May 2004

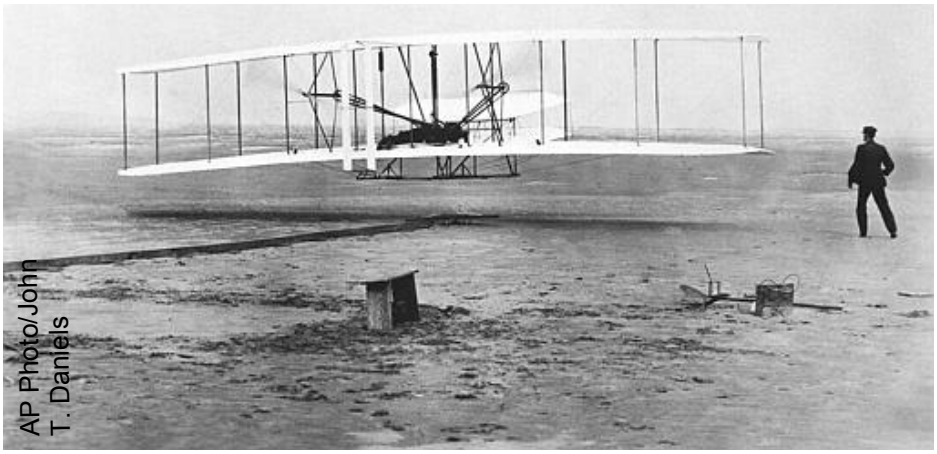
ZOOM in on america

A Monthly Publication of the USA Mission to Poland. Warsaw • Krakow • Poznan

Volume I. Issue 4.

FROM KITTY HAWK TO MARS

Just over 100 years have passed since the Wright brothers made the world's first sustained, powered and controlled flight in a heavier-than-air flying machine. Many American scientists and engineers have been working towards flying farther, longer and higher ever since. Take a look at the timeline below showing American achievements from the Wright brothers' first flight to the landing of the Mars Rovers on the Red Planet.



AP Photo/John T. Daniels

December 17, 1903

In the photo on the left, Orville Wright is at the controls of the *Wright Flyer* as his brother Wilbur looks on during the plane's first flight at Kitty Hawk. Made of wood, wire and cloth, the plane remained aloft for 12 seconds and traveled a distance of 120 feet.

1903 — First powered flight

1927 — First solo, nonstop trans-Atlantic flight

1969 — First walk on the moon

1976 — First U.S. landing on Mars

2004 — Rovers land on Mars

May 21, 1927

Charles Lindbergh landed in Paris after the first solo flight from New York across the Atlantic in *The Spirit of St. Louis*. He flew 5,810 kilometers in 33.5 hours.

July 20, 1969

Apollo 11 astronaut, Neil Armstrong was the first man to step onto the moon. He was followed by Edwin "Buzz" Aldrin. They spent about two hours on the moon, conducting experiments.

July 20, 1976

The unmanned U.S. spacecraft *Viking 1* landed on Mars. It was the first object to reach the planet in working condition. *Vikings 1 and 2* obtained images of the Martian surface.

January 3, 2004

Mars Exploration Rover *Spirit* landed on Mars. The photo on the right is a NASA image of *Spirit*. The six-wheeled vehicle is equipped to play the role of a geological explorer.

Sources: Library of Congress, NASA

(AP Photo/NASA)

Make a **Discovery** - or **Try** ;-)

High school students from across the United States participate in science projects. Such programs are offered by different research institutions and the United States government. Many students from abroad, including Poland, are welcome to take part in the projects.

GLOBE

GLOBE is a worldwide education and science program for primary and secondary schools.

Students take scientifically valid measurements in the fields of atmosphere, hydrology and soils.

Then they report their data through the Internet. They may create maps and graphs on the free interactive website to analyze their data.

The most distinguished Polish high schools participating in GLOBE include ones located in Gdańsk, Katowice, Łódź and Wrocław.

GLOBE websites:

- **www.globe.gov**
- **www.gridw.pl/globe**

NASA NEEDS YOUR HELP

NASA scientists researching Mars are asking students from around the world to help them understand the Red Planet.

They would like you to send in a rock you or your class collected from your region of the world. NASA will use a special tool like the one on the Mars Rover to tell you what the rock is made of.

