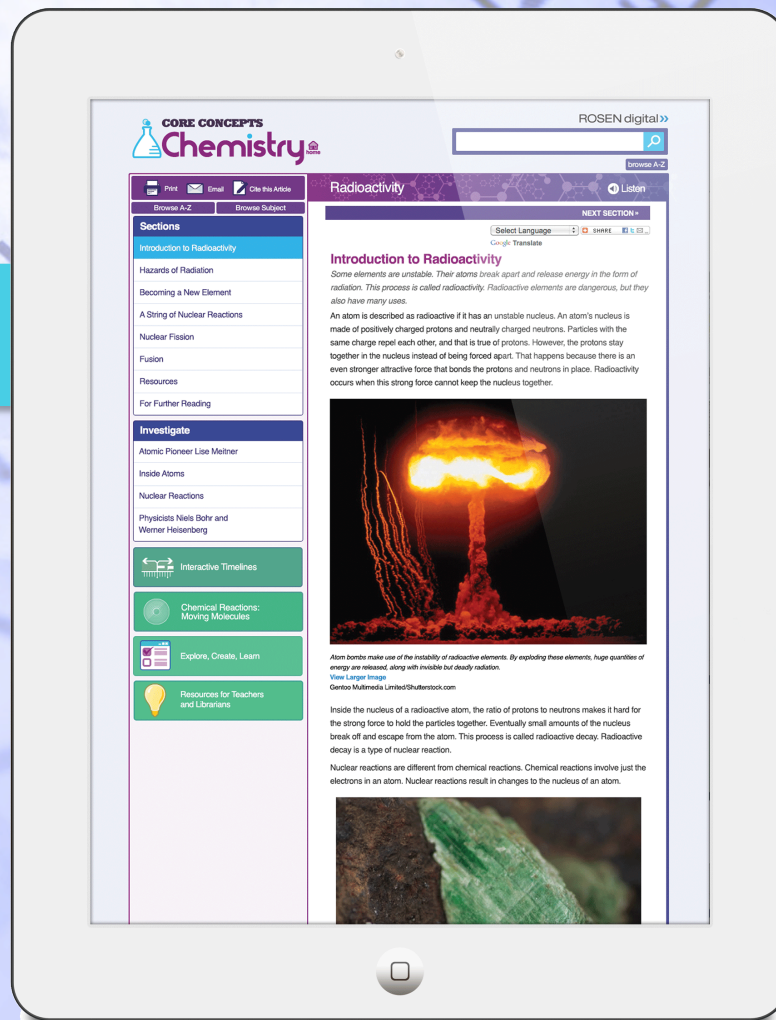




CORE CONCEPTS Chemistry

Digital Resource from Rosen Publishing



The screenshot shows the ROSEN digital Chemistry website on a tablet. The page is titled "Radioactivity" and features a navigation menu on the left with sections like "Sections", "Investigate", and "Resources". The main content area includes an "Introduction to Radioactivity" section with a text description and a large image of a nuclear explosion. Below the image is a caption and a paragraph explaining the instability of radioactive atoms and the process of radioactive decay.

CORE CONCEPTS
Chemistry

ROSEN digital >>>

Radioactivity

Sections

- Introduction to Radioactivity
- Hazards of Radiation
- Becoming a New Element
- A String of Nuclear Reactions
- Nuclear Fission
- Fusion
- Resources
- For Further Reading

Investigate

- Atomic Pioneer Lise Meitner
- Inside Atoms
- Nuclear Reactions
- Physicists Niels Bohr and Werner Heisenberg

Interactive Timelines

Chemical Reactions: Moving Molecules

Explore, Create, Learn

Resources for Teachers and Librarians

Introduction to Radioactivity

Some elements are unstable. Their atoms break apart and release energy in the form of radiation. This process is called radioactivity. Radioactive elements are dangerous, but they also have many uses.

An atom is described as radioactive if it has an unstable nucleus. An atom's nucleus is made of positively charged protons and neutrally charged neutrons. Particles with the same charge repel each other, and that is true of protons. However, the protons stay together in the nucleus instead of being forced apart. That happens because there is an even stronger attractive force that bonds the protons and neutrons in place. Radioactivity occurs when this strong force cannot keep the nucleus together.

Atom bombs make use of the instability of radioactive elements. By exploding these elements, huge quantities of energy are released, along with invisible but deadly radiation.

