

CREATOR

VOLUME 12

NUMBER 1

CHRIST'S SONG

"I will declare Your name to My brothers; in the presence of the congregation I will sing Your praises" (Hebrews 2:12).

Editor's Note: This evening, we quietly enter Professor Seismo's¹ study. He is working on a jigsaw puzzle. The Professor looks up and smiles.

Professor Seismo: "Oh, hi! I didn't realize you had come in. Say, do you like puzzles? I just love them! The one I'm working on here..."

Editor's Note: As Professor Seismo reaches across the table to show us the box the puzzle came in, he accidentally brushes dozens of pieces off the table and onto the floor with the sleeve of his lab coat.

Professor Seismo: "Oops! That's not good! Well, I can fix that later. I've been working on this 500-piece puzzle for a couple of hours now. What's the biggest puzzle you've ever completed?"

Editor's Note: We follow Professor Seismo as he walks from his study and into the kitchen of his home. Heidi, his wife, is presently baking cookies. She gives him a sweet but nervous smile when he enters her kitchen.

Professor Seismo: "I've invited you in to our home tonight so that we can explore the grandest

puzzle of all—creation! And I've gathered all sorts of household items and chemicals onto our kitchen countertop to demonstrate what I'm talking about."

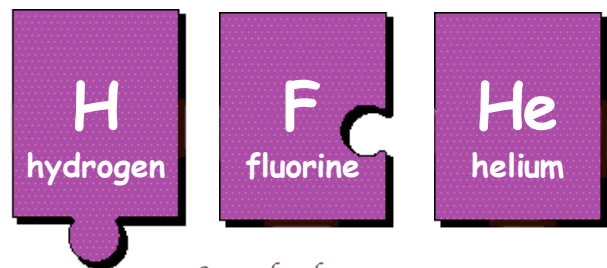
Editor's Note: Heidi snatches up her freshly-baked cookies and quickly slips out of the kitchen. *She knows what's coming!*

Professor Seismo: "The Lord Jesus created the universe using itty-bitsy pieces of matter we call *atoms*. And although we cannot see them, everything around us is made of atoms—this kitchen counter, trees, mountains, even you! In all, God invented 92 different kinds of atoms.

Now, if a substance is composed of the same type of atom, it's known as an *element*. Gold is an element, for instance, because it's composed of gold atoms and only gold atoms.

"Jesus used the same elements found inside of you to form stars like our sun! Yes, He did! He can make two things, so vastly different, using identical 'building blocks.' *Isn't He amazing?!*

"It isn't wrong for us to think of nature as a super-gigantic puzzle. Creation is extremely

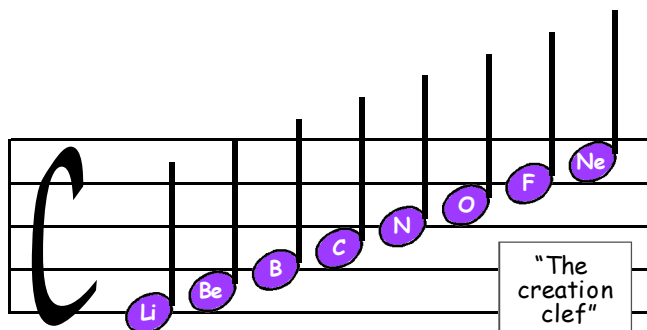


Sample elements

¹ Professor Seismo and his wife, Heidi, are fictitious characters.

complex and puzzling, reflecting the *wonderful wisdom and mystery* of the One Who pieced it all together. But, we could also think of the universe as a *song* of Christ’s glory and each of the 92 *elements*, found in nature, as the *notes* on a musical scale, 92 notes long.

“The Bible teaches that God *spoke* creation



into existence (Genesis 1). When we observe the things in nature—birds, flowers, butterflies, clouds—we see such *awesome harmony*! With this in mind, might we also say that Christ Jesus *sang* everything into existence?! After all, the Bible tells us that God sings (Zephaniah 3:17).

“The Holy Spirit used these special notes (elements) to create *nature’s symphony*. The Conductor of all, our Heavenly Father, directed His Son to arrange the 92 elements in a bewildering number of ways, fitting them together to form the vast wealth of things that make up the universe. And, to this day, the *Song of Creation* continues to echo the sweet voice of Jesus. If we investigate how the elements are organized, I think we’ll see what a *Lord of Harmony* Jesus is!

“God constructed all atoms using three tiny particles: electrons, protons, and neutrons (pronounced NEW - trons). He placed protons and neutrons at the center of an atom called the nucleus. He then commanded electrons to orbit around the nucleus.² Each of the 92 elements contains a different number of protons. This is important to know because the number of protons in an atom’s nucleus (*atomic number*) determines

its *chemical properties*.

“Each of the elements helium, iodine, and lead, for instance, has a different number of protons in its nucleus and a different atomic number. Helium (**He**) has two protons in its nucleus and, thus, has an atomic number of two. Iodine (**I**) contains 53 protons and its atomic number is 53; and lead (**Pb**) has 82 protons and the atomic number of 82.

“Thus, helium and lead have vastly different properties mainly because they possess a different number of protons in their nucleus. Helium is an invisible gas, and lead is a very dense (or heavy) metal.

“The Great Composer of nature’s symphony arranged the elements in a *precise* and *creative* way. Chemists (people who study elements and chemicals) call this special melody of the elements the *Periodic Table*. It was 1869 when the Periodic Table was first realized. In the winter of that year, the Russian chemist *Dimitri Mendeleev* discovered that God had created elements with a wonderful ‘rhythm and harmony.’ He was the first person in history to understand that our Lord Jesus had coordinated elements, one to another, in a beautifully organized fashion.

“The way our Lord Jesus arranged the elements is difficult to explain—but it’s somewhat like the ingredients of a sandwich. Let me illustrate the Periodic Table of Atomic Elements for you by comparing it to a Kitchen Table of Sandwich Elements. The *chemical properties* of a compound can be likened to the *taste* of a sandwich, which depends upon its ingredients.”

Editor’s Note: Professor Seismo takes several things out of Heidi’s refrigerator and places them onto the kitchen table. He then arranges the ingredients into rows and columns. He also hands each of us a sheet of paper titled The Kitchen Table of Sandwich Elements.

Professor Seismo: “Everything in the universe, including us, is made of either elements or compounds. *Compounds* are chemicals composed

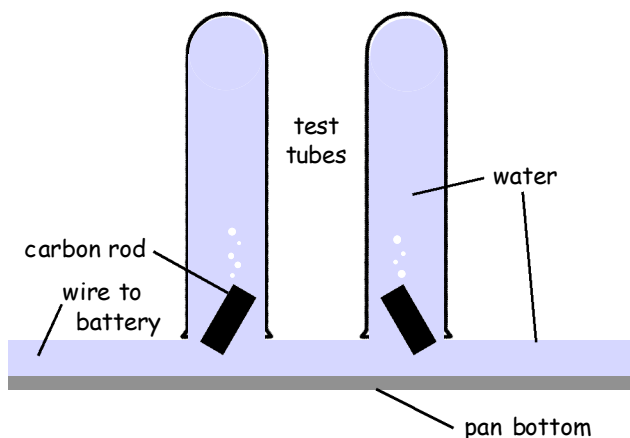
² You can read more about atoms in *CREATOR* Vol 6 Num 3, Vol 9 Num 2, and Vol 11 Num 3.



of two or more elements which God has glued together. Water is a compound because it's formed from two atoms of hydrogen (an element) and one atom of oxygen (another element). A compound can be broken down into its elements, but an element cannot normally be separated into anything smaller."

Editor's Note: The professor again walks over to the countertop.

Professor Seismo: "I have set up an experiment to prove that Jesus created water using the elements hydrogen and oxygen. These two test



tubes have been filled with water and turned upside-down in this pan which also contains water. Next, I took the carbon rod out of an old "C"-size battery, broke it in half and placed each half into the mouth of the test tubes. Before doing that, however, I attached a copper wire to each of the carbon rods. All that's left to do is connect the loose ends of our two copper wires to this 6-volt battery sitting on Heidi's countertop. We'll allow this experiment to run 24 hours before checking the results.

