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HERALDNEWS

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# sneakers



## Scientists at North Pole study changes in Arctic

By MEAGHAN WOLFF  
The Washington Post

Think it's been cold around here lately? Well, the temperature at the North Pole probably won't get above minus-23 degrees Fahrenheit until spring comes. The sun won't shine again until two days before the vernal equinox, the first day of spring.

During the winter months, the hours of daylight don't shorten as they do here; they disappear!

When the sun finally does return this month, it won't set again until just after the first day of fall. The summer sun is known as the "midnight sun" because it shines continually, even in the middle of the night.

**The temperature at the North Pole probably won't get above minus-23 degrees Fahrenheit until spring comes.**

The North Pole is the northernmost point on Earth. As seen on a globe, the North Pole is in the Arctic Circle, an imaginary circle on the surface of the Earth. The region inside the Arctic Circle includes parts of Alaska, Canada, Greenland, Iceland, Scandinavia and Russia. It is home to some people — and polar bears.

The Arctic Circle is also defined as the area north of the "tree line," where it's too cold for trees to grow and where the average temperature for the warmest month is below 50 degrees. Most of the time the terrain there is "pack ice," made of frozen seawater. Many feet below, the ocean exists in its fluid state.

But the sea ice in the Arctic Ocean is thinning, and that's pretty big news. Over the past 30 years the average thickness of the ice (from the surface of the sea ice to the point where the ice meets water) in the central Arctic Ocean has decreased by nearly two feet. Now, the thickness during the winter months is 13 feet — and sometimes less.

Although that decrease might not sound like much, scientists suspect that some of the first signs of a worldwide weather change will show up at the North and South poles.

To study those possible changes, oceanographers, engineers and other scientists have set up a research camp called the North Pole Environmental Observatory. With help from the National Science Foundation and the National Oceanic and Atmospheric Administration, the scientists are trying to understand changes in the polar environment by measuring the thickness of the sea ice, the water temperature, the speed of the currents and the amount of salt in the water.

So, what could all this mean?

"It's impossible to know exactly what will happen," said Michael Steele, a scientist who is studying the information from the North Pole. But some computer programs show that "50 years from now (at the North Pole) there will be no ice at all in the summertime," he said.

On the Web:

[psc.apl.washington.edu/northpole](http://psc.apl.washington.edu/northpole)

Do you believe in ...

# Mathemagic?

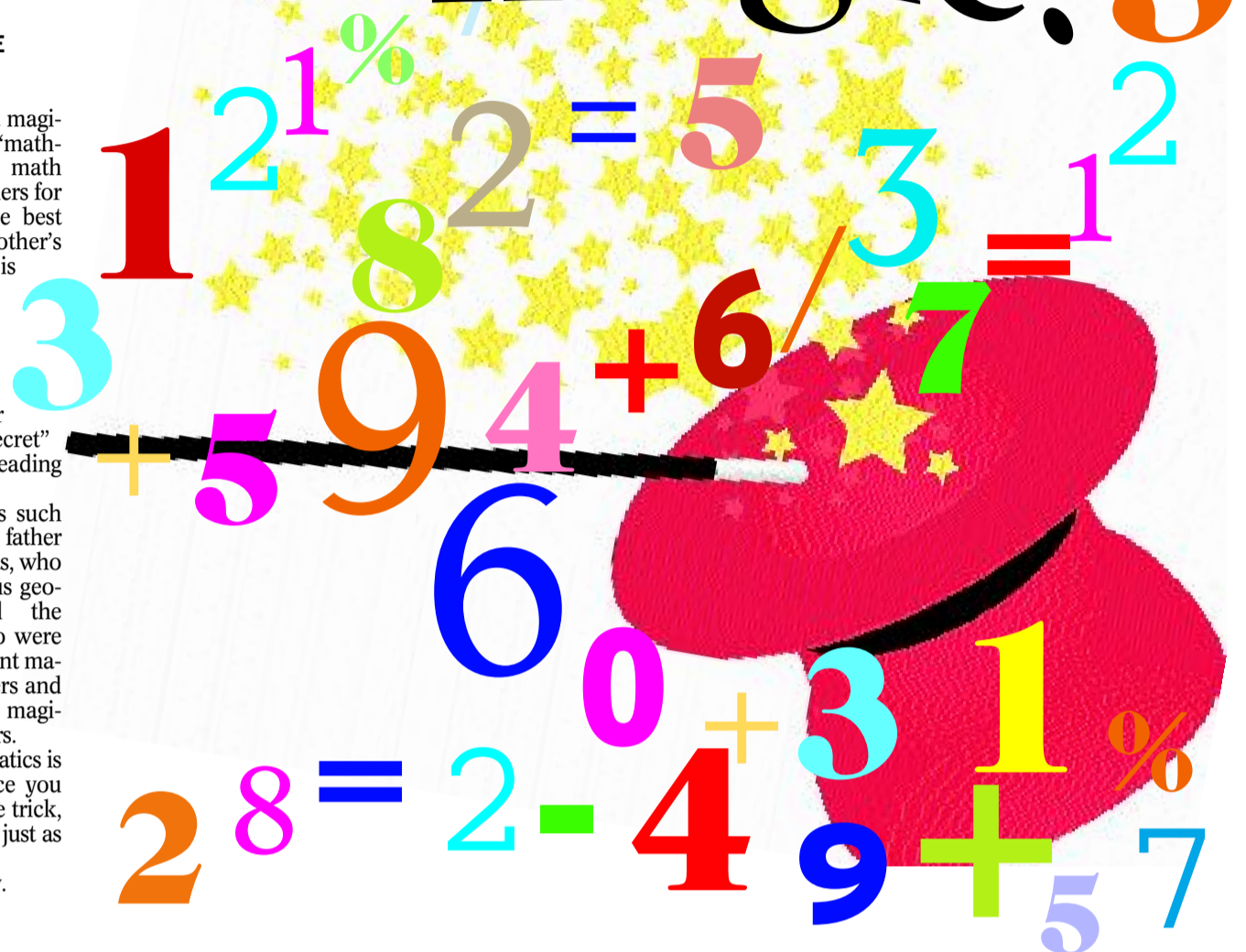
By LAUREL DALRYMPLE  
The Washington Post

