



no. 6

July 25, 2012

# Catalyzer

44th International Chemistry Olympiad United States of America

## Tour of Historical Washington, D.C.

**Washington, D.C.** is one of the most recognizable cities in the world, perhaps due to news reports or perhaps the number of movies and television shows that use the city as a location. Whatever the reason, today students will get a chance to see it up close and personal. Today's excursion will include a trip to Capitol Hill, site of the Senate and House of Representatives of the United States. We will also travel around the Mall to visit a number of monuments and memorials, from the Lincoln Memorial on the

Potomac River to the Washington Monument in the middle of the Mall.

We will visit **The Albert Einstein Memorial** with its 21 foot bronze statue. A star map at Einstein's feet is embedded with more than 2,700 metal studs representing the positions of the sun, moon, planets and stars. In Einstein's left hand is a paper with mathematical equations summarizing three of his most important scientific contributions including the theory of relativity.



*Library of Congress*



*Albert Einstein Memorial*



*Photos from Shutterstock and photos.com*

*Top left: U.S. Capitol Building, top right: the WWII War Memorial, Reflecting Pool, and Lincoln Memorial, left: the White House, above: memorial statue of Abraham Lincoln.*

*Celebrating International Excellence in Chemistry*



# End of WWII Leads to Development of Acrylic Paint



**The end of World War II meant change throughout the world.** For a small U.S. chemical company named **Rohm and Haas**, change meant developing new products that would appeal to households, which had taken a back seat to the military during the war years.

Rohm and Haas had been successful by supplying Plexiglas—a lightweight, shatterproof acrylic glass substitute used in aircraft and other vehicles—throughout the war. In the post-war years, manufacturers would use Plexiglas to make illuminated signs, car taillights and other goods, but the company knew that Plexiglas sales would never again reach war levels. In order to grow in peacetime, the company needed to find other uses for acrylics.

In the years immediately following World War II, nearly 16 million American service men and women returned to civilian life, setting off an unprecedented housing boom. And all of these new homes needed

paint, both inside and out. Rohm and Haas found their target product.

Rohm and Haas scientists capitalized on their development of a new, economical way of producing acrylate monomers and turned the monomers into acrylic-based paints, which offered improved qualities over solvent-based paints. **After decades of work improving the product, acrylic emulsions virtually replaced oil-based exterior paint in the United States by the 1970s.**

The development of acrylic emulsion technology by Rohm and Haas (now a subsidiary of Dow Chemical Company)

was designated a National Historic Chemical Landmark by the American Chemical Society in 2008. To date, more than 65 achievements in chemical science and technology in the U.S. and abroad have been recognized by the program. For more information, visit [www.acs.org/landmarks](http://www.acs.org/landmarks).



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## Importance of STEM education

In today's knowledge economy, science, technology, engineering and math (STEM) education is the fundamental enabler of innovation. That is why Dow has a long-standing commitment to improving it.

For high school students, STEM education is a passport to a career full of exciting breakthroughs and solutions through which they can address global challenges facing both current and future generations.

Additionally, a STEM-focused education provides students the opportunity to play a role in a variety of industries, including the chemical industry, which enables more than 96 percent of all manufactured goods.

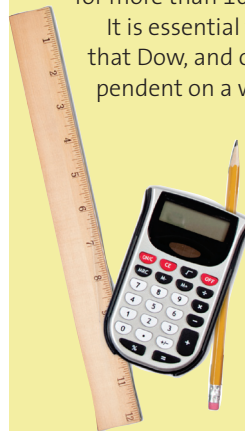
Through Dow's sponsorship of the 44th International Chemistry Olympiad and its partnerships with other leading organizations including Change the Equation and the International Year of Chemistry, the Company has supported STEM education for more than 100 years.

It is essential to human progress that Dow, and other companies dependent on a workforce proficient in

STEM, continue to engage in similar partnerships and use their resources to encourage student interest in STEM education and make our global workforce stronger.

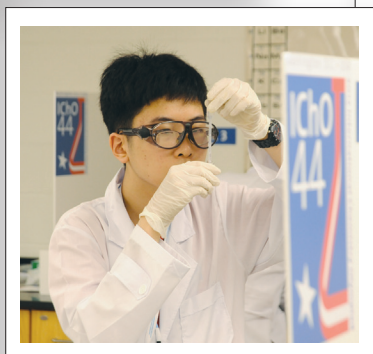


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# Lab Practical Day



Photos by Peter Cutts Photography

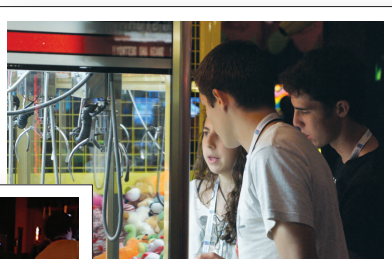
## Scientific Instruments Puzzle Answers

ACROSS: 3. Balance 4. Scale 5. Anemometer 6. Telescope  
7. Thermometer DOWN: 1. Microscope 2. Barometer

## Wednesday, July 25 Schedule

	Students	Mentors and Observers
whole day	Washington, D.C. Tour	Translation – Theoretical Exam Potomac River Cruise

*Last Night's Fun  
at Dave and  
Buster's!*



Photos by Michael Mury and  
Michael Tinneland



## Puzzle

### Atoms and Matter

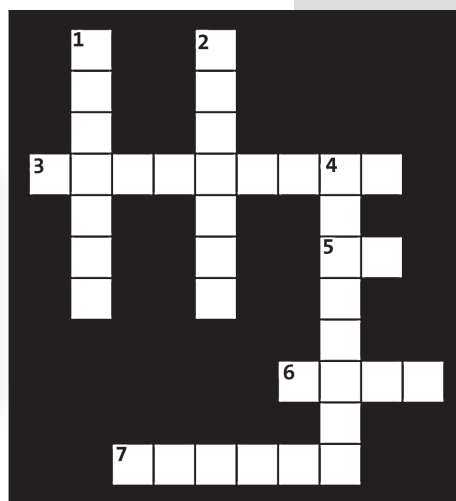
#### Across

- Negatively charged particles that circle the nucleus.
- The name of one of the types of quarks found in protons and neutrons.
- The name another of the types of quarks found in protons and neutrons.
- Protons and neutrons are made up of these particles.

#### Down

- The central part of the atom.
- Positively charged particles found in the nucleus of the atom.
- Neutral particles found in the nucleus of the atom.

Answers are in issue #7.



*If you're not part of the  
solution, you're part  
of the precipitate!*



ITS A JOKE



Henry Pak and Hang Yuen  
New Zealand, July 25

**HApPy  
BiRtHDay!**



On the cover masthead: The Thomas Jefferson Memorial in Washington, D.C., honors the third President of the United States of America.



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