

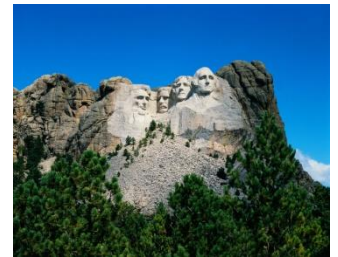
# Rocks and Minerals Unit

This is a unit I designed for my primarily preschooler, but my older two kids (2nd, 4th grades) will join in as well. These sheets require tracing, some matching, and some cutting-pasting activities.

(There's a fill in the blank option for older kids starting on page 13.)



- rocks
- how we use rocks
- famous rock formations
- 3 types of rocks
- minerals
- mining
- recycling
- Birthstones

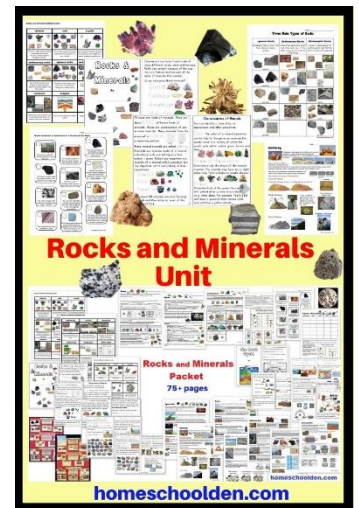


Note: Recently we studied rocks and minerals again. I have made a huge new packet. It is over 100+pages and includes notebook pages, worksheets, labs and other activities.

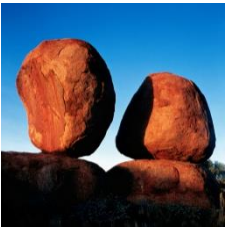
You might want to check that out here:

[homeschoolden.com/earth-science](https://homeschoolden.com/earth-science)

Made by Liesl at  
[homeschoolden.com](https://homeschoolden.com)







# Rocks and Minerals Unit



Big rocks are called

pebbles.

Small rocks are called

sand.

Tiny rocks as small as grains of salt are called

boulders.

Some rocks are very hard. Many buildings are made of

granite and marble.

Rocks can be red-hot. Melted rock is called lava.



Devil's Tower is made from lava that hardened inside a volcano.

The softer rock of the volcano has worn away.



You can set fire to one rock called coal.

There are three main types of rocks:

igneous rocks

metamorphic rocks

sedimentary rocks

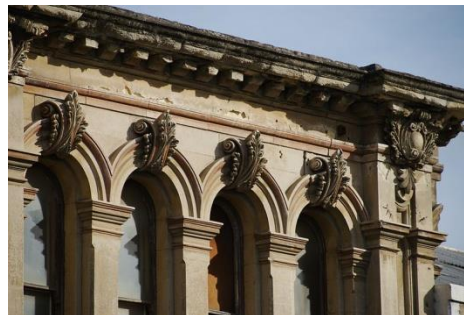
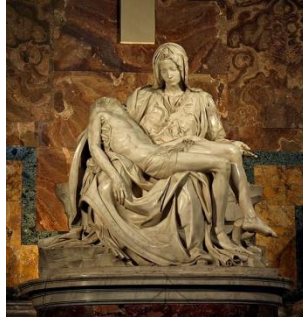


## What are rocks used for?

Making buildings	Building roads
Creating statues, like Michelangelo's Pieta	Heating homes and running factories
Walls	Pyramids
Building Stonehenge, an ancient calendar	Castles

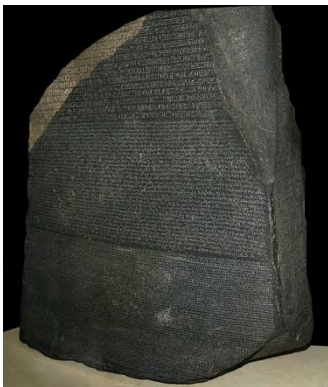


Cut these pictures out and paste them into the correct square above:





# Famous Rocks Around the World









## Famous Rocks

Cut these out and paste them under the correct picture above.

<b>Twelve Apostles,</b> Great Ocean Road, Victoria, Australia	<b>Rock of Gibraltar,</b> Near Spain
<b>Devil's Tower</b> Wyoming, USA	<b>Kaaba</b> Mecca, Saudi Arabia <small>A cube shaped building made of granite which has a mosque built around it. It is the most sacred site in Islam. Every Muslim is to make a pilgrimage here once in his/her life time.</small>
<b>Rosetta Stone,</b> in the British Museum	<b>Uluru</b> <b>Also known as Ayer's Rock</b> Northern Territory, Australia
<b>Mt. Rushmore,</b> South Dakota, USA	<b>Stonehenge,</b> England
<b>Arches,</b> Utah, USA	<b>The Great Wall of China</b>
<b>Sphinx</b> Egypt	<b>Buddha of Bamiyