

**The Woman's Auxiliary
to the
American Institute of Mining, Metallurgical, and Petroleum Engineers, Inc.**

National Poem/Essay Contest{tc "National Poem/Essay Contest"}

Minerals and Me – What is the Connection?

To celebrate the contributions of the global mining community, the WAAIME organization is pleased to present the outstanding poets/essayists for the 2000-2001 contest.

Two years ago, Mrs. Maggie Jensen was the Education for Tomorrow Chairman for WAAIME. Mrs. Jensen had some very creative ideas – one of which was to educate our children about how minerals affect their lives. I was on her Committee and, while I gave my opinion, I have to credit Mrs. Jensen with all the work that year. We had 86 participants in an essay/poem contest, ***My Favorite Mineral***. I was asked by President Maturo to be the EFT Chairman for the 2000-01 year. I patterned this latest contest after Mrs. Jensen's ideas.

While a substitute teacher, I was in classrooms daily from kindergarten to high school mathematics in Raleigh County, West Virginia. I discovered our children did not know the basic information regarding how all the items that give us the quality of life we enjoy began. I was amazed when I discovered one day that college-bound students in a high school chemistry class were unaware that electricity did not come from a switch on the wall. These were students from coal-mining families!

I was further appalled when, in a lecture given at a professional engineering conference I attended with my husband, the speaker remarked that a professional survey had been taken and 90% of the American public also thought electricity came from the switch on the wall. Furthermore, the American public was unaware that 56% of the electricity in the United States comes from coal.

I proceeded to contact the State Superintendent of Schools in every state in our country by letter. I asked that our essay be made known to all the teachers in their state. I enclosed two cover form letters that could be given to the county superintendents to give to their principals and for principals, in turn, to distribute to their teachers. Several states contacted our New York office but, obviously, the information did not get out to all the teachers. When Mrs. Jensen and I created the guidelines for this year's contest, we had no idea how many – if any – participants we would have. We are delighted to report that 320 students in the United States entered the contest and at least 100 students in Mexico did likewise. I would like to thank Dr. Michael Karmis of Virginia Tech, Blacksburg, Virginia, who chose the eighteen members from the Burkhardt Mining Society Student SME Chapter to review and judge the entries. I would like to thank those students: Kyle Apple, Richard Beauchamp, Paul Fritz, John Sidlowski, Sam Durnavich, Nicole Guyer, Michael Senft, Richard Bishop, Jeff Lines, Mark Luxbacher, Aaron Vasbinder, Tim Walston, Jason Davis, Corey Viers, Stefanie Self, Chris Ross, Dean Shaffer and Dan Etnoyer. Carol Busick (WV-S WAAIME) facilitated the judging.

This contest covered not only earth science information, but also language arts skills. It took a great amount of time and hard work by both students and teachers. On behalf of the WAAIME organization and its members who helped bring this contest together, I want to thank all the teachers who took the time to teach this essay topic and all the students who worked so hard to write their essays/poems. We are very proud of you! We are proud that you all learned that minerals are a part of our everyday life and that, in a country with serious energy problems, you have learned what so many Americans do not know. We hope you will pass on the knowledge you have gained from this experience. We hope the teachers who entered this year will want to enter again and that you encourage other teachers to enter this contest in the future - to educate the young to the part minerals play in the enhancement of our daily lives.

Although the WAAIME organization is best known for its many years of scholarship awards to young men and women in the earth science fields, the Education for Tomorrow program is becoming known for its efforts to educate an entirely different age group of students.

WAAIME would again remind all of you that, ***"If it cannot be grown, then it must be mined."*** - attributed to the Missouri Council of Mining.

- **Margaret Ann Bays**
2000-2001 EFT/Library Chairman

**2000-01 Essay/Poem Winners of the WAAIME
Minerals and Me What is the Connection? Contest**

Ms. Ragan's Class
Bagdad, Arizona
Olga Sandoval

Ms. Brown's Class
Woodward, Oklahoma
Farrah Hutchings
Morgan McDonald

Ms. Rasmussen's Class
Brighton, Tennessee
Zach Celey
Danielle Henderson
Jeanne Myers
Courtney Nute
Hunter Scott
Emily Stanton
Tyler Strong

Ms. Reynolds Class
Brentwood, Tennessee
Lauren Watt

Ms. Turner's Class
Collierville, Tennessee
David Blake
Louie Kachwis

Ms. Flanigan's Class
Columbia, Tennessee
Jessica Anderson
Janay Armstrong
Daniel Atkins
Will Cannady
Donald Hatcher

Ms. McGoff's Class
Cordova, Tennessee
Austin Finney

Mr. Miller's Class
Dickson, Tennessee
Corey Carter {**tc** " Corey Carter "}

Ms. Poole's Class
Germantown, Tennessee
Sean Bondy
Alejandra Gomez

Ms. Garrone's Class
Millington, Tennessee
Michael Crawford
Joshua Hale
Chris Kessler
Zachery Smalley
Christopher Vaughn {**tc** " Christopher Vaughn "}

Mr. Barnickel's Class
Murfreesboro, Tennessee
Beth Little

Ms. Boyd's Class
Murfreesboro, Tennessee
Kathryn Arnold {**tc** " Kathryn Arnold "}
Ashley Gartung {**tc** " Ashley Gartung "}
Erica LeBlanc
Tyler Morgan

Ms. Faulkner's Class
White Bluff, Tennessee
Jason Brent Burgess

Ms. Bays /Ms. Hughes Class
Sophia, West Virginia
Andrew Duncan
Nic Farruggia
William Miller
Zach Thompson

Mr. Lowe's Class
Surveyor, West Virginia
Anna Bailey
Courtney Michelle Daniels

Ms. Wade's Class
Wheeling, West Virginia
Steve Miller

Ms. Garcia's Class
Naucalpan, Mexico
Ana Gabriela Lopez Reyes
Maria Alejandra Vega Vargas

Ms. Martinez Class
Naucalpan, Mexico
Emmanuel Salgado Balderas {**tc** " Emmanuel Salgado Balderas "}

MINERALS and ME

What is the Connection?