View Larger Image
Genos Multimedia Limited/Shutterstock.com

Inside the nucleus of a radioactive atom, the ratio of protons to neutrons makes it hard for the strong force to hold the particles together. Eventually small amounts of the nucleus break off and escape from the atom. This process is called radioactive decay. Radioactive decay is a type of nuclear reaction.

Nuclear reactions are different from chemical reactions. Chemical reactions involve just the electrons in an atom. Nuclear reactions result in changes to the nucleus of an atom.

The third database in the Core Concepts science suite



CORE CONCEPTS Periodic Table

Site Help | Logout ROSEN digital >>

Browse A-Z | Element Builder | Explore, Create, Learn | More About the Periodic Table | Resources for Teachers and Librarians

Group 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

Period 1 2 3 4 5 6 7

Click any square to learn more.

Periodic Trends

1	H																	He
2	Li	Be											B	C	N	O	F	Ne
3	Na	Mg											Al	Si	P	S	Cl	Ar
4	K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr
5	Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe
6	Cs	Ba	La	Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	
7	Fr	Ra	Ac	Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	Lr	

Alkali Metals | Alkaline Earth Metals | Transition Elements | Other Metals | Lanthanides and Actinides | Metalloids | Other Nonmetals | Halogens | Noble Gases | Unknown

CORE CONCEPTS Biology

Logout ROSEN digital >>

Animals Systems | Biology Basics | Cell Biology | Ecology | Evolution | Genetics | Human Body

Microbes | Plant Structures | Reproduction | Scientist Biographies | Biology Activity | Explore, Create, Learn | Resources for Teachers and Librarians

Core Idea: Chromatography

Chromatography is a technique to separate and analyze chemical substances. A chemical sample is turned into liquid or gas and passed over a solid. The substances in the sample move at different speeds and separate from one another. Paper chromatograms, shown here, can be used to separate dyes or to investigate water pollution.

Into the Field

Suppose you were tasked with estimating the number of dragonflies that live in the marsh. There's no way you could count them all. That's where the quadrat comes in. A quadrat is a tool that allows biologists to trap and observe specimens. Biologists take many sample counts, and then these samples are tabulated to come up with an estimate on the number of species living in that habitat.

CORE CONCEPTS Chemistry

Logout ROSEN digital >>

Atoms and Molecules | Biochemistry | Chemical Reactions | Chemistry In Your World | Energy and Reactions | Matter | Metals and Metalloids

Nonmetals | Organic Chemistry | Periodic Table | Scientific Biographies | Chemistry Activity | Explore, Create, Learn | Resources for Teachers and Librarians

Core Idea: Solid, Liquid, or Gas?

Erupting volcanoes show matter in all three states—the solid rock that forms the volcano, the liquid magma that pours out of it, and the gases that are blasted into the atmosphere.

Chemistry in Action

The dancing lights of an aurora occur when charged electrons from the Sun collide with gases in Earth's atmosphere. These collisions energize the electrons in the gas atoms. As the electrons jump to a higher energy state, they emit the energy that we see as colored light. The green glow of an aurora comes from electrons colliding with oxygen molecules more than 60 miles (100 km) above Earth's surface.

Supports STEM & Next Generation Science Standards!

Core Concepts: Chemistry encourages students to explore the world around them from the subatomic level on up. This rich resource covers atoms, elements, chemical reactions, organic chemistry, biochemistry, the properties of matter, and more.

Key Features

Learners will experience:

- Biographies and interactive timelines that put discoveries and events in historical context
- Extensive footage, images, and diagrams—including targeted, student-created videos from the Chemical Heritage Foundation
- The ability to submit videos for publication on the site
- Instant translation, text-to-speech, and text highlighting supporting challenged readers and ELLs

Educators will appreciate:

- Correlations to Next Generation Science Standards and Common Core standards, as well as national, state, and provincial standards
- Instructional tools such as lesson plans, assessments, enrichment activities, and homework help
- Interactive content-creation activities that guide students to draw links between chemistry and their own lives
- iPad, iPhone, iPod Touch, and Android compatibility

Homepage

Appealing, friendly interface with prominent search tool.



Site Help | Logout ROSEN digital >>

Browse A-Z

Atoms and Molecules	Biochemistry	Chemical Reactions	Chemistry in Your World	Energy and Reactions	Matter	Metals and Metalloids
Nonmetals	Organic Chemistry	Periodic Table	Scientist Biographies	Chemical Reactions: Moving Molecules	Explore, Create, Learn	Resources for Teachers and Librarians

Top navigation bar leads to article browse, interactive activities, and resources for teachers and librarians.