"Why don't we get back to the kitchen table? Think of a sandwich as a compound, like water, and each of the ingredients of a sandwich as one of the atomic elements our Lord Jesus has created. We can make all kinds of sandwiches using my table of ingredients. In a similar *but much greater* way, the Holy Spirit has made countless

compounds using 92 ingredients or elements. Now, let's compare The Kitchen Table of Sandwich Elements I just gave you side by side to the abbreviated Periodic Table of Atomic Elements."

Editor's Note: Professor Seismo hands us another sheet of paper (see *kids' kreation* #51).

Professor Seismo: "Let's say that slices of wheat bread on our kitchen table represent carbon (C) atoms, and cucumber is the element aluminum (Al) in our Periodic Table. Let's also say salami represents iodine (I), and peanut butter takes the place of phosphorus (P), and so on.

"You'll notice that the food items in the vertical columns on our kitchen table are similar. The first column lists *spices* and the second, *condiments*. The fourth column is made up of the different *breads* we might use to make a sandwich, and the sixth column, various *cheeses*. You'll also note that in the eighth column I have included *fruit*. Normally, we don't put fruit on a sandwich. Fruit is usually eaten by itself. I put it in a separate column for a reason. The last column of the Periodic Table contains elements that don't normally form compounds with other elements. We'll talk about that later.

"As you can see, the elements in the Periodic Table are also arranged in rows and columns. Chemists call the horizontal rows, '*periods*,' and the vertical columns, '*groups*.'

"The Periodic Table has vertical groups of elements with similar properties just like the vertical columns on our kitchen table have food items that are similar. The first group is composed of hydrogen (H),³ lithium (Li), sodium (Na), potassium (K), rubidium (Rb), and cesium (Cs). This group is known as the '*Alkali* (al - KAH - lie) *Metals*.' Even though these elements have different atomic numbers, *all have similar properties*. The second group is called the '*Alkaline Earths*,' and they, too, have *similar chemical properties*. The seventh group in our Periodic Table lists elements known as

³ Professor Seismo is calling hydrogen a "metal" because under tremendous pressure—as in the center of the planet Jupiter—hydrogen behaves as a metal and can conduct electricity.



'*Halogens*,' and the eighth group highlights the '*Noble Gases*.'

"Chemists have given each of the elements a symbol consisting of one or two letters. The symbol for hydrogen is **H** and for helium, **He**. Sometimes the symbol for an element doesn't match its name. The symbol for the element tin, for instance, is **Sn**. But why **Sn**? **Sn** is an abbreviation for the word *stannum*, which is *Latin for tin*. The symbols for elements are derived from the Latin, Greek, English, German, Spanish, Scandinavian, French, or Russian names for that element:

Au = gold (*aurum* is the **Latin** word for gold)

Fe = iron (*ferrum* is the **Latin** word for iron)

He = helium (*helios* is the **Greek** word for 'sun,' where helium was first discovered)

W = tungsten (*wolfram* is the **German** word for tungsten)

"Eighty percent of all elements are metals: tin (**Sn**), for example, is a metal; sodium (**Na**) and calcium (**Ca**) are metals; lead (**Pb**) is a metal and so is aluminum (**Al**). Most metallic elements share a similar 'personality' and aluminum, for instance, is a good example of a typical metal."

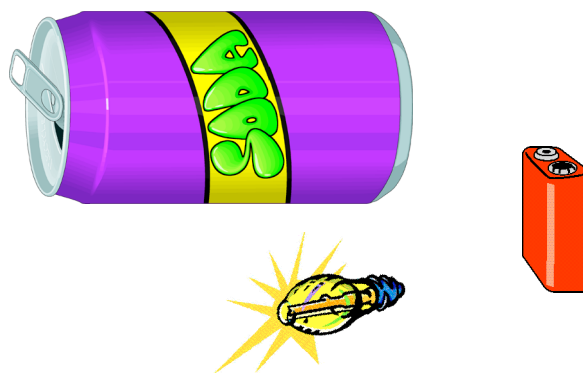
Editor's Note: Professor Seismo pulls an empty soda can out of Heidi's recycling bin.