Minerals and Me

Minerals and Me
Now let me see
If I had a favorite mineral, what would it be?

A crystal quartz is beautiful
As you can plainly see
But just a tad too fancy for me.

Gold is dazzling
A hero in the mineral game,
But gold will never go down in my Hall of Fame.

Pyrite is sparkling
And indeed is very cool,
But if you are not careful, you may look like a fool!

Diamonds are fancy
And very, very hard,
But it wouldn't be in my best deck of cards.

Lead isn't very pretty.
But very useful to me.
We never know how useful it could be!

So if I have a favorite mineral,
I think I'd have to say,
Lead is the most useful to you and me today!

Corey Carter{tc "Corey Carter"}
Age 12

Minerals and Me – What is the Connection?

Coal is a mineral that is made from dead plants and animals. It takes millions of years for coal to form. West Virginia's most valuable natural resources are its minerals. The most significant is coal. West Virginia is the second largest producer of coal in the nation.

Coal is most commonly used to produce electricity in power plants. It is also an important fuel for heating and powering things, and for making steel. There are also many chemicals that come from coal which are used to manufacture nylon, paints, plastics, synthetic rubber, aspirin, and many other products.

My great-grandfather, grandfather, and dad all worked or work in the coal industry. Coal is responsible for many jobs in my state. Coal supplies the energy for 55 percent of the electricity and about one-fourth of the total energy in the United States.

The mining of coal has made much advancement over the years. Miners of today are safer and don't face as many risks as they did years ago. Although, mining coal is still a dangerous job.

If it was not for coal, my dad would not have a job in the coal mining industry. His job is important in helping support my family. The mining industry is important in supplying jobs for the people of West Virginia. Without those jobs, many people may have to leave the state to find work. Without the products of coal, things would not be the same in our lives.

Being born and raised in West Virginia, I feel that coal is a very important mineral to me and the entire world. There is a big connection between the mineral coal and me!

Zach Thompson{tc "Zach Thompson"}

Age 10

QUARTZ{tc "QUARTZ"}

M any people collect Quartz

I n jewelry and watches.

N umerous uses in

E veryday items such as

R adios

A nd computers

L ong ago used by cavemen in tools and weapons

S and to manufacture glass

A ids in sanding and grinding

N eeded to make soap and ceramics

D rapped around

M y neck as a pendent to keep away

E vil and give good Luck.

Morgan McDonald{tc "Morgan McDonald"}

Age 11

MINERALS AND ME – WHAT'S THE CONNECTION?

MINERALS, MINERALS ARE ALL AROUND,
IN THE MOUNTAINS AND ON THE GROUND.

WE USE THEM TO COOK AND TO LIVE
NATURE DOES NOT TAKE THEM BUT ONLY SHE GIVES.

THERE'S TUNGSTEN, LEAD, IRON, AND STEEL
ONLY SOME OF THE MINERALS WE SEE AND FEEL.

THERE IS A CONNECTION, YES THERE IS
FROM THE CLOTHES WE WEAR TO THE COCA-COLA FIZZ.

THERE IS A CONNECTION BETWEEN US, WE DON'T WANT TO LOSE
WE NEED ALL THE MINERALS, EVEN SOME WE DON'T USE.

WE USE THEM TO TELL TEMPERATURE AND TO BUY THINGS
AND EVEN TO CONNECT WHEN THE TELEPHONE RINGS.

THERE IS GOLD, SILVER, QUARTZ, AND ZINC
WE USE THESE MINERALS MORE THAN YOU THINK.

COAL IS FOR HEATING AND DRIVING THE TRAINS,
THE CONNECTION BETWEEN US WE MUST SUSTAIN.

DIAMOND IS THE HARDEST MINERAL OF THEM ALL,
ON WEDDING DAY FOR THEM WE CALL.

SALT COMES NATURAL FROM THE EARTH,
WE NEED IT STARTING AT BIRTH.

NITRATES, POTASH, PHOSPHATES, AND MORE
HELPS FERTILIZE THE EARTH TO THE CORE.

COPPER IS USED BY US EVERY DAY,
IN LIGHT BULBS, OVEN, AND BILLS THAT WE PAY

SO IN THESE FEW LINES
I TRIED TO MAKE YOU SEE
THE CONNECTION BETWEEN MINERALS AND ME.

ZACH CELEY – AGE 15

MINERALS AND ME: WHAT IS THE CONNECTION?

COPPER

Copper has distinctive colors,
It's like no others.
Copper is a rare mineral to find,
Because not much of it is left behind.

This mineral is rich indeed,
Because it improves the things we need.
It is used in breakfast food,
Like Frosted Flakes and Wheaties too!

Copper is used to relieve arthritis,
Too bad it can't cure meningitis.
Copper is used for electricity and talking,
I guess that's why people won't quit squawking.

Copper pipes don't rust easily,
That's why we use them freely.
Modern technology created copper wire,
That's why it is a technician's desire.

Copper has distinctive colors,
It's like no others.
Copper is a rare mineral to find,
Yet, it is soft, tough, and mined.

Michael Crawford{tc "Michael Crawford"}
Age 11

Minerals and Me – What is the Connection?{tc "Minerals and Me – What is the Connection?"}

When someone mentions the word “mineral” the first thing that comes to mind is coal. It is probably the mineral I’ve learned and already know about because my father is a coalminer.

Coal is usually black or brown rock, which can be ignited and burned. When it burns it produces heat, which we use everyday. Without coal we would have no electricity at all. Coalburning plants supply half the electricity used in the United States and almost two-thirds that is used all around the world.

Coal is very important to us in the 21st century. It is used constantly to heat homes, schools, and buildings. Although some people rely on gases to heat their homes, coal keeps the lights on.

Coal is a very helpful, needed mineral in society; it can also be dangerous at times. Not the coal itself, but its home. Over thousands of coalminers have been killed in mining accidents in the past few years. A very young man that worked for my dad was killed in an accident earlier last year. It has killed many miners, but it will also be appreciated for a long time.