Core Idea: Solid, Liquid, or Gas?

Erupting volcanoes show matter in all three states—the solid rock that forms the volcano, the liquid magma that pours out of it, and the gases that are blasted into the atmosphere. The state of matter depends on how its molecules are arranged. In solids, molecules are packed closely together. In liquids, molecules are more spread out. In gases, molecules are free to move in any direction.

[Read More](#)

“Core Idea” highlights different article content each week. Different interactive features are also updated weekly.

Chemistry in Action

The dancing lights of an aurora occur when charged electrons from the Sun collide with gases in Earth’s atmosphere. These collisions energize the electrons in the gas atoms. As the electrons jump to a higher energy state, they emit the energy that we see as colored light. The green glow of an aurora comes from electrons colliding with oxygen molecules more than 60 miles (100 km) above Earth’s surface.

[Read More](#) [See More Videos](#)

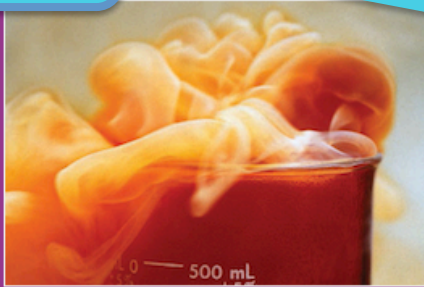


Visual browse

Click on a subject area to start exploring the resource.

Atoms and Molecules	Biochemistry	Chemical Reactions	Chemistry in Your World	Energy and Reactions	Matter	Metals and Metalloids
Nonmetals	Organic Chemistry	Periodic Table	Scientist Biographies	Chemical Reactions: Moving Molecules	Explore, Create, Learn	Resources for Teachers and Librarians

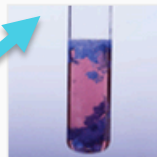
The main concept of each subject area is introduced in the top content box.



Chemical Reactions

Chemical reactions are taking place all around you—and inside you. Some are too small to notice. Others, like the combustion of fireworks, are too dramatic to ignore. Learn how atoms come together and disconnect, and the remarkable changes that result. Discover the immense power of nuclear reactions, the energy in stars and atomic bombs.

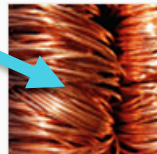
Each image corresponds to different related articles within this subject area.



Chemical Reaction Basics

What turns food into energy, coal into fire, and iron into rust? The answer is chemical reactions. Chemical reactions are taking place all around us and even inside our bodies.

[Read More](#)



Ionic, Covalent, and Metallic Bonds

Chemical bonds allow atoms to stick together in different combinations. How a bond between atoms forms depends on the number and location of the atom's electrons.

[Read More](#)



Types of Chemical Reactions

Chemists classify chemical reactions according to how chemical bonds are broken or built. Then the scientists write those reactions as chemical equations.

[Read More](#)

Click "Read More" to navigate to detailed article content.

Navigating an article

 Print  Email  Cite this Article

Browse A-Z

Browse Subject

Sections

The Building Blocks

Solid, Liquid, or Gas?

Three States of Water

Changing States

Forming Compounds and Mixtures

Types of Mixtures

Resources

For Further Reading

Glossary

Periodic Table Reference Guide

Investigate

Changing States of Matter

Element Basics

Properties of Gases

Properties of Liquids

Matter Defined

 Listen

The Building Blocks

Everything in the universe is made from tiny particles called atoms. Chemistry is the science that investigates how atoms are organized to make the huge variety of substances people see around them.

Everything around you is made of **matter**. The objects surrounding you, the air you breathe, and even your body are made from the same building blocks. These building blocks do not make up just the things on Earth. Everything in the universe—the sun, the billions of other stars, rocks, and clouds of dust—are made of them, too.

What Are Atoms?

The building blocks of matter are called **atoms**. Atoms are tiny and far too small to see. About 125 million atoms lined up in a single row would be an inch (2.5 centimeters) long. However, not all atoms are the same. There are about 90 different types in nature. Atoms come in different sizes and masses and have many properties.

Atoms group together to make the objects and other



All substances are composed of atoms and molecules. Water is made of simple molecules, with an oxygen atom bonded to two hydrogen atoms.

