrogen, neon, helium, krypton and xenon.
- If you dropped a marble in the deepest part of the Pacific Ocean that it would take an hour to reach the bottom.
- Virtually every chemical element can be found in seawater—even gold!
- The fastest thing in the universe is light. It travels at a speed of 297 600 kilometers per second.
- The deepest Lake in the world has a depth of 1975 meters (6365 feet) at it's deepest point.
- A cheetah can run over 100 km/hr.
- Food stays in your stomach for three to five hours and the total digestion process takes approximately 15 hours to complete.

## Important Information

### Science Essay Challenge.

There have been some excellent entries received for the Science Essay Challenge. Remember the deadline is the first day of each month throughout the school year. Not only will you receive fame when your article is published in the Medicine Hat News, but you also have the opportunity to win a cash

prize. Remember the best overall essay will win \$1000. Think of all the possibilities that you could use this money for.....

### Regional Science Fair

The plans for the Southeastern Alberta Regional Science Fair are well underway. The Science Fair is scheduled for Saturday, April 5, 2003 at the

Medicine Hat Mall.

It is never too early to get started. If you need some assistance in getting started or any other questions regarding Science Fair, do not hesitate to contact Praxis @ (403) 527-5365 or [mhpraxis@telusplanet.net](mailto:mhpraxis@telusplanet.net).

# The Disappearing Banana

## Materials

bottle (one with a narrow neck)  
banana  
kettle  
water  
pot holders  
Funnel  
knife

## Procedure

1. Peel the banana and cut it in half.
2. Measure the banana in the neck of the bottle. Carefully place the banana, narrow (not cut) side down in the bottle. You want to have a good seal.
3. Fill the kettle full of water and boil.

4. Place the funnel in the bottle.
5. Fill the bottle full of boiling water. Make sure you fill it all the way to the top—you can even let it overflow. Note: You may want to do this in the sink. Let this sit for 2-3 minutes.
6. Put on the potholders. Carefully dump the water out of the bottle.
7. Quickly, place the banana back on top of the bottle (narrow side down).
8. Watch what happens.
9. Be patient as this may take a couple of tries, but it will work!



**Watch carefully!**

## Explanation

By pouring the boiling water into the bottle, you caused the air inside of the bottle to warm up. As air expands, it requires more room and pushes some out of the bottle. When you place the banana in the opening of the bottle, the air inside of the bottle shrinks again. This in turn reduces the air pressure. Because the air pressure outside of the bottle is greater than inside the bottle, the outside air “pushes” the banana out of the way so that it can rush into the bottle..

# Secret Messages

## Materials

Q-tip  
lemon juice  
piece of white paper  
iron or a lamp  
bowl

## Procedure

1. Pour a little bit of the lemon juice into the bowl.
2. Take the Q-tip and place it into the lemon juice. You want to have it just

wet enough, not dripping wet.

3. With the Q-tip write a message on the piece of paper..
4. You might have to rewrite the Q-tip with more lemon juice in order to finish writing your message.
5. Allow your message to dry.
6. Place the iron on a low setting and carefully iron over the piece of paper

until you see the message.

7. If you do not have an iron, hold your paper up to a light bulb. (This may take a little longer)
8. Observe what happens.

## Explanation

When you applied heat from the iron to the piece of paper, a chemical reaction occurred. The heat from the iron changed the lemon juice brown.

*Write a secret message to a friend.*

For all of your science needs, contact Praxis :  
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w: <http://www.telusplanet.net/public/mhpraxis>