Courtney Michelle Daniels{tc "Courtney Michelle Daniels"}
Age 13

**Some minerals are heavy, some are light;
Some benefit mankind by day, others by night.
There is one mineral that makes my head whirl;
Because, after all, I am a girl.**

**Africa is the main place this mineral is mined;
But I simply wish I could call more of them mine.
My mineral shines so bright;
Just like a sky full of stars on a clear night.**

**This mineral is the universal symbol of love;
Even more so than Cupid or a white dove.
The Smithsonian has one of the largest on display;
But it would look better in my room on a velvet tray.**

**This mineral also greatly benefits industry;
But I just want one under my Christmas tree.
It can cut glass and not break, chip or bend;
However, I assure you, a diamond is a girl’s best friend.**

Kathryn Arnold
Age 14{tc "Age 14"}

Minerals and Me, What's the Connection?

From the time I wake up in the morning, until the time I go to bed, I use a lot of different types of minerals. I use them in almost everything I do! What is a mineral? A mineral is a naturally occurring inorganic solid that has a definite chemical composition and crystal structure.

This is an example of a typical Saturday, and how I use minerals throughout my day

My electrical alarm clock awakens me with a ding-ding-ding!

I slowly get out of bed, sit down on the couch, and watch my favorite cartoons on television. Without minerals, there wouldn't be any electrical wires. I wouldn't be able to watch TV or wake up to an alarm clock. However, watching cartoons does make me really hungry, so I go into the kitchen and pour a bowl of cereal. Believe it or not, lead and tin are used in pewter, which makes bowls. If we didn't have minerals, I couldn't sit down with a glass bowl of cereal and eat breakfast! Did you know that the Earth's most common solid is mineral? Actually, the Earth's land and oceans all rest on a layer of rock made of minerals.

Lauren, come and take your allergy medicine! Every morning I take my daily allergy medicine. My medicine has sulfur in it. Sulfur is a mineral; without it, I would be sneezing all day! Minerals are used in a lot of different types of medicines. I have to have something to swallow it with, so sometimes I will pop open a soda in a can. Foil makes the cans, and foil is a mineral too. Cans are not the only thing foil is used for. It is used in a lot of different things that help us in our every day lives.

Gold and silver are one of the most useful minerals. They have metal in them. I have braces, and I wouldn't have a straight and pretty smile without metal and silver. One of the things gold and silver is used for the most is jewelry and decorative objects. I have a lot of silver jewelry, and a little gold jewelry, but I do love it all! Did you know that when you go to the dentist to get a filling they actually use gold and silver for that too? Who would ever think that minerals could go in your mouth?!

What would we do without minerals? They make a big difference in our lives. It is a good thing we have them! My typical Saturday wouldn't be any fun without minerals!

Lauren Watt{**"Lauren Watt"**}

Age 11

Minerals and Me – What is the Connection?{**"Minerals and Me – What is the Connection?"**}

Silver, oh, silver you make me quiver.

Your color is going to make me shiver.

Your streak is weird because it is metallic.

You would probably turn black if I left you in my attic.

Your symbol is Ag I know that from science

You can be used in an everyday appliance.

You are so cool because of your color,

If you changed it you would be much duller.

As you know, sulfur turns you black,

When you see charcoal you better turn back.

You are made into film and dinnerware,

Sometimes you are put in the legs of a chair.

If you must be under constant wear,

They will mix you with copper, and handle with care.

I hope I am able to see you again.

I will be an engineer by then.

Louie Kachwis{tc "Louie Kachwis"}

Age 11

Lead{tc "Lead"}

Here's a little story 'bout a thing named lead.

If you eat this stuff, then you will soon be dead.

Lead wouldn't be good in your bread.

The black stuff in your pencil used to be lead.

But now it is graphite, isn't that right?

Our forefathers' bullets were mostly lead.

Without it, the British never would have fled.

You can try to melt lead as best as you can do.

But lead's extremely hard to turn into goo.

David Blake{tc "David Blake"}

Age 12

Minerals and Me - What is the Connection?

Coal is an important mineral to us. Some people use coal to heat their homes. My Grandpa does and his house is very warm. My Dad works inside a coal mine. Sometimes he tells me how they use the machines inside to dig the coal outside. He tells me how they sell the coal to other people so they can use the coal for power. My Mom tells me that she wears coal on her because they also use coal for make up.

So, Coal provides a living for many people as well as provides the power or electricity in order for computers to run.

Nic Farruggia{tc "Nic Farruggia"}

Age 10

MINERALS AND ME—WHAT IS THE CONNECTION?

Salt is a mineral we use every day.
It tastes pretty good I sure have to say!
Where does it come from? I really don't know.
Perhaps it comes from somewhere below.

When I cry, salt comes pouring out,
As if I turned on a saltwater spout.
I can taste the salt as the tears slide by my mouth.
Not very tasty I say, as they keep moving south.

The ice is slippery on the steps in front of the door,
So.....
I retrieve the rock salt, open the box, and then pour.
I take slow, steady steps going down the steep stairs,
But still I land on my soft derriere!!!

The mineral salt is great delight,
On my french fries for dinner at night.
Minerals and me—what's the connection?
Point toward some salt and I'll head that direction!

Danielle Henderson{tc "Danielle Henderson"}
Age 15

Minerals and Me – What is the Connection?

For hundreds of years, gold has had a huge impact on the world. In every Egyptian tomb, its significance is evident. Explorers have traveled, risking their lives, across the seas and wilderness for this precious metal. Almost half a million people traveled from eastern United States to California in the 1849 gold rush. Why should gold cause such behavior? Along with its scarcity, the answer is in some of its chemical and physical properties.

Gold is highly ductile, malleable, reflective, and an excellent conductor. About one ounce of gold can be drawn into a wire more than 75 kilometers long, or beaten into a sheet over nine square meters. Gold does not rust, tarnish, or corrode, and is completely recyclable. Gold is a metal and a mineral. All these properties cause gold to be very reliable and helpful.

Gold is found in cameras, camcorders, fax machines, televisions, telephones, compact discs and most other technological devices. It provides clear reception in telephones by being coated on contacts at key transmission points. Gold on the bottom of compact discs resists oxidation, which eliminates potential destruction by moisture. Personal computers, printers, and modems use gold microchips. It is also used in lasers because of its incredible ability to reflect infrared radiation.