Hamster3d/Stock Footage/Getty Images

Table of contents allows students to navigate within an article.

Each article includes diagrams, videos, and extensive information, including highlighted vocabulary providing rollover definitions.

Articles feature “Resources,” “For Further Reading,” “Glossary,” and a pop-up periodic table for convenient reference.

Navigating an article

Photos, charts, tables, and diagrams organize information and make it accessible and engaging for all types of learners.

Ionic, Covalent, and Metallic Bonds

Interactive Timelines

Chemical Reactions:
Moving Molecules

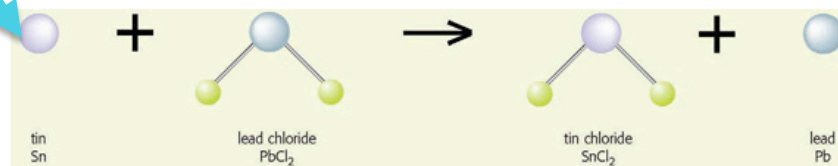
Explore, Create, Learn

Resources for Teachers
and Librarians

Articles feature science experiments and exercises to apply knowledge.

undergo neutralization reactions are called acids and bases. Acids are compounds that contain hydrogen ions (H^+). Bases contain negative hydroxide ions (OH^-). When acids and bases react they form water and another compound. This second product is neither an acid nor base and is described as neutral.

A neutralization occurs when you add household ammonia (a base; NH_4OH) vinegar (an acid; CH_3CO_2H). The vinegar's H^+ ions and the ammonia's OH^- ions combine to form water (H_2O). The NH_4^+ ion bonds with the vinegar ion ($CH_3CO_2^-$). This forms ammonium ethanoate ($NH_4CH_3CO_2$), a neutral compound.



The diagram above shows how tin displaces lead when added to a solution of lead chloride.

[View Larger Image](#)

© Brown Bear Books Ltd.

Acid or Base?

Chemists use a substance called an indicator to test if something is an acid or a base. The indicator changes color when acid or bases are added to it. You can make an indicator at home from red cabbage.

Chop up a whole red cabbage into small pieces. Boil the pieces for 30 minutes. (Ask an adult to help you and be careful with the hot water.) The boiling cabbage will make the water turn red. Let the water cool and then use a sieve (strainer) to separate the

As you scroll down in an article, you will see the following:



This picture shows a displacement reaction in progress. The silver-colored strip of zinc dissolves in the blue copper sulfate solution. Red-brown copper metal forms at the bottom of the test tube.

[View Larger Image](#)

Andrew Lambert Photography/Science Source

Call-outs feature hands-on activities and ways to apply the information to daily life.



Navigating an article

- Text-to-speech and instant translation help students read and understand the content.
- Video, photos, diagrams, and data tables demonstrate and reinforce key concepts.



Print Email Cite this Article

Browse A-Z Browse Subject

Sections

- Inside the Nucleus
- Radiation
- Isotopes Explained
- Nuclear Reactions
- Glossary
- Periodic Table Reference Guide

- Print or email an entire article or an article section.
- Citations can be automatically generated in MLA and APA format.
- Investigate related articles.

Investigate

- Atomic Pioneer Lise Meitner
- Inside Atoms
- Physicists Niels Bohr and Werner Heisenberg
- Radioactivity
- Radioactivity Pioneers Marie and Pierre

Nuclear Reactions

« PREVIOUS SECTION

NEXT SECTION »

Select Language SHARE

Isotopes Explained

Certain forms of the elements are more radioactive than others. The different forms of atoms are called isotopes. The number of protons in an atom determines what element it is. However, some atoms of the same element have different numbers of neutrons. This makes them different isotopes. Some isotopes are more radioactive than others because the number of neutrons makes them unstable.



Plutonium is a radioactive element found in heart pacemakers, space probes, and atomic bombs. This student-made video explores plutonium's properties and history.

Video from It's Elemental online periodic table. © 2011 Chemical Heritage Foundation

To learn more about isotopes, it helps to understand how they are written. Chemists write isotopes in two ways. One way to write an **isotope** looks like this: ${}^a_z X$, where "X" is the **chemical symbol**, "z" is the **atomic number** (the number of protons in the nucleus), and "a" is the **atomic mass number** (the sum of the protons and neutrons in the nucleus). If you subtract the atomic number from the mass number, you get the number of neutrons in that isotope. This level of detail can be useful but it is not always needed. Chemists may just write the symbol and the mass number, such as U-238 (uranium-238, or ${}^{238}_{92}\text{U}$).

