Any Age

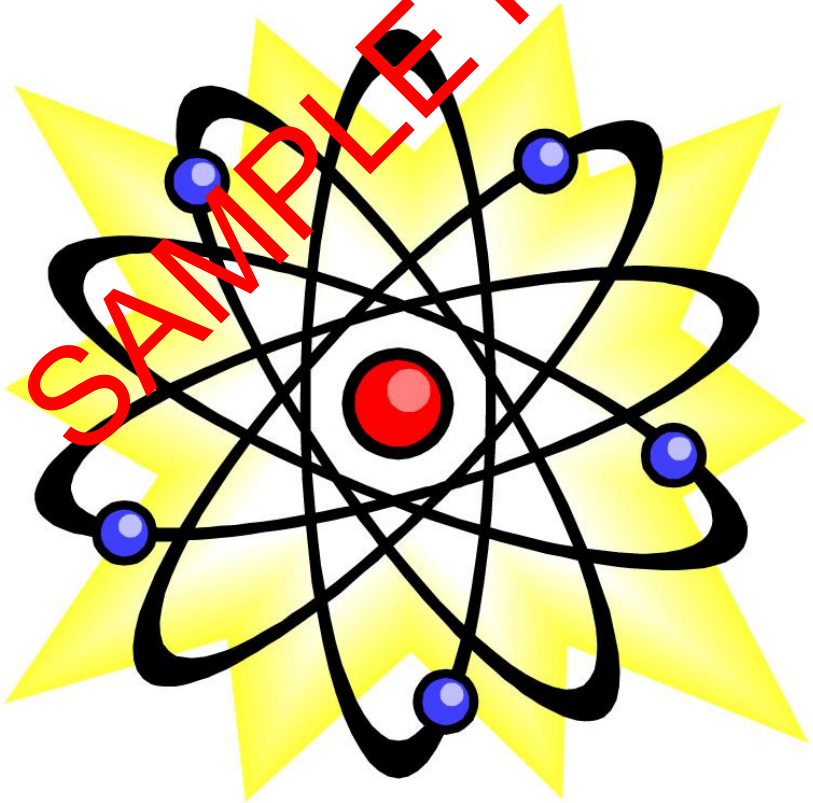
Pierre and Marie Curie

The Science Couple

Express Lapbook

Mini Lapbook, Study Guide, Activities, and Crafts

SAMPLE PAGE



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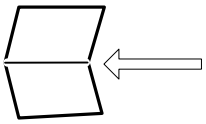
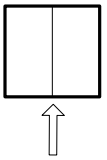
SAMPLE PAGE

Things to Know

Hamburger Fold-Fold horizontally



Hotdog Fold-Fold vertically

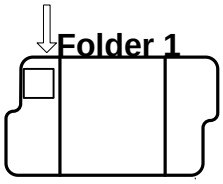


Dotted Lines-These are the cutting lines.

Accordion Fold-This fold is like making a paper fan. Fold on the first line so that title is on top. Turn over and fold on next line so that title is on top again. Turn over again and fold again on the next line so that title is on top. Continue until all folds are done.

Cover Labels-Most of the booklets that are folded look nicer with a label on top instead of just a blank space. They will be referred to as "cover label."

How do I know where to place each template in the folder?

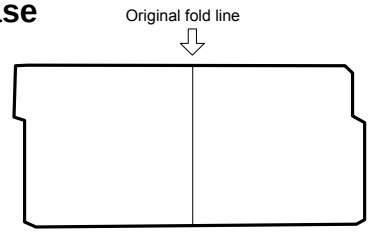


This placement key tells you the template goes in the first folder at the top of the left flap.

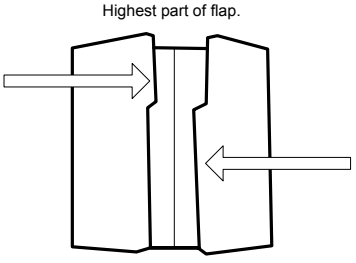
SAMPLE PAGE

Folding a Lapbook Base

Gather the number of folders required for the project. Fold them flat as seen here.