The original uses for gold, though, include jewelry and currency. Gold coins, bars, and jewelry are some basic forms of savings in many countries. In the Middle East, India, Southeast Asia and China, jewelry is bought and sold as the daily gold price rises and falls. Gold is the only universally accepted media of exchange and the ultimate currency by which a nation settles its debts to another.

As you can see, gold is not only a mineral for ornamentation, but has had significant impacts on history, technology, and science. The composition of this mineral causes it to be much sought after for a variety of uses. Undoubtedly, more and more uses for gold will be developed in the future.

Beth Little, age 16

Minerals and Me – What is the Connection?

Copper is one of the many minerals I use every day in my home. Copper is used in the electrical wires in my home that make it possible for us to have lights, let the refrigerator work and help the stove to be able to provide heat to cook food on.

Copper is also used in telephone wiring, television sets and in many other things around my home.

Many motors, generators and machines use copper in their operation. The furnace at my school has copper wiring that helps it keep the school hot in the winter or cool in the spring and fall.

Copper can also be mixed with other metals and made into useful, as well as ornamental, objects. Probably the best known object would be a penny. Ornamental compounds, such as light fixtures, candlesticks and doorknobs, are found in any home, school or business. I have never been anywhere that these or any other copper compounds have not been able to be found.

Copper serves a wide area of uses. All these uses are connected to me, either at home, at school, or any place I go. Without copper, I would not be able to watch my favorite football team on television, talk to my friends on the telephone, eat a meal, or buy a treat at the grocery store.

Minerals and Me – What is the Connection? The connection is without this mineral (copper) my way of life would not be nearly as enjoyable as it is with the development of copper over many years and many ways.

Will Cannady
Age 12

MINERALS AND ME WHAT IS THE CONNECTION?

**TO BEGIN WITH, SALT IS THE MINERAL I AM USING,
THERE ARE MANY REASONS THAT SALT WAS MY CHOOSING.
IN CRYSTALLINE FORM THE COMPOUND IS TRANSPARENT.
AND SALT S MANY USES ARE APPARENT.**

**SALT IS USED FOR MANY THINGS,
IT S FOUND IN OCEANS AND IN SPRINGS.
NACL OR SODIUM CHLORIDE,
ARE SOME OF THE NAMES THAT SALT IS KNOWN BY.
SALT MELTS AT EIGHT HUNDRED-FOUR DEGREES,
AND TWO POINT SEVENTEEN IS ITS GRAVITY.**

**NAPOLEAN S TROOPS DIED BECAUSE WOUNDS WOULD NOT HEAL,
THE LACK OF SALT CAUSED THIS ORDEAL.
IN THE OLDEN DAYS ROMAN SOLDIERS MONEY WAS SALT,
WITH IT MANY GOOD THINGS COULD BE BOUGHT.**

SALT COULD SOMETIMES BE FOUND ON THE TABLE,

**BUT AN INTAKE OF TOO MUCH SALT CAN BE FATAL.
SALT IS EVEN IN THE TEARS THAT WE CRY,
WITHOUT SALT EVERYONE WOULD DIE.**

JESSICA ANDERSON

Age 14

Minerals and Me – What is the Connection?

Minerals are minute amounts of metallic elements. They are very important for the body. Minerals do many different things for different parts of the body. Some of the things they do include helping teeth and bones grow, enzyme action, muscle contraction, nerve reaction, and blood clotting. Minerals are classified in two groups. The first group is called major elements. The minerals in this group are calcium, chlorine, magnesium, phosphorus, potassium, sodium, and sulfur. Calcium is a very important element. It helps you to keep strong bones. If children do not get enough calcium their bones may become weak and brittle. If adults do not get enough calcium they may experience progressive loss of bone mass, also known as osteoporosis. If this happens there is an increased risk of bone fractures. The second group is called trace elements. This group includes chromium, copper, fluoride, iodine, iron, selenium, and zinc. Iron helps to keep your red blood cell count up. If you do not have enough iron you may become anemic and have dizziness and fainting spells. If you are diagnosed with this condition you may be put on medication to help you. If you are not put on medication your doctor may tell you certain foods you should eat to help get your iron level back up.

Donald Hatcher{tc "Donald Hatcher"}

Age 13

Minerals and Me: What is the Connection?

IRON{tc "IRON"}

**IRON, OLDEST METAL KNOWN TO MAN{tc "IRON, OLDEST METAL KNOWN TO MAN"}
EVEN HAD ITS OWN TIME SPAN...(IRON AGE)
FROM BEADS, ORNAMENTS, WEAPONS, AND TOOLS
IRON EXPANDED ITS USE AND IT RULES!**

**NOT ALWAYS ON ITS OWN,
IRON LIKES TO BOND TO STONE
WHEN MIXED WITH OTHER BIG BOYS
YOU CAN GET A VARIETY OF ALLOYS**

**SINCE IRON LIES IN EARTH'S CENTER CORE
EXPLORERS IN DAYS OF YORE
WOULD HAVE BEEN LOST AT SEA
BECAUSE THE COMPASS COULD NOT BE**

**FOURTH OF JULY, SPARKLERS, FIREWORKS, CELEBRATION
IRON IS IN ALL OF THIS CREATION.
IRON, OLDEST METAL KNOWN TO MAN,
EVEN HAD ITS OWN TIME SPAN.**

JOSHUA HALE{tc "JOSHUA HALE"}

Age 11

Minerals and Me{tc "Minerals and Me"}

You may not think minerals are all that great,
But if you didn't have them you couldn't eat off a plate.
And if you didn't have them, you wouldn't get well,
Because you need minerals to make medicine, or else your cough would swell!

Light bulbs and batteries would all be forgotten,
And we wouldn't have clothes because there'd be no cotton.
We wouldn't be healthy because the food wouldn't contain
All the vitamins and minerals we have to maintain.

Corundum, Anatise, and Crocoite,
Garnet, Gold, and Kyanite.
All these minerals you can find
By looking in a deep, deep mine.