Navigating an article

Investigate

Atomic Researcher Chien-Shiung Wu


Nuclear Reactions

Radioactivity

Radioactivity Pioneers Marie and Pierre Curie

 Interactive Timelines

 Chemical Reactions:
Moving Molecules

 Explore, Create, Learn

 Resources for Teachers
and Librarians

Each page contains links to:

- Interactive Timelines
- “Chemical Reactions: Moving Molecules” activity
- “Explore, Create, Learn” area with study tools and content-creation activities for students
- Resources for Teachers and Librarians

amount of energy. That’s why the uranium became krypton).

Meitner and Frisch named this process nuclear fission. Certain scientists had thought that nuclear fission might be possible, but Meitner and Frisch were the first to recognize and explain it.

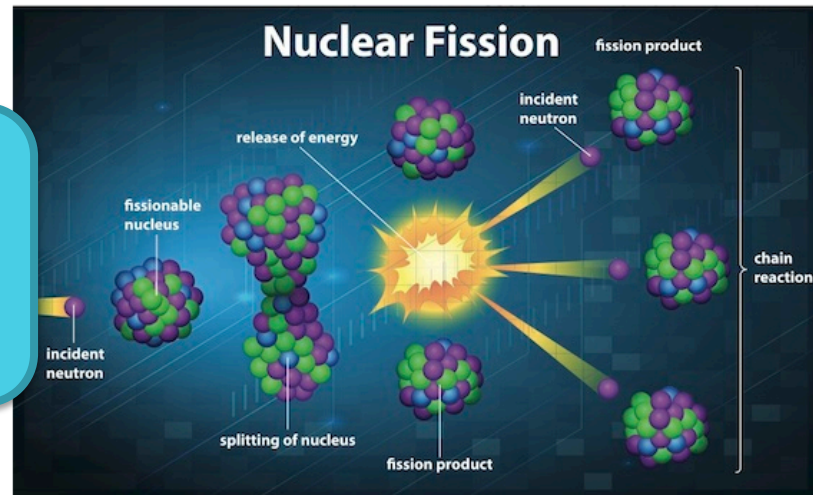
Lise Meitner realized that nuclear fission could be used to convert mass into enormous amounts of energy with a **chain reaction**. In a nuclear chain reaction, neutrons break atoms into pieces. Those split atoms release their neutrons, which crash into other atoms. Those atoms in turn split and release more neutrons that crash into more atoms that are split. The cycle continues until the radioactive material is stabilized.

Otto Hahn and Fritz Strassmann published a paper describing their findings in 1939. They did not mention Lise Meitner, even though she, at the very least, interpreted and explained the discovery. Hahn and Strassmann knew that it would be dangerous to list a Jewish physicist as coauthor in Germany. Meitner understood and accepted their choice.

Call-outs highlight key concepts, real-world examples, and thought-provoking “Think Like a Scientist” questions.

Think Like a Scientist

Based on what you know about atoms and neutrons, why do you think a nuclear fission reaction continues for so long and produces so much energy?



Understanding the process of fission was a dramatic step forward. It led to the development of nuclear

Core Concepts Suite Integration



ROSEN digital >>

Print Email Cite this Article

Browse A-Z

Browse Subject

Sections

Introduction to Radioactivity

Hazards of Radiation

Becoming a New Element

A String of Nuclear Reactions

Nuclear Fission

Fusion

Resources

For Further Reading

Reference Periodic Table

Investigate

Atomic Pioneer Lise Meitner

Inside Atoms

Nuclear Reactions

Physicists Niels Bohr and Werner Heisenberg

Interactive Timelines

Chemistry Activity

Explore, Create, Learn

Resources for Teachers and Librarians

Radioactivity

Select Language

Google Translate

Introduction to Radioactivity

Some elements are unstable. Their atoms break apart and release radiation. This process is called radioactivity. Radioactive elements also have many uses.

An atom is described as radioactive if it has an unstable nucleus. An atom's nucleus is made of positively charged protons and neutrally charged neutrons. Particles with the same charge repel each other, and that is true of protons. However, the protons stay together in the nucleus instead of being forced apart. That happens because there is an even stronger attractive force that bonds the protons and neutrons in place. Radioactivity occurs when this strong force cannot keep the nucleus together.