Professor Seismo: "All metals conduct electricity fairly well and aluminum is no exception. Metals are usually shiny⁴ and gray (gold and copper are exceptions), and most are *malleable*, which means they can be pounded into different shapes with a hammer.⁵ Let's see if we're able to pass electricity through this aluminum can."

Editor's Note: Professor Seismo places a second

⁴ This is known as *metallic luster*.

⁵ Metals are also *ductile*, which means they can be stretched into long *wires*. Silver is so ductile, one gram of silver can be drawn out into a wire two kilometers (one & one-quarter miles) long!



battery on the counter. There is a coated copper wire running from one terminal of the battery to a small 9-volt light bulb. Attached to the bulb is another wire. A third copper wire is connected to the other terminal of the battery.

Professor Seismo: "Watch what happens when I touch the free ends of the wires to opposite ends of the aluminum can."

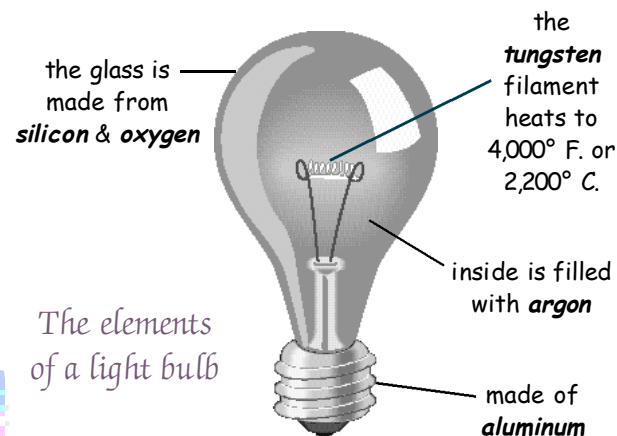
Editor's Note: Instantly, the small bulb lights up.

Professor Seismo: "Neat, huh?! This is a very simple way to prove that aluminum is a metallic substance—it easily conducts electricity.

"By the way, did you know that aluminum was so difficult to produce in the 1800s, that it was more valuable than silver or gold?!"

Editor's Note: Next, Professor Seismo holds up a clear, 60-watt light bulb.

Professor Seismo: "The coiled wire inside this light bulb is made from another type of metallic element called *tungsten* (pronounced TONGUE - stin). Tungsten (**W**) is really fascinating because it can be heated to over 6,000° F. (3,315° C.) before



The elements of a light bulb

it begins to melt! [To put this into perspective, lava from a volcano is ‘only’ 2,000° F. (1,093 °C.). The temperature of a light bulb filament is twice that of lava—TWICE!] Tungsten is used in light bulbs because it can get really hot without melting. High temperatures are needed to melt most metals.”

METAL ELEMENT	MELTING POINT
iron (Fe)	2795° F. or 1535° C.
aluminum (Al)	1220° F. or 660° C.
copper (Cu)	1981° F. or 1083° C.
lead (Pb)	622° F. or 328° C.
titanium (Ti)	3047° F. or 1675° C.



Editor’s Note: Professor Seismo now holds up a pencil.

Professor Seismo: “The ‘lead’ in this pencil is actually not lead (**Pb**) at all. Rather, it is composed of one of the most important elements—*carbon*. Carbon (**C**) is not a metal but is one of the elements which we call *non-metals*. Life, as we know it, could not exist without carbon. Our Lord Jesus has placed very complex molecules, containing carbon atoms, into all plants and animals. He literally weaves these carbon-based molecules together to form the ‘threads of life.’ Thus, all living things, including us, contain carbon. I can prove this to you—*indirectly*.”

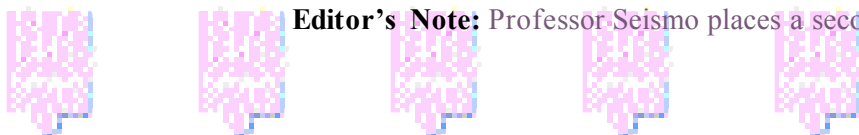
Editor’s Note: Professor Seismo lights a candle on the countertop. He then scoops up some sugar from a small bowl on the kitchen table and places the spoon of sugar into the flame of the candle.