Zinc, Iron, Magnesium,
Along with Molybdenum.
Copper and Tin to name just a few,
You can find all these minerals in a vitamin or two.

We wouldn't have bridges or buildings so tall,
There wouldn't be telephones or sidewalks at all!
Minerals have different uses and colors and come in different shapes and sizes.
Now I hope that you know that minerals play important parts in our lives.

Austin Finney{tc "Austin Finney"}

Age 11

Minerals and Me - What's the Connection?{tc "Minerals and Me - What's the Connection?"}

My favorite mineral is coal. Coal has been mined since Roman times but on a small scale until the industrial revolution. In 1800 coal was being carbonized on a commercial scale for the first time.

The reason coal is my favorite mineral is because people can use it for heat. In the 1920s-1930s processes were also developed for converting coal into oil.

There are different kinds of coal. The three main kinds of coal are lignite, bituminous, and anthracite.

Lignite is so crumbly, and dark brown. It burns with a very smoky flame because it contains so much moisture.

Bituminous is often called a "soft" coal. It is hard, and black. Bituminous coal burns well, but with a smoky flame.

Anthracite is "hard" coal. It is shiny black, has a smooth surface and breaks with sharp edges. It is best for heating houses because it is the cleanest kind of coal.

The connection between me and coal is that coal gives me power. This power gives me lights and heat in my home. By letting me have power I get to watch TV and play my video games. So, altogether coal gives me a good life.

William Miller{tc "William Miller"}

Age 10

**Minerals and Me –
What is the Connection?**

"Gold"

**Did you know that gold is,
The world's only yellow metal?
Gold disputes are also,
Really hard to settle.**

**Did you know that if you were King Midas,
You would have a cure for arthritis?
If you covered blue jeans,
In a golden shell,
They would never rust,
And they would never smell.**

**Gold is very helpful,
In technology today,
It can make computer chips,
And can be hot enough for a fish fillet.**

**Well I just have told you,
The many uses of gold,
But I also want to add,
That it is really easy to mold.**

**I guess this is my poem,
So this means goodbye for now,
I hope you have learned something,
And that you also know how.**

Christopher Vaughn

Age 13

Minerals and ME!!

Diamonds are minerals

*like gold, copper, and zinc.
They come in all colors like
clear, blue, or pink.*

*We wear them on our fingers,
we wear them on our toes.
We wear them on our ankles,
or anywhere that shows.*

*We use diamonds in frames,
mirrors, and pictures.
We give diamonds for gifts
and for decorating textures.*

*Diamonds are minerals like
nickel, iron, and lead.
They come in all colors like
yellow, green, and red!!!!*

Emily Stanton

Age 16

Minerals and Me – What is the Connection?

Minerals are all around us,
No matter where you look.
From planting a spring garden,
To reading a good book.

Minerals make up,
Every part of your day,
You'll use 1925 pounds of copper,
And 23870 pounds of clay.

Minerals are in your water,
Minerals are in your food,
Minerals are all over the earth,
They do your body good.

Minerals are a big part of our day,
Even though we don't realize,
Minerals are important to each of us,
As we go about our daily lives.

Erica LeBlanc

Age 15

Gold

Gold is as old as dirt! Millions and millions and millions of years have passed over this buried treasure that this wonderful planet has provided in the form of a precious mineral. Until early man discovered its beauty and use it was truly a buried treasure.

Centuries ago man's quest for this Earthly treasure led them to other continents. In fact the United States may have been undiscovered if it were not for the quest for gold and other valuable minerals. The glimmer and glistening of gold must have captured the attention of the Ancient Egyptians. They recognized the value of gold so much that the Egyptian kings and royalty were buried in tombs with this valuable mineral decorating their coffins. Egyptians even worshipped golden statues and King Tut had furniture made of gold.

Gold has survived the sands of time and modern man has given it a new life. Gold is special because it cannot rust or stain. Since light cannot easily pass through gold, it is used in making windows in tropical regions of the world, to shield the rays of the sun.

As modern man became more intelligent he discovered other uses for the shiny mineral! Did you know that gold is used in computer chips and microwave ovens? It can even cure arthritis! Did the '49ers ever think their golden nuggets would come to such fame!

Golden chains, rings, and things have covered body parts and decorated the crowns of kings and queens. Even King Midas could not resist.

Gold is a reward for good work with a golden star and is the most prized reward for the Olympic athlete. Yet, as we age, man will cherish his "Golden Years" to always remember he was "As good as Gold"!

Chris Kessler

Age 11

Trains, pennies and coalminers
Long and curving ribbons of iron,
On a long trip from the ground.
Twisting and winding through these mountains of my home.
Papa Jack worked in the mine.
Picks, shovels, and mules used in his time.
Grandpa Andrew did it too:
Worked with equipment, mechanical and new.
My dad, the miner, has been covered up with rocks
Wears steel-toed boots and two pairs of socks
The tracks are being torn up in my town
No more tracks to lay a penny down.
Coal tipples standing on rusty steel legs

Have certainly seen their better days.

Coal is black and sometimes brown,

But it's almost gone in our town.

Anna Bailey{tc "Anna Bailey"}

Age 14

Silver is a white lustrous metallic element that conducts heat electricity better than any other metal. Silver is also one of the transition metals on the periodic table. Silver's chemical symbol is Ag and its atomic number is 47.

Silver can and is used in many products, but I like it because it has an elegant metallic look. I also like it because it is used in coinage and it is valuable in the jewelry industry. It is a valuable metal but it is also a functional metal. It is used in many products as an alloy to strengthen the silver yet still give the product a shine. Silver is used in electricity, circuitry, jewelry, mirrors, and antiseptic. Argyrol, a silver-protein compound, is used as a local antiseptic for the eyes, ears, nose and throat.

Chemically silver is not very active. It is insoluble in dilute acids and in alkalis but dissolves in concentrated nitric or sulfuric acid, and it does not react with oxygen or water at ordinary temperatures. Sulfur and sulfides attack silver, and tarnishing is caused by the formation of silver sulfides on the surface of the metal.