Atom bombs make use of the instability of radioactive elements. By exploding these elements, huge quantities of energy are released, along with invisible but deadly radiation.

[View Larger Image](#)

Gentoo Multimedia Limited/Shutterstock.com

Inside the nucleus of a radioactive atom, the ratio of protons to neutrons makes it hard for the strong force to hold the particles together. Eventually small amounts of the nucleus

If you have the Core Concepts suite, take advantage of deep integration with Periodic Table and Biology.

Use the top left icons to easily navigate among the three resources from anywhere in the suite.



Core Concepts Suite Integration

Want to learn more about the elements in a Chemistry article? Use integration to jump directly into Periodic Table articles.

Larger atoms have two or more electron shells. The extra shells are larger than the first one and need eight electrons to become stable. Becoming stable with eight electrons is called the **octet rule**. This rule drives all chemical reactions because atoms will react with each other until they become stable.

Atoms with incomplete outer shells will give, take, or share electrons to fill their energy levels. These atoms are reactive because they take part in chemical reactions. An atom with one electron in its outer shell will give it away easily. Atoms with six or seven outer electrons readily take electrons to fill that shell.

When atoms give, take, or share electrons they create bonds. During a chemical reaction, bonds are broken and built to create new molecules.

Learn more about the elements in this article

CORE CONCEPTS
Periodic Table

H	He	Li	C	N	O	F	Ne	Na	Si	S
Cl	Ar	Fe	Cu	Zn	Br	A				

« PREVIOUS SECTION

Article Citation in MLA (Modern Language Association) format:

"Ionic, Covalent, and Metallic Bonds." *Core Concepts: Chemistry*. Core Concepts: Chemistry Group, Inc., 2014. Web. 7 Jul. 2014 <<http://chemistry.rosendigital.com/article/441/ionic-covalent-and-metallic-bonds>>

Article Citation in APA (American Psychological Association) format:

Core Concepts: Chemistry. (2014). *Ionic, Covalent, and Metallic Bonds*. Retrieved July 7, 2014, from <http://chemistry.rosendigital.com/article/441/ionic-covalent-and-metallic-bonds>

Article Citation in Chicago Manual of Style (16th edition) format:

"Ionic, Covalent, and Metallic Bonds." *Core Concepts: Chemistry*. July 7, 2014. <http://chemistry.rosendigital.com/article/441/ionic-covalent-and-metallic-bonds>.

10 **Ne** Neon

Noble Gases

Atomic Weight
20.1797

Learn more about this element:

Core Concepts:
Periodic Table

Interactive Activities

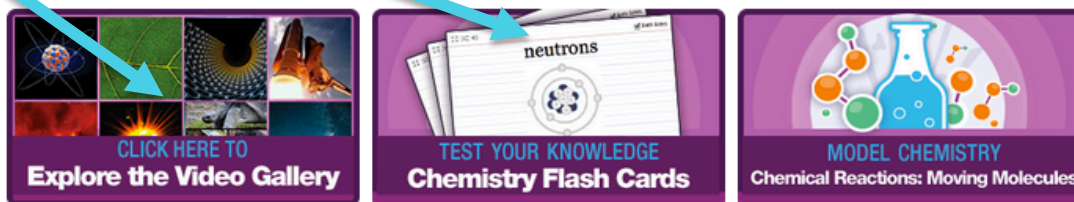
Interactive activities reinforce skills and core ideas.

Explore, Create, Learn

- Video gallery conveniently catalogs all the videos that appear throughout.
- Chemistry flashcards test recall and help students prepare.



...start your project or presentation with these interactive activities.



Submit your own video!

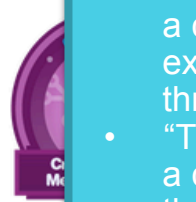


Users can create and submit their own videos for publication on the site!



Interactive Activities

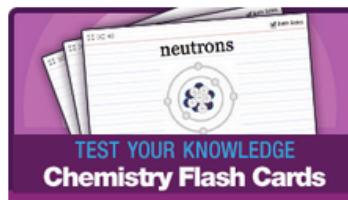
Explore, Create, Learn



Jumpstart your project or presentation with these interactive activities.



 Submit your own video!



- Experiments button links to a complete list of experiments that appear throughout.
- “Try This! Activities” links to a complete list of activities that appear throughout.