Everyone knows what a magician is, but what about a "mathemagician"? The truth is, math and magic have been partners for so long that they are like best friends who finish each other's sentences! "Mathemagic" is simply using math to perform magic tricks. You can use the basic laws of geometry to create an illusion, and number rules can help you amaze your friends by revealing "secret" numbers during a mind-reading act.

Ancient mathematicians such as Euclid, who is called the father of geometry, and Pythagoras, who is best known for a famous geometric principle called the Pythagorean theorem, also were viewed as magicians. Ancient magicians were also astrologers and fortunetellers, but today's magicians are mostly entertainers.

Magic based on mathematics is fun and easy because once you know the secret behind the trick, the trick works all by itself, just as a math problem does.

Want to try? Here's how.



### Calculational wizardry

Write the number 1,089 on a piece of paper, and put it in your pocket. Tell a friend you can predict the answer to a series of math problems that uses any number your friend chooses. Ask your friend to come up with any three-digit number containing all different digits. Then, reverse that number. For instance, if your friend chooses 647, reverse it to 746. Now subtract the smaller number from the larger one, in this case subtracting 647 from 746. If the answer is less than 100, put a zero in front of the number to keep it three digits. The answer in this example is 99, or 099 after you add the zero. Now reverse the number again (making it 990) and add it to 099. The answer is 1,089! Take the piece of paper out of your pocket and show your prediction to your friend.

**How it works:** Look closely at the three-digit number you get when you subtract the smaller number from the larger one. The middle digit will always be nine, and the outer digits will always add up to nine. The same is true when you reverse that number. Therefore, when added together, the last row will always equal 9, the middle row will always equal 18, and the first row will always equal 10 (carry the 1). So the answer will always be 1,089.

### Pretty as a picture

Get a friend that you can put your head through a small piece of your newspaper.

1. Cut out a piece of the newspaper, about 3 inches by 5 inches.
2. Fold the paper in half lengthwise.
3. Starting with the folded side, make a cut to within a half-inch of the edge of the paper.
4. Then turn the paper around and make the same type of cut toward the fold. Continue to do this, alternating sides, until you have made cuts for the entire length of the paper. Gently open the paper and cut lengthwise along the fold, but don't cut the edges.
5. Now stretch the paper out and put your head through the middle!

**How it works:** This trick uses a branch of mathematics called topology, which is the study of shapes. To a topologist, what matters is the number of holes and twists in a shape, not the shape itself. This trick demonstrates that you can change a shape without actually making the area of the shape any bigger.