For each folder, fold the left and right sides inward toward the original line to create two flaps. Crease so that the highest part of each flap is touching the original line. It is important not to let the two flaps overlap. *You may want to take a ruler and run it down each crease to make it sharper.*



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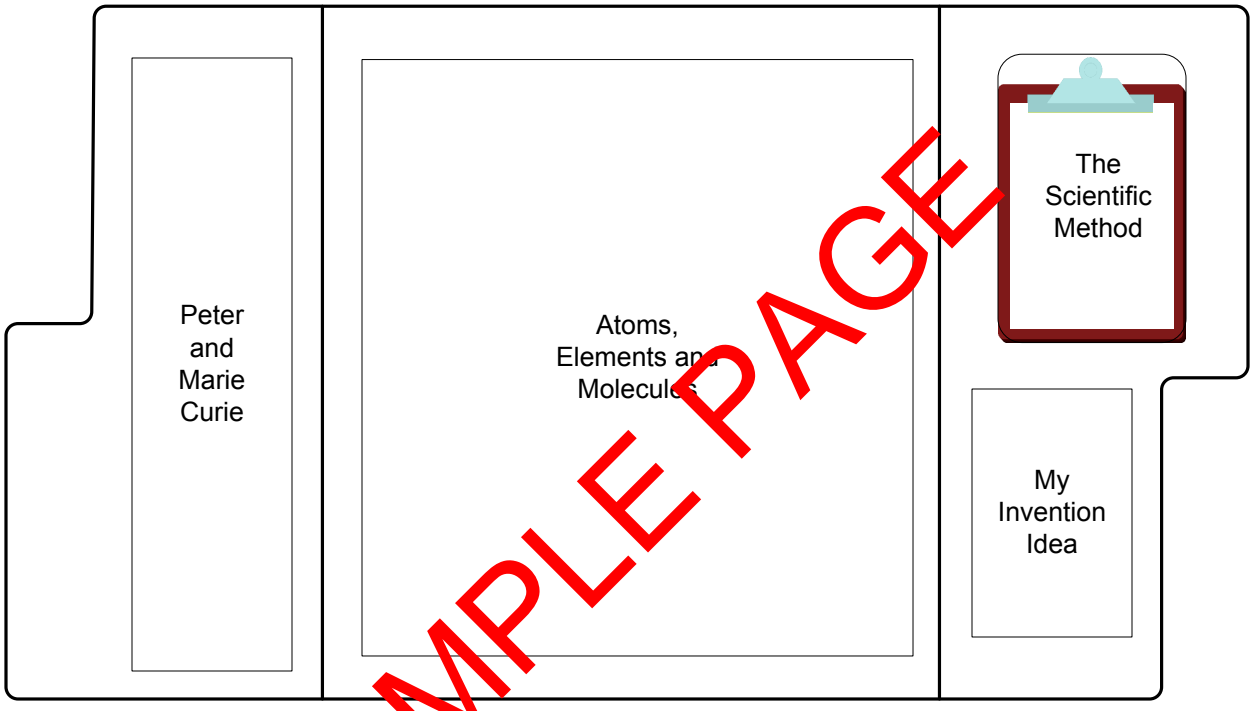

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Complete the Scene

Color the picture of Marie Curie if you would like.
Cut on dotted line. Glue to the front of your folder.

Marie Curie

SAMPLE PAGE

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Pierre and Marie Curie

Pierre and Marie Curie were a married couple. They were both scientists and they worked together. Pierre Curie was born in Paris in 1859. From an early age, Pierre showed a great interest in science. He studied at the famous Sorbonne University and later became a professor of Physics. He made a number of discoveries and had made a name for himself when he met Marie.

Marie was born in Poland in 1867. She came to study science at the university and met Pierre. Soon they got married. They lived for each other and their science. They worked in the same lab, and together, they made some important discoveries. They were able to prove that atoms - small chemical particles- break down constantly. As they break down they put out radiation. This radiation is able to pass through other materials.

While working on radiation, the Curies discovered two new elements. One they name *polonium* (in honor of Marie's birth country), and the other *radium*. Their discoveries earned them the prestigious for science in 1903.

Unfortunately, this marvelous partnership was cut short in 1906 when Pierre died in a tragic accident. Marie was crushed. She continued to work in the research they had begun together. She received a second Nobel Prize in 1911. Her work with radiation led to the invention of x-ray machines. These machines use radiation to see the inside of the human body. X-ray machines were a great advance in medicine.

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Folder 1

Cut out each piece on this page and the next. Stack together at the top and staple. Glue into lapbook.
Directions: Write about Pierre and Marie inside the booklet.

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Marie

Pierre

SAMPLE PAGE

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Atoms, Elements and Molecules

You already learned that matter is the word scientists use for everything in the universe. Everything is built out of matter. But what is matter made of? Atoms. Atoms are the building blocks for everything. Plant and animal cells, rocks, water, air, everything is made out of atoms. These atoms are like tiny (very, very tiny) puzzle pieces, that when put together in the right ways, create something.