Interactive “Chemical Reactions” Activity



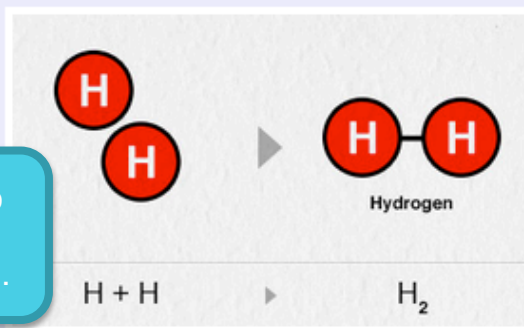
ROSEN digital >>

Learners create chemical reactions by choosing to combine different elements.

Chemical Reactions: Moving Molecules

REACTION 1 OF 4

[START OVER]



YOU CHOSE:
Start with hydrogen (H)

Hydrogen does not exist for long in nature as a single atom. Instead, two hydrogen atoms combine to form a single hydrogen molecule (H_2).

Learn more:

[Element Basics](#)

[Chemical Reaction Basics](#)

“Learn more” section links to articles with detailed information on related topics.



Hydrogen

Hydrogen is the simplest and most abundant element in the universe. It is present in many important compounds on Earth, from water to fossil fuels to proteins in your body.

However, hydrogen is rarely found on its own outside of the laboratory. Because it is the lightest element, hydrogen tends to float away into space. Planets with stronger gravity, like Jupiter and Saturn, have more hydrogen than Earth. These gas giants are mostly made of hydrogen.

Continue

Interactive Activities

These downloadable flashcards can be viewed online or imported into 3rd-party flashcard apps for mobile devices, such as Quizlet.



Site Help | Logout ROSEN digital >>



Element Identification

Chemistry: Element Identification

Options

20

Ca



20 of 42

Quizlet View this study set

Choose a Study Mode

Interactive Activities

The screenshot shows an interactive app interface with a dark background. At the top, the title "Elements of the Periodic Table" is displayed. Below it, a paragraph reads: "The elements of the periodic table are everywhere. They make up who we are, and the world around us. Some of them even changed history. Use these apps to find out more about the periodic table and the elements within it." The main content area features five vertical panels. The central panel, "ELEMENTS OF THE WORLD", is highlighted with a white border and contains the text: "The elements of the periodic table are found all over the world, in different quantities and in different forms. Find out what our world is made up of." Below this text is a satellite-style image of Earth with colored markers. To the left, a panel titled "INTRODUCING THE PERIODIC TABLE" has a left-pointing arrow. To the right, a panel titled "EVERYDAY ELEMENTS" has a right-pointing arrow. At the bottom right, there are navigation icons and the text "Try using the cursor keys to navigate". The bottom left corner features the Open University logo and a "MENU" button.

Elements of the Periodic Table

The elements of the periodic table are everywhere. They make up who we are, and the world around us. Some of them even changed history. Use these apps to find out more about the periodic table and the elements within it.

INTRODUCING THE PERIODIC TABLE

←

Learn more about the history of the elements and how the periodic table was born.

ELEMENTS THAT CHANGED THE COURSE OF HISTORY

Certain elements have changed people and society in important ways. Use our timeline to see some of the major impacts throughout history.

ELEMENTS OF THE WORLD

The elements of the periodic table are found all over the world, in different quantities and in different forms. Find out what our world is made up of.

BODY CHEMISTRY

We're all made up of elements. Find out which ones, and what happens when the perfect balance of elements is changed.

EVERYDAY ELEMENTS

→

Everyday life is full of elements. Explore the elements that are most common in our lives.

Try using the cursor keys to navigate

The Open University

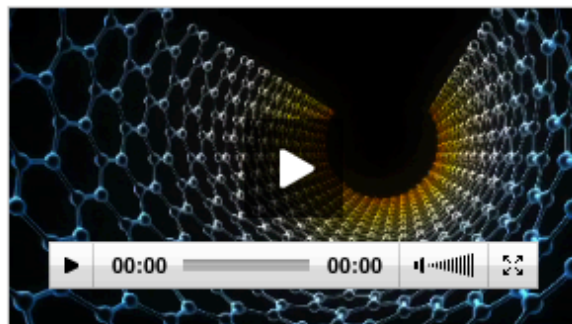
MENU

The interactive app provided by The Open University allows students to explore how the elements impact their world.

Interactive Timelines

Organic Chemistry Timeline

Interactive Timelines showcase events and discoveries related to each topic, along with a U.S. and World Events timeline to put them in historical context.