Silver is my favorite mineral and is important to not only me but to the world in general. Its importance is shown not only in jewelry and household products, but also the United States currency. It is a valuable metal to most people but I just like the way it looks.

Sean Bondy{tc "Sean Bondy"}

Age 14

tc "

"

Minerals are great, they help us to survive,
Minerals are inorganic, which means they aren't alive.

Minerals are found in many foods we eat.
They help us produce energy and maintain healthy teeth.

Sodium found in salt, meats, fish, and cheese
Helps absorb the sugar that our body needs.

Fluoride can be found in water, fish, and meat.
It helps us maintain healthy bones and also healthy teeth.

Iodine in fish from the deep blue sea
Helps to form thyroid glands found in you and me.

Calcium is a mineral that prevents heart disease.
Calcium can be found in veggies, milk, and cheese.

Iron is a mineral found in fruits and muscle meat.
Iron produces energy from our heads to our feet.

Minerals do a lot to help us stay alive.
Without eating minerals our bodies would just die.

Minerals help our bodies in many different ways.
So make sure to eat healthy foods each and every day.

Daniel Atkins

Age 13

Minerals and Me – What is the Connection?

ZINC

Of all the minerals, I think zinc is unique! When combined with other metals, it has even more uses.

Surprisingly, people eat it. Zinc is found in fruits, nuts, meat, oysters, and other shellfish. Zinc helps people and animals grow and heals wounds.

Zinc mixed with copper makes brass. Brass is rust-resistant so it is used to make the hulls of boats. Brass is also used to make musical instruments.

When zinc is alloyed with other metals, it becomes a good electrical conductor. Zinc can be mixed with bromide or nickel and be used for car batteries.

Many people use zinc oxide on their face for sun block. One must protect the signs of aging! Zinc oxide is also used for tires, paints, plastics, and ceramics.

When steel is coated with zinc, it is less likely to rust. Since things like bridges collapse when rusty, it is almost mandatory to coat steel with zinc.

As you can see, zinc has many uses and is essential for humans and animals. So when you eat, toast your glasses with a clink and think “ZINC”!

Zachery Smalley

Age 11

The mineral I chose was the diamond. There are many different uses for the diamond by both males and females. In this report I will talk about just a few of the numerous ways to use the diamond. To begin with, I will explain the way females most commonly use the diamond, and then I will explain how boys use the diamond.

The main thing girls use the diamond for is for jewelry. If a girl doesn't have a diamond to talk about, then she feels left out. So guys, try your best to get your wife a diamond ring or necklace. If you can't afford the real thing, you might at least get a man made diamond. If you don't get your wife a diamond, you could actually jeopardize your marriage. The more you spend, the more your wife will love you. If a girl has a diamond ring, then she will believe you love her. If they also have a diamond necklace, then they will know that you love them. If they have both, then they will love you forever. Just remember the old saying, “A diamond is a girl's best friend.”

The main thing men use a diamond for is to make their wife happy. However, many men also use the diamond as a drill bit. If you get a man a diamond drill bit, then they will think they are invincible. They will try to drill

through anything they can get their hands on. When they get it, then they will act like a little kid does on Christmas morning. They will jump up and down, hug you, and kiss you. Afterwards, they will go brag to their friends about their "fine diamond drill bit." Of course, their friends will go home and make sure they get one also.

This concludes my report on diamonds and the way men and women use them. As I said, if you want to keep your husband or wife happy, then you need to buy them diamonds. Don't let their friends get one before they do or there will be some big regrets. If you buy a fake diamond you better hope they don't find out because that might just be the end of it.

Hunter Scott

Age 14

**Minerals and me I think of three,
Natural gas for your heat,
There's nothing it can't beat.
Oil is what we need to run our car,
Without it we couldn't go far.
Then the diamond, the hardest surface on earth,
I wonder what a lot of them would be worth.
I can think of many more,
But how long they last we can't be sure.
All minerals were a gift to us for free,
That's why they are important to me.
Here on earth we're used to waste,
From everything we use to everything we taste.
We must learn only to use what we need,
That's the only way we will proceed.
As the last thing I need to say,
We use them everyday.
Whether you're spending pennies, nickels, or dimes,
Minerals are around all the time.**

Tyler Strong

Age 14

DIAMONDS

THE MOST POPULAR USE OF THE DIAMOND IS IN THE JEWELRY MARKET. BECAUSE IT IS THE MOST RARE GEM OF THEM ALL, IT IS THE MOST COSTLY GEM. ONLY ABOUT TWENTY PERCENT OF DIAMONDS ARE FIT FOR ANY KIND OF GEM USE. THE OTHER EIGHTY PERCENT MINED ARE USED AS ABRASIVES, AS THERMAL INSULATORS, IN OPTICS, AND IN ELECTRONICS. THE DIAMOND IS COLORLESS AND WHITE, USUALLY LIGHTLY TINGED WITH YELLOW, ORANGE, OR BROWN, LESS COMMONLY BLUE, GREEN, OR RED, RARELY DEEP RED,

BLUE GREEN, OR PURPLE. ALSO OCCURS DARK GRAY TO BLACK, WHICH IS KNOWN AS OPAQUE DIAMOND. IT IS ALSO THE BIRTHSTONE FOR APRIL.

DIAMONDS ARE ALSO USED FOR CUTTING ALL SORTS OF MATERIALS, SUCH AS GLASS AND METAL. THERE ARE ALSO DIAMOND EDGE SAWS. THERE ARE ALSO ARTIFICIAL DIAMONDS. THEY ARE USED TO DESCRIBE EITHER AN IMITATION OF A NATURAL DIAMOND OR A SYNTHETIC DIAMOND THAT IS CHEMICALLY IDENTICAL TO NATURALLY OCCURRING DIAMONDS.

THE HOPE DIAMOND IS THE LARGEST DEEP BLUE DIAMOND IN THE WORLD. THIS A 45.5 CARAT DIAMOND. THE HOPE DIAMOND WAS USED IN THE HEART DIAMOND. THIS IS ONE OF THE MOST POPULAR NECKLACES THAT HAVE EVER BEEN MADE.