Atoms are really tiny. You cannot see them, even with the most powerful microscope. Instead, scientists use something called a scanning tunneling microscope to learn more about the way they are put together. An atom is almost like a tiny solar system. The center of our solar system is the sun, and everything else orbits it, held in place by its massive gravity. Similarly, the center of an atom is a ball of tightly intertwined electrons and neutrons. These are called particles. The orbiting 'planets' in our tiny atom 'solar system' are called electrons. These are like bits of energy, darting around the center proton and neutron 'sun.' Unlike our orderly, consistent planets, the electrons in an atom do not always do the same thing. They follow the same path, but how fast they move may not be the same.

What is created by these atoms depends on what kind they are. These specific kinds of atoms are called elements, and everything in the universe is made out of about 120 elements. Of these 120 elements, only a few are common and these few are the building blocks for most things that we see and use every day.

So what makes one atom, or element, different from another? The number and location of the electrons in a given element are specific only to it. Every iron element is exactly like every other iron element, and unlike any other element in the world. These elements are basically a specific pattern of electrons. Nitrogen has one pattern of electrons, while carbon has another.

The periodic table is a chart that scientists use to organize and compare the elements. Each element has an abbreviation and is located in a specific place on the chart. The elements are organized based on the number of neutrons and electrons in each atom. Some of the elements on the periodic table were invented by chemists in laboratories and never appear in nature.

Elements combine with other elements to make molecules. A molecule is a cluster of elements combined in a specific way. If you have one hydrogen atom and two oxygen atoms, you have a water molecule. If you instead have two hydrogen atoms and two oxygen atoms, you have hydrogen peroxide, that fizzy stuff in the brown bottle that your mom or grandma might put on your knee after you crash your bike in the driveway.

Some things may have many different combinations of molecules and elements, all mixed up in one great intricate creation. Living things especially, have many complex and varied substances which also have very complex series of chemical reactions. A simple thing such as blinking your eye or swallowing a bite of food sets off a complicated pattern of chemical reactions, changing chemicals, and energy use and creation.

SAMPLE PAGE

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Folder 1

Read Atoms, Elements and Molecules.
Cut out the booklet. Glue into lapbook.
Directions: Cut out the labels. Glue them into the correct location on the booklet.

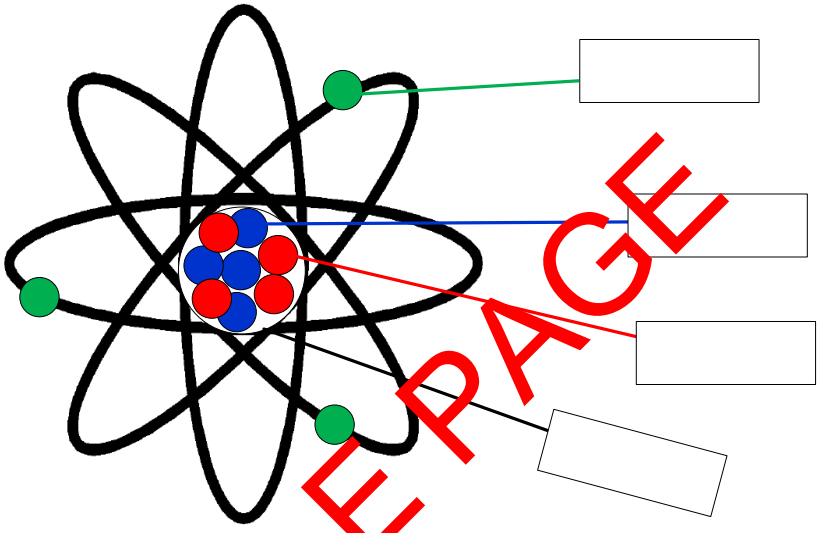
Nucleus

Electron

Proton

Neutron

Atoms



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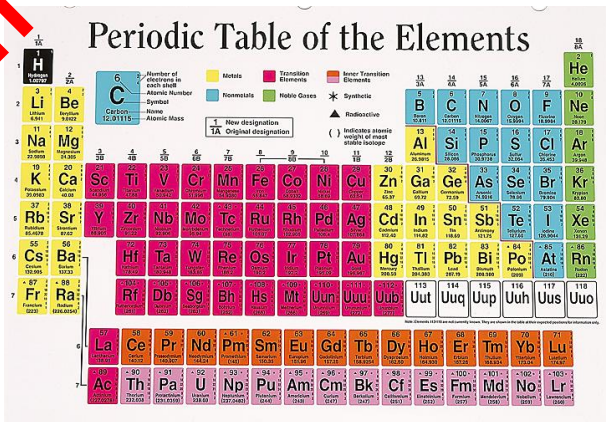
Elements



Molecules

Draw the molecule in the box.

Water

Hydrogen Peroxide

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