

ScienceWorld

current science

The teacher's online companion to *Science World*, providing your middle school and high school students with science news and rich informational texts that connect STEM to the Common Core

Subscriber sign in is coming soon.
Check your Teacher's Guide for the access code.

Science World Home > Chemistry News > Name That Element!

CHEMISTRY: PERIODIC TABLE

Name That Element!

PHEW! This element stinks! It can also eat away at statues and has been used to make chemical weapons. Use these five clues to figure out the mystery element. Then turn the page to test your chemistry IQ.

—Gretchen Hoffman

ANATOMY OF AN ELEMENT

Atomic Number
Element Symbol
Element Name
Group Name

ATOMIC NUMBER equals the number of protons (positively charged particles) in an atom's nucleus.
Each element consists of atoms that all have the same number of protons, so each has a unique atomic number. In a neutral atom, the number of protons and the number of electrons (negatively charged particles) are equal.

ATOMIC MASS equals the number of protons plus the number of neutrons (uncharged particles) found in a single atom of an element. The element's mass is in the middle, which mixes both protons and neutrons.

3 COLORFUL MOON
Check out Jupiter's colorful moon Io. The mystery element spews from the moon's volcanoes and blankets its surface. "Most of Io's reds, greens, browns, and even blacks are due to different forms of this element," says Moses Mizuno, a geophysicist at the University of Arizona's Planetary Image Research Laboratory. The mystery element comes in an array of different structural forms in which an element's atoms can be arranged. Each allotrope has a different hue. **Game over? Score 60 points. Still playing? Check out clue 4.**

4 TOXIC POLLUTER
People burn fossil fuels, like coal and oil, to produce power. This process releases the mystery element's acidic form—one atom of the element bonded to two oxygen (O) atoms. Oxygen is found in the same group, or column, as the mystery element. The dioxide gas reacts with water and oxygen in the atmosphere to form an acid that falls to the ground as acid rain. This harms plants and makes lakes and rivers more acidic, killing fish and other aquatic organisms. It also eats away at buildings, bridges, and monuments. **Score 40 points if you've figured out the element. No luck? Try the last clue.**

5 GAS ATTACK
The mystery element, which has 16 electrons, is one of the main components of mustard gas, so-called because the gas (a yellowish-brown liquid) smells like mustard. Armies used mustard gas as a chemical weapon during World Wars I and II. It made enemies cough, shed tears, and develop skin blisters. Too much of the gas can even be deadly. Countries are now working to destroy all remaining stocks of the gas, which is no longer produced in the U.S. except for use in research. **Guessed the element? Score 20 points. Then turn to page 22.**

WHAT'S THE ELEMENT?



Science World: March 25, 2013

MARCH 25, 2013

Name That Element!

PHEW! This element stinks! It can also eat away at statues and has been used to make chemical weapons. Use these five clues to figure out the mystery element.

BY GRETCHEN HOFFMAN | FOR SCIENCE WORLD MAGAZINE

1. HOLD YOUR NOSE!

In its pure form, this nonmetal element is a yellow, odorless solid. But in nature it's found only in combination with other elements. Compounds containing the mystery element often have a telltale scent: They smell like rotten eggs. These compounds give both skunks and garlic their stink. They're also responsible for the nasty odor given off by a tropical plant called the "corpse flower." The smell helps the plant attract insects, which in turn pollinate it. **Know the answer? Score 100 points. If not, read clue 2.**

2. MOLD STOPPER

You can thank the mystery element for helping snacks taste good months after they were packaged. That's because the element is a preservative. Food makers add it to dried fruits, pickles, and baked goods like breads so they stay fresh. "The mystery element kills bacteria, yeast, and molds," says Joseph Hotchkiss, a food scientist at Cornell University in Ithaca, New York. It works by forming an acid that disrupts the growth of microbes' cells. **Got it now? Score 80 points. Not yet? Go to clue 3.**

3. COLORFUL MOON

Check out Jupiter's colorful moon Io. The mystery element spews from the moon's volcanoes and blankets its

CLICK HERE to go to the digital issue for this article's online resources.

CHEMISTRY NEWS

SEPTEMBER 19, 2013

Dangerous Swim

Should marathon swimmers wear suits that prevent jellyfish stings?

READ MORE >

SEPTEMBER 16, 2013

A New Element?

Scientists discover a superheavy element that may soon be added to the periodic table

READ MORE >

SEPTEMBER 2, 2013

Oil Bloom

An article about a student researcher who is working to improve the production of biofuel from algae.

READ MORE >

JULY 26, 2013

The World's Oldest Water

Scientists in Canada find 1.5 billion-year-old water trapped in rock.

READ MORE >

JULY 20, 2013

Exposed! Earth's Rarest Element

Scientists uncover the secrets of astatine, the rarest material on Earth.

READ MORE >

MAY 6, 2013

Burned by the Sun

Dangerous sun rays left half of this truck driver's face shockingly wrinkled. Protect yourself from similar damage.

surface. “Most of o’s reds, greens, browns, and even blacks are due to different forms of this element,” says Moses Milazzo, a geophysicist at the University of Arizona’s Planetary Image Research Laboratory. The mystery element comes in an array of allotropes (different structural forms in which an element’s atoms can be arranged). Each allotrope has a different hue. Game over? Score 60 points. Still playing? Check out clue 4.

4. TOXIC POLLUTER

People burn fossil fuels, like coal and oil, to produce power. This process releases the mystery element’s dioxide form—one atom of the element bonded to two oxygen (O) atoms. Oxygen is found in the same group, or column, as the mystery element. The dioxide gas reacts with water and oxygen in the atmosphere to form an acid that falls to the ground as acid rain. This harms plants and makes lakes and rivers more acidic, killing fish and other aquatic organisms. It also eats away at buildings, bridges, and monuments. Score 40 points if you’ve figured out the element. No luck? Try the last clue.

5. GAS ATTACK

The mystery element, which has 16 electrons, is one of the main components of mustard gas, so-called because the gas (or yellowish-brown liquid) smells like mustard. Armies used mustard gas as a chemical weapon during World Wars I and II. It made enemies cough, shed tears, and develop skin blisters. Too much of the gas can even be deadly. Countries are now working to destroy all remaining stocks of the gas, which is no longer produced in the U.S. except for use in research. Guessed the element? Score 20 points.

The mystery element is Sulfur!

[READ MORE >](#)

APRIL 1, 2013

Is the Kilogram Gaining Weight?

Scientists are trying to stop this standard unit of measurement from getting bigger.

[READ MORE >](#)



ALL CLASSROOM MAGAZINES

[Action »](#)

[ART »](#)

[Choices »](#)

[DynaMath »](#)

[Foreign Language Magazines - French »](#)

[Foreign Language Magazines - German »](#)

[Foreign Language Magazines - Spanish »](#)

[Junior Scholastic »](#)

[Let's Find Out »](#)

[MATH »](#)

[My Big World with Clifford »](#)

[The New York Times Upfront »](#)

[Scholastic News Gr. 1 »](#)

[Scholastic News Gr. 2 »](#)

[Scholastic News Gr. 3 »](#)

[Scholastic News Gr. 4 »](#)

[Scholastic News Gr. 5/6 »](#)

[Science World »](#)

[Scope »](#)

[Storyworks »](#)

[SuperScience »](#)

[PRIVACY POLICY](#) · [Terms of Use](#) · TM ® & © 2013 Scholastic Inc. All Rights Reserved.