JEANE MYERS
Age 14

I am an Opal; I come from the earth.
My color is white, pale yellow or red. I am used as a
gemstone, the birthstone of October.
The refraction of light can cause a play
of colors.
You can find me in many rocks, in the US, Mexico, and
Australia. I love hot spring areas and volcanic rock.
They use me as a variety of cristobalites.
I drink a lot of water. I'm almost opaque when I'm dry.
But I'm almost transparent when I'm wet. When heated
I can lose a lot of my water, then crystallize into a silica
Mineral. I can contain alumina, ferric oxide and alkalis.
I am a beautiful and abundant mineral.

Ashley Gartung
Age 16

I O

T A T ,
A B ,
S , I

tc "
Age 14 "

Malachite is made of different layers. I like malachite because it has a lot of different colors like apple green to dark gray. It consists of copper oxide, carbon dioxide, and water. This old stone was sometimes made into bracelets and worn to protect people from sickness, lightning and witchcraft. Some teachers believe that this stone was one of the sacred jewels in the high priest's breastplate.

The finest pieces of Malachite are mined in the Ural Mountains of Russia and in Cornwall, England. Other places Malachite is found are Africa, Australia and Arizona.

Malachite is my favorite mineral because of its beauty. Its colors stand out along with its many layers. Malachite is an interesting mineral.

Olga Sandoval
Age 11

PLATINUM

**PLATINUM IS RARE,
PLATINUM IS SWEET,
WITHOUT PLATINUM WE WOULD BE BEAT.**

GOLD IS HARD TO FIND,

**SILVER S GETTING BARE,
IF WE DID NOT HAVE PLATINUM,
THE WORLD WOULD BE IN A SCARE.**

**PLATINUM IS HARD TO FIND,
PLATINUM IS EXPENSIVE,
AND WHEN IT IS IN THE LIGHT,
I ALWAYS LOSE MY SENSES.**

**PLATINUM IS ON MY NECKLACE,
PLATINUM IS ON MY RING,
IF YOU GIVE ME SOME PLATINUM,
A LITTLE SONG I LL SING.**

**JASON BRENT BURGESS
AGE 14**

Minerals and Me – What is the Connection?

Many minerals are important in our daily life, but one outshines the rest.

It has numerous uses in all factions of life. Can this riddle be guessed?

No human body can function properly without this mineral in store.

Enzymes cause cardiovascular development, strengthen immunity, and more.

Rare though it may be, large quantities of it could have toxic effects.

A condition such as this occurs due to genetic defects.

Large amounts of this good conductor are used to produce wire of many types.

Some cookware is also created from this mineral, as well as a variety of pipes.

Areas of use for this mineral still are not complete.

Not many minerals can accomplish this great feat!

Defining characteristics have been described; the riddle now is done.

(Different options can be considered, but for a solution, there is only one!)

Minerals are vital, numerous beyond degree.

Essential COPPER completes the connection between health, minerals, and me.

Courtney Nute
Age 15

Minerals and Me – What is the Connection?

Have you ever wondered where everything comes from? The steel bridges you drive on, the silverware you use to eat with, or just any of the every day things we take for granted. They all start as minerals and the ones mentioned started out as iron. You may think to yourself, “who cares,” or “they don’t affect my life.” Well they do, and I’m going to explain some of the many ways iron and other minerals contribute to everyday life.

Iron is a metallic element. Its chemical symbol is Fe, its atomic number is 26, and iron’s atomic mass is 55.847. Iron is a silver-gray colored metal. It is a good conductor of heat and electricity. Iron is attracted by magnets and can easily be made magnetic itself. It can also be hammered into thin sheets or drawn into fine wires.

Iron is seldom found in its pure state but it is very common in our environment and in space. In fact, iron is the 4th most common element in the Earth’s crust and constitutes about 5% by weight. Iron is believed to be the main component of the Earth’s core. It is also found in rocks and ore. Iron is great in abundance outside of our atmosphere in space. Iron is found in the sun, in some stars, and in meteorites. A common form of iron everyone has seen is iron oxide, or more commonly referred to as rust. Iron is extracted from the Earth through means of open-pit mining and underground mining.

Iron is very important and necessary for life to exist. Plants, animals, and humans all need iron in their bodies. Iron is found in many places in the body but is most common in red blood cells. Iron is a necessity to form hemoglobin. In adult males, the total amount of iron is 3.5 grams. A loss of iron is high with the loss of blood. If the body lacks iron, it will undergo iron-deficiency.

Iron is also important for the industrial side of life. Iron was used for building tools and weapons around 1500 B.C. during the Iron Age. Iron is still being used and is the basic material for many manufactured products today. Iron can be alloyed with other metals and is needed to make steel.

Iron is also used in the medical field. Although not widely used in this area, iron is mainly used to prevent iron-deficiency. Physicians prescribe iron compounds for treatment against iron-deficiency for pregnant women and infants.

As you can see, minerals are very important to our way of life and without them life would not be possible. Iron is only one of the minerals used in every day life, but is obviously one of the most important. If your previous thoughts on the topic were that minerals were unimportant and did not affect your life, I hope that I may have changed your minds.

Tyler Morgan
Age 14

Minerals and Me – What is the Connection?

Iron ore is a mineral that is of the utmost importance to everyone. Iron ore was being smelted as early as approximately 1000 B.C. As the years have gone by, the ways and means of processing this ore have greatly improved.

Iron ore is one of the most abundant elements on Earth. It has been held in higher esteem than gold, as well as being considered more useful. Iron ore is an integral part of our everyday lives.

Iron is smelted in a blast furnace and is processed to make steel. Steel is used worldwide, mainly for its strength and durability. However, it does have some drawbacks, because moisture and oxygen tend to rust steel.

Steel is used as a reinforcement in concrete to make structures stronger. Roads, bridges, skyscrapers, railroad tracks, vehicles, airplanes, ships, submarines, and radio towers are just a few examples of the many uses of steel. From the mines to the mills and factories, it has taken many hours of work and dedication for people to accomplish the finished products of the various facets of iron ore.