## FUN FACTS



## Snow sports

- The history of snowboards goes back to 1965, when Sherman Poppin produced a "Snurfer" — two skis bolted together with a rope on the front to hold.
- Snowboarding became an Olympic sport in 1998.
- The famous ski resort at Sun Valley, in Idaho, was opened in 1936 by the Union Pacific Railroad to attract more train passengers to the West.

Want to know more? Go online to <http://www.worldalmanacforkids.com/> for more fun facts and games.

## FUNNY BONE

**Question:**  
What kind of tree does a math teacher climb?

**Answer:**  
Geometry!

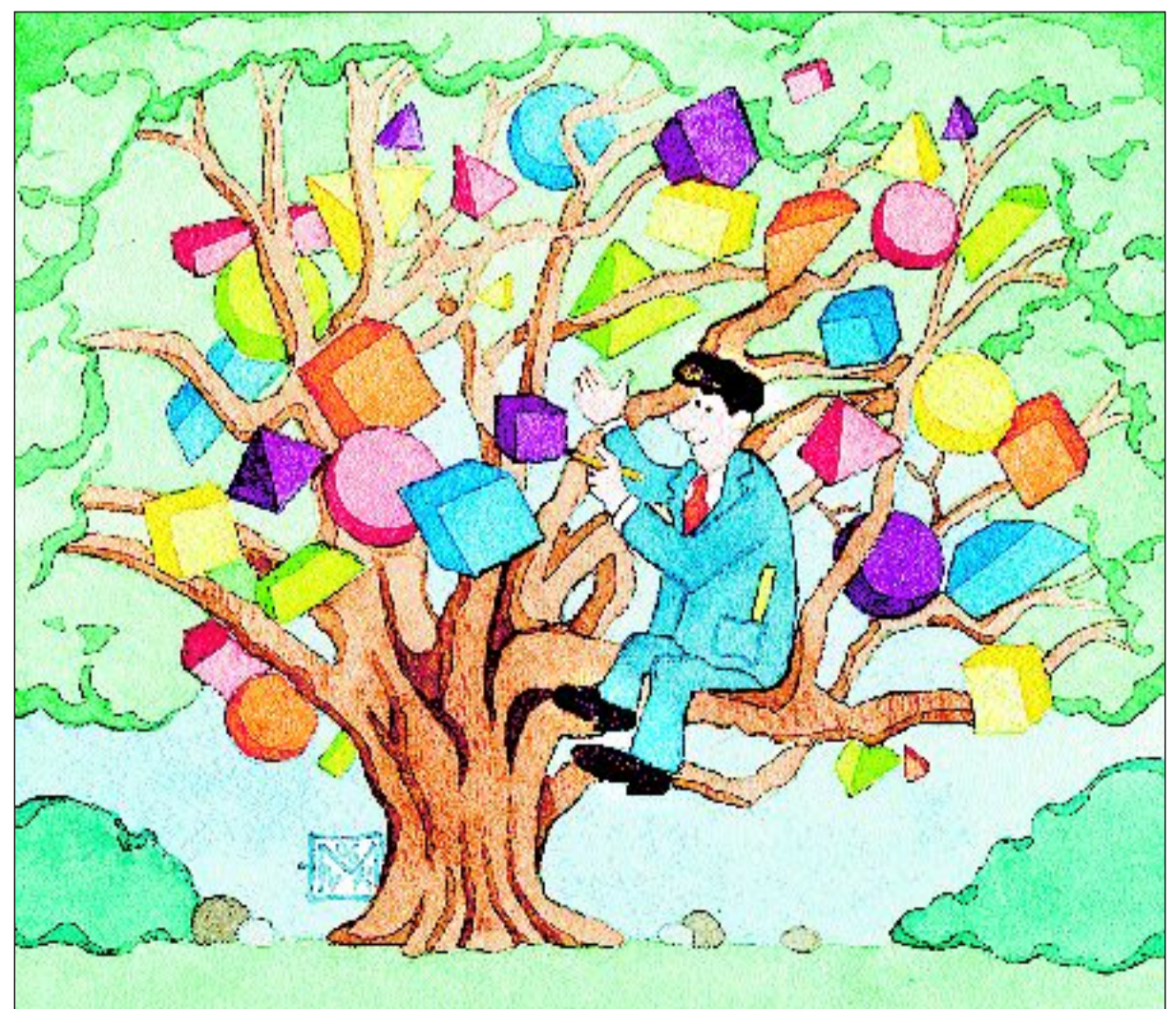


Illustration by  
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