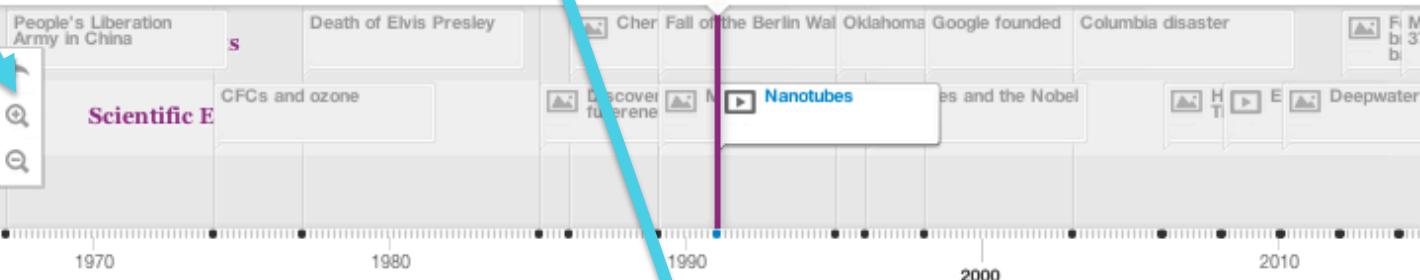
Stock footage provided by badandexpensive/Pond5.com
Carbon atoms can bond into shapes called nanotubes.

1991 Scientific Events

Nanotubes

Japanese scientist Iijima Sumio (1939–) creates tube-shaped fullerenes called nanotubes.

1995
Oklahoma City bombing



Video, photos, and other visual elements keep learners engaged.

[Timelines Home](#)

“Explore, Create, Learn” Activities



Film a Video!

DOWNLOAD
BLANK
CHECKLIST 

Build Your Checklist:

 Listen

STEP 1 OF 9

Introduction

Chemistry can be complex. But a video is a great format for breaking down chemistry concepts in an informative and entertaining way. Check out the student-made videos in the [Hydrogen](#) and [Halogens](#) articles. Enhanced with laboratory demonstrations and multimedia, they show how students can get creative and bring chemistry to life. Your video can cover any topic in chemistry, and it can take any form, from a filmed presentation to a music video to a news report.

In this activity, you will create a checklist of everything you need to brainstorm, write, film, edit, and share your video. When you're done, [submit your video](#) for inclusion on *Core Concepts: Chemistry!*

Your Name:



NEXT



Video Checklist:

Students can get a jumpstart on their projects or presentations by using these step-by-step organization tools.

Librarian/Educator Resources

Site Help | Logout ROSEN digital >>



Resources for Teachers and Librarians

Curriculum Correlations

Customer Newsletters

Lesson Plans

Online Training

Promotional Materials

Reference Guides

Submit Your Video

Try This!

Usage Statistics

User's Guide

Video Gallery

Web Buttons



Interactive Timelines



Chemical Reactions:
Moving Molecules



Explore, Create, Learn

Resources for Teachers and Librarians

Core Concepts: Chemistry offers an extensive array of resources to help teachers and librarians most effectively use this online resource. From curriculum correlations and promotional materials to lesson plans and reference guides, you will find all the tools you need to support your student users here.

And, to receive the latest on exciting new features of Core Concepts: Chemistry, proven promotional and programming ideas, and advice to best serve your students, *simply send us your email address.*

From curriculum correlations and lesson plans, to promotional materials and web buttons, to online training and usage statistics, you can find all the tools you need.

About Rosen Publishing

Rosen Publishing is an award-winning educational publisher of K-12 nonfiction, offering print, eBooks, Interactive eBooks, apps, games, and online databases. Our iPad and smartphone compatible resources support Common Core learning standards as well as 1:1 laptop initiatives, blended and personalized learning, digital literacy and digital citizenship, financial literacy, STEM, reading and language arts, and bullying prevention. Rosen's groundbreaking Interactive eBooks with Digital Content Creation Tools provide a safe digital environment to explore and create.

Core Concepts: Chemistry is the third database in the Core Concepts (CC) suite, joining CC: Biology and CC: Periodic Table. All 3 Core Concepts resources support STEM learning and deliver curriculum correlated content, promote digital literacy and 21st-century learning skills, and offer research, report, and homework help.

To learn more about how Rosen Publishing helps students be college-prepared and career ready, visit rosendigital.com.

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