If iron ore had never been discovered and if the technology necessary to process iron ore was never made available, we would probably still be using wooden boats to cross rivers. The world we live in today would be entirely different because what we now take for granted would not be so easily accessible to us. As long as there is a non-stop demand for iron ore, our economy will continue to survive and thrive forever.

Andrew Duncan
Age 10

Minerals and Me – What is the Connection?

Sulfate and Sulfide are forms of Sulphur.

Usually created around volcanoes.

Low sulphur mineral.

Panniers full of sulphur mineral found in the sulphur mines.

Hardness is 1.5-2.

Used for the mixture of gunpowder.

Radiant color yellow that captures my eyes.

Alejandra Gomez
Age 14

MINERALS AND ME – WHAT IS THE CONNECTION?

When I first thought about the connection between minerals and me I thought about how our bodies needed minerals to help us grow. After researching information about minerals, the substances in food we call minerals, like calcium, iron, and phosphorus, are not considered true minerals by mineralogists, but are mineral resources.

Another interesting fact I discovered is that minerals give support for me to stand. Why do I say this? Because the earth's land and oceans all rest on a layer of rock made of minerals. Even soil contains tiny pieces of minerals broken from rocks.

A tool I use almost every day is made from a mineral called graphite. The lead in a pencil is made by hardening graphite with clay.

A very precious and rare mineral that rates number 10 on the Mohs Hardness Scale is the Diamond. It scratches all common materials. Diamonds are used to make beautiful rings, earrings, necklaces and other jewelry. Gold is another mineral used to make jewelry.

According to Genesis 2:7, God "formed man of the dust of the ground." Could the connection between minerals and me be a part of me?

Janay Armstrong
Age 13

SILVER

Silver is an element whose symbol is Ag. Silver is an element that is not only pretty to see, but is commonly used on people like you and me. This I know because we use silver for surgery and

dentistry. It is harder than gold and softer than copper. This element, silver, is an excellent conductor.

Beware of sulfur, for if it's in the air, it can make your silver as black as your nightmare.

Farrah Hutchings

Age 12

Minerals and Me – What is the Connection?

In my opinion the minerals are in our lives like water for life itself, that we need not just for drink, because I cannot imagine any kind of life, animal or vegetal, without it.

With the minerals it happens the same: we don't need them just for their direct application, the minerals are used in many intermediate processes to obtain another final product. For example to make it possible to turn on a lamp in my house - previously the electric energy was generated using machinery and equipment that was constructed or assembled using iron, aluminum, copper, manganese, lead, zinc; to conduct electric energy the copper wires are essentials; the light bulb is elaborated with glass that is mainly silica; and the filament is also a mineral product.

Many people just see the mining industry as a source of destruction and pollution but they don't consider that anything around us is related to the minerals resources. Even the clothes that we wear are derived from the vegetal kingdom but in order to be transformed they must pass through a process that uses many different minerals.

For me personally silver is my favorite mineral because the history of my country is very tightly related with this mineral. Many of the capital cities of the northern states were founded as mining towns. My country has been the largest silver producer in the world for many years. Its main application is in the photography business, but also in jewelry. I want to invite all the people to the small town of Taxco in the state of Guerrero very near to Mexico City and I bet that everyone will understand why silver is my favorite mineral.

So I am perfectly aware that minerals are exactly the same as water for humanity, indispensable. And we cannot imagine our lives in this modern world without minerals. After this research exercise personally I'm convinced that we are responsible to explain and make the people understand that the mineral industry is not just destruction and pollution but the opposite, a great help for human development.

Ana Gabriela Lopez Reyes

Age 14

Minerals and Me – What is the Connection?{tc "Minerals and Me – What is the Connection?"}

When I started the investigation I took for granted that the minerals not only have been an important part in the economic life of the society and in the development of my country since the Colonial Period up to the present, but that in my own life, the things that surround me, that I have and myself.

The minerals are very important for me because thanks to them, for example, I have the electric current I use with domestic appliances. With them we make parts to arm vehicles. I can flavor my food; I can use plastic articles like the PVC (that we use in the pipes). They can be used to make lamp's cable, mint coins, regulators, electromagnetic apparatus, communications systems, water. I use them in medicines, paints, ceramics, clothes, cement, fertilizer. I can enjoy any object that has passed through a fabrication process, drinks, paper, furniture. And in my own body exists minerals that are important and indispensable for me.

For me copper is one of the most important minerals. Firstly, because thanks to it and its physical properties in all kinds of wires, I can have electrical power at home and that makes it possible to use the computer, to watch TV, to

listen to the radio, to keep food in the freezer, to prepare hot meals and to use many appliances. Secondly, because it's a mineral that my country produces. Mexico has been one of the major producers of copper in the world.

Now I know that the minerals are very important, moreover interesting, and I can say that my life without minerals will be difficult or impossible. Without the minerals I couldn't count on a house or a means of transport. Well, I would have nothing.

Really I can say that thanks to the minerals my life has been made easier, comfortable, pleasant, but above all else, a lot of people have work. Thanks to the minerals, not only the miners or the people that work in the mines, but also all that use minerals in their work. It is necessary that all share this idea so that we conserve minerals and not waste them.

Maria Alejandra Vega Vargas
Age 15

MINERALS AND ME -

WHAT'S THE CONNECTION?

Minerals are a very important resource in our lives. Thanks to them, we can be healthy and also use them as decorations, accessories and for industrial purposes.

One of the ways we can utilize them for healthy purposes for our body is by drinking calcium to fortify our bones.

As a material resource we use silver in accessories like in bracelets, chains, medals, eating utensils and some coins.

There are some countries, like Mexico, which make a lot of silver accessories. Mexico is the leader in silver production in the world. We also use silver for making fillings for our teeth and in surgery.

Even though a lot of minerals are used for industry, I think that the most important minerals are the ones that help the human body be healthy and that come together with the vitamins which we take in pills and food. Among these are phosphorus, manganese, iron, calcium, chromium, potassium, molybdenum and nickel. All of these minerals help us through our daily life.

Emmanuel Salgado Balderas
Age 15