



## The Science & Technology Hotline

May 2004  
Newsletter

### Last Chance!

#### Praxis Science Challenge

The Science Challenge for 2003/2004 is almost over. If you are a junior or senior high student and have something interesting to write about regarding science,



*Try entering one of these great science contests for a chance to win fantastic*

please send in your entry. All winning entries will be published in the Medicine Hat NEWS, win the monthly prize of \$200 and the possibility of winning the \$1000 grand prize. For topic ideas, more information and rules, please visit the Praxis website @ <http://www.telusplanet.net/public/mhpraxis>. Or call (403) 527-5365. The final deadline will be June 1, 2004. All teachers will want to encourage their students to enter as the grand prize winner's science teacher will win a gift certificate for scientific supplies for their classroom!

This is not an opportunity you want to miss!

#### Innovation and Science Contest Deadline

The last day for Alberta classrooms to enter the contest to win a SMART Board Interactive Whiteboard and an LCD computer/video projector is **May 30, 2004**. Please note, that all entries must be received by this date. This prize worth \$6000 will be a great asset to anyone's classroom. Please call Praxis @ (403) 527-5365 or visit [www.scitechweek.gov.ab.ca](http://www.scitechweek.gov.ab.ca) for more details. Good Luck!

### Did you know...

- *As you are walking along, your feet are pushing on the ground. At the same time though, the ground is pushing on your feet. If there was not a force acting on your feet, you would sink deep into the earth. This explanation can also be related to one of the Laws of Motion: "For every action, there is an equal and opposite reaction".*
- *If the Earth did not have gravity, the space shuttle would fly away from the Earth instead of orbiting this magnificent planet.*
- *Light is the fastest thing in the Universe. Light can travel at approximately 300 000 kilometres per second!*
- *Golf balls have dimples in them in order to minimize the drag. As a result the golf ball will travel farther than a smooth ball.*
- *Scientists cannot agree on a standard figure for the speed of sound. This is partially due to the fact that the speed of sound is not a constant. The speed of sound also varies depending on the medium in which it is traveling.*

### Teacher Resources

There are many great science resources online. The link below was recently shared with me, and many have found it to be a valuable resource, I hope that you will agree.

#### Climate Change

##### Resources

Huge wall posters, a teacher's kit, books and maps on climate change.

Visit: <http://www.thecanadianteacher.com/cgi-bin/links> for more information.

#### Learning Kits

There is still time to sign out the Learning Kits for this year. Many titles are available for both May and June. You can even use the Learning Kits at your end of the year activities in which you

would like to have something fun as well as educational. I have also added a new title that will be available starting in May for a loan period of **two weeks**. I am sure that the **Wetlands Discovery Learning Kit** will be very popular with the grade five Wetlands Unit as well as grade nine Science and Biology 20. Call Praxis to book the kit today.

## Transporting Nutrients

As the plants begin to grow outside, you may begin to wonder just how does this happen. Try the experiment below to find out how the nutrients in soil are transported to the entire part of the plant, including the tips of the leaves.

### Materials

3 clear glasses  
distilled water  
measuring spoon  
sucrose (table sugar)  
masking tape  
pencil  
celery stalks (with the leaves)  
measuring cup  
pickling or kosher salt

### Procedure

1. Place a small piece of masking tape on each of the three clear glasses.
2. Label the glasses one, two, and

three.

3. Fill each glass with 125 mL or half a cup of distilled water.
4. Add 15 mL or one tablespoon of sugar to glass number two. Stir well.
5. Add 15 mL or one tablespoon of salt to glass number three. Stir well.
6. Cut three equal sized stalks of celery with the leaves still on the ends. Wash well, dry.
7. Place one stalk of celery in each of the glasses.
8. Place each of the glasses in the refrigerator for at least 48 hours.
9. Remove the glasses and observe the celery stalks.
10. Taste each leaf from the celery stalks. What do they taste like?



*How far can nutrients travel in a plant?*

Note: Never taste anything in a science laboratory, as you are not familiar with the chemicals that may be in the glasses or the chemicals you are mixing up. This experiment should be done in an area away from all chemicals, preferably at home.

### Explanation

The celery leaf from the second glass should have tasted sweet and the celery leaf from the third glass should be salty. This experiment demonstrates how water dissolves nutrients such as sugar or salt into the soil. The water pushes the nutrients into the soil to the roots of the plant. The roots then move the liquid with the nutrients through the xylem tubes to the various parts of the plant including the leaves. It is amazing how far nutrients can travel!

## Transporting Water

In the previous experiment you were able to see how nutrients move, in this experiment you can learn about how water is transported through a leaf.

### Materials

one clear glass  
distilled water  
measuring cup  
spoon  
red food colouring

large leaf (one from a tree)

### Procedure

1. Fill the clear glass with 125 mL or half a cup of water.
2. Add two or three drops of food colouring to the water. The colour should be quite dark. Stir well.
3. Place the leaf, stem side in the water.
4. Allow the leaf to sit in the water for a couple of hours. Observe.

5. Keep observing for a couple of days.
6. What do you see?

### Explanation

You should have observed the red colour initially going through the veins of the leaf. Over time, the leaf should have turned all red. This is because the stem and the leaf contains xylem. The xylem pulls the coloured water up these tubes to the entire leaf. As a result, the entire leaf turns red over time.

For all of your science questions or needs, contact

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w: <http://www.telusplanet.net/public/mhpraxis>