Professor Seismo: “In no time, we see that our sugar has turned into a gooey black substance—this is carbon. All humans, and most plants and animals, have lots of sugar flowing inside them. Did you know that our brains “eat” nothing but sugar?! It’s our brains’ main source of energy. Sugar is an important carbon-based chemical our Lord Jesus integrated into almost every living thing. When we heat sugar we burn off the other elements it contains, leaving black carbon behind.”

Editor’s Note: Professor Seismo doesn't notice at first, but he has filled Heidi’s kitchen with smoke from the charred sugar, leaving an awful stench.

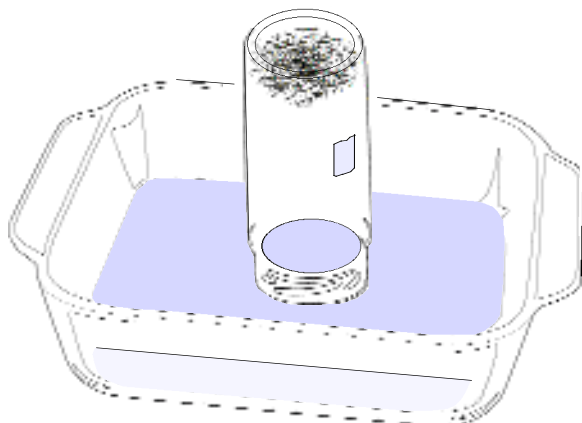
Professor Seismo: “I guess I should have done this experiment outside! Which reminds me, another extremely important non-metallic element is *oxygen*. Two-thirds of the Earth’s crust is composed of oxygen (**O**) and about 20% of the air we breathe is oxygen gas. Oxygen is very important here on Earth! I’ve got another experiment we can run; it will also take 24 hours to complete, so I’m going to set it up before it gets too late.”

Editor’s Note: Professor Seismo places a second



pan of water on Heidi's kitchen counter. (Poor Heidi, she doesn't have much counter space left on which to prepare meals. I guess Professor Seismo is going to be eating *sandwiches* for the foreseeable future!) Professor Seismo then "smooshes" a ball of steel wool into the bottom of a clean, empty olive jar. He turns the jar upside down and carefully balances it on three small pieces of modeling clay stuck to the bottom of the pan.

Professor Seismo: "I soaked the steel wool in



diluted vinegar (one part vinegar and two parts water) last night. I did this to remove the protective coating that is usually applied to steel wool when it's manufactured.

"Lord willing, this simple experiment should show us the amount of our atmosphere which is composed of oxygen gas. (Not all the air we breathe is oxygen.) Given enough time, the steel wool will use up the oxygen inside our upside-down glass jar as it reacts to form rust (iron oxide). We'll check tomorrow to see how much of the air in the jar is missing. How much do you think should be missing?

"Did you also realize that one-half the weight of your body is made of oxygen? That's because people are largely composed of water, and, as you know, water is made up entirely of the elements hydrogen and oxygen.

"Our amazing Lord Jesus created all of us using explosive and potentially hazardous chemicals! Yes, it's true! And just six elements—

oxygen, carbon, hydrogen, nitrogen, phosphorus and *calcium*—make up 99 percent of the human body.

"Oxygen (O) and hydrogen (H) are highly flammable. Nitrogen (N) is the chief ingredient in many explosives (including nitroglycerine). Calcium (Ca) is metallic. (Actually, God created us using many different metals.) And pure phosphorus (P) is a deadly poison. Most elements are *dangerous* by themselves in their pure form. Yet Jesus carefully and wisely arranged them, tenderly forming our bodies. As the *Prince of Peace*, He has made these elements both *safe* and *essential* for our survival. God is so awesome, isn't He?!"

Editor's Note: The conclusion to Professor Seismo's discussion of atomic elements can be found in *CREATOR* Volume 12 Number 2.

Professor Seismo: "Well, we'd better call it a night because it's getting close to my bedtime. Why don't you come back to my home tomorrow evening—I'd love to talk with you more about the elements our Lord Jesus has made! In the meantime, please be thinking about the Song of Creation and how it reveals what a *great God of Harmony* He is."

"Dominion and awe belong to God; He establishes order in the heights of heaven" (Job 25:2).



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