A picture of your rock will be posted an the web and you will receive a report on it.

More information:

http://marsprogram.jpl.nasa.gov/rockworld/

(Image: Copyright 2004 Pixel Perfect Digital, Inc.)

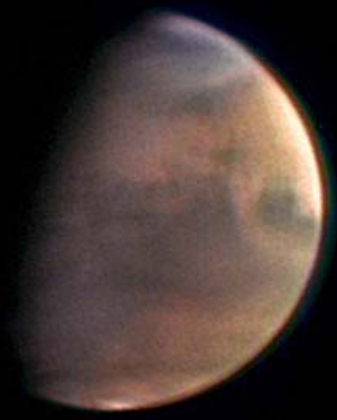
MARS EXPLORATION

In 2003 the Planetary Society conducted an international contest to select a group of students to work with the Mars Exploration Rover Mission team at the Jet Propulsion Laboratory in Pasadena, California. One of the winners was a Polish student from Dywity near Olsztyn.

"Being a member of an international team of scientists, who had the opportunity to analyze first-hand information from the Red Planet was a marvelous adventure."

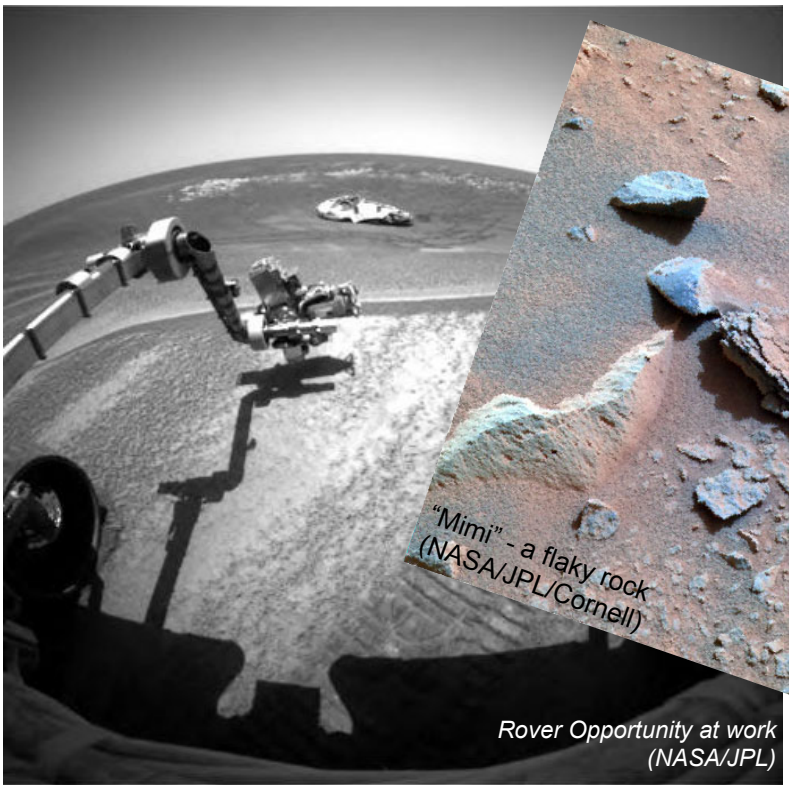
"When you're here, it doesn't matter what your nationality, religion or political opinions are. What matters is that you're from Earth and exploring Mars," said Maciej Hermanowicz about his work at NASA.

Read Maciej's journal from the mission:
http://www.redrovergoestomars.org/journals/maciej_sol27.htm



Mars is seen from a distance of about 5.4 million kilometers.(AP Photo/ ESA, DLR, HO)

Mars: Mission **Possible**



Rover Opportunity at work (NASA/JPL)

Mars: Mission Possible is an exhibit organized by the United States Consulate General in Krakow. It features photos sent to Earth by Mars rovers Pathfinder, Spirit and Opportunity as well as other images of Mars.

The exhibition will take place at Nordic House, ul. sw. Anny 5 in Krakow on May 11-15, 2004, during the Science Festival organized by Krakow's universities, other research institutions, the British Council, the U.S. Consulate General and the French Consulate General.

The exhibit will also feature a video made at Mars Exploration Rover Mission HQ during the landing of twin robot geologists Spirit and Opportunity.


Spirit's Destination (NASA/JPL/Cornell)

On May 14-15, Maciej Hermanowicz (see previous page) will meet high school students interested in astronomy to talk about his adventure at NASA.

American English: **FYI**

In the text above, what does **HQ** stand for? It's *headquarters*, a place from which a mission is commanded. Do you know some other common English abbreviations and acronyms?

- Probably the most common one is **OK**, meaning *all right*;
- The common **e.g.** in the written language means *for example* (from Latin "exempli gratia");
- **ASAP** (pronounced ay - ess - ay - pee) is a short version of *as soon as possible;*
- Found mainly as a title of a website section, an **FAQ** (pronounced ef - ay - kyu) contains answers to *Frequently Asked Questions;*
- Used often in e-mails, **BTW** means *by the way* and **FYI** - *for your information*;
- People who put **PTO** on some documents are asking you to "*please turn over*" the page.

And can you decipher this **SMS** (*short message service*) message: **CUL8R**?

See you later!

How **DOES** That Work?

Ever wondered how inventions such as car engines, cell phones or microprocessors work? Check out **www.howstuffworks.com**

The editors explain not only how machines function but also the rules behind:

- sports such as **rock climbing**
- natural phenomena such as **time**
- institutions such as **NATO**
- historical events such as **September 11, 2001**
- making **chocolate Easter bunnies**.

Want more great websites on science? Check out the website for Scientific American (www.sciam.com) and click on "Science & Technology Web Awards." The page contains links to the magazine editors' 50 favorite links in 10 categories ranging from anthropology to physics.

Win a Book!

To take part in a drawing for one of three English-language books, check out our website: **www.usinfo.pl/zoom/** and find the answer to the following question:

Who or what is Kitty Hawk?
a. an American aviator
b. a place in North Carolina
c. the first plane

Send your answer to: **zoom@usinfo.pl**

Give your name, address, and age. The deadline is May 31.

Good **Luck**!

The winners from the previous issue come from Bielsko-Biała, Gliwice and Przemyśl and will soon receive their prizes by mail.

ZOOM in on america

About **ZOOM**

Zoom is online at
www.usinfo.pl/zoom/

Subscription issues
www.usinfo.pl/zoom/subscribe.htm

Contact us at
zoom@usinfo.pl

American Information Resource Centers

Warsaw
Ambasada USA
ul. Piękna 14, 00-540
Warszawa
airc_warsaw@pd.state.gov

Krakow
Konsulat Generalny USA
ul. Stolarska 9, 31-043
Krakow
KrakowAIRC@state.gov

Who Invented **That**?

Match the names of inventors with their inventions. Then make sentences using the clues, e.g.: *Thomas Edison invented the modern light bulb.*

Alexander Graham Bell	roll film and Kodak camera (devise)
Robert Jarvik	modern light bulb (invent)
Willis Haviland Carrier	artificial heart (develop, late 1970s)
George Eastman	telephone (invent, 1876)
Jonas Salk	vaccine for polio (develop)
Thomas Edison	air conditioner (patent)

1. _____
2. _____
3. _____
4. _____
5. _____

Now rewrite the sentences in the passive form, e.g.: *The modern light bulb was invented by Thomas Edison.*

1. _____
2. _____
3. _____
4. _____
5. _____

A **Little** Bit of Math?

The German physicist, Daniel Gabriel Fahrenheit (1686-1736), invented the first truly accurate thermometer using mercury. He also developed the first precise temperature scale. Americans use the Fahrenheit scale, unlike Europeans, who use Celsius. Here are formulas for converting the temperatures:

To convert from Celsius to Fahrenheit: **(9/5) x °C +32**
To convert from Fahrenheit to Celsius: **(5/9) x (°F -32)**

Convert these record temperatures (source: http://www.centennialofflight.gov) into Celsius:

- The **hottest** U.S. temperature ever recorded was **134 degrees Fahrenheit (… degrees Celsius)** at Death Valley, California, on July 10, 1913.
- The **coldest** U.S. temperature ever recorded was **-80 degrees Fahrenheit (… degrees Celsius)** at Prospect Creek, Alaska, on January 23, 1971.

Name That **Scientist**!

Someone who works in the field of *botany* is called *a botanist*. What are the correct names for representatives of these scientific disciplines?

geography -
chemistry -
microbiology -
physics -
veterinary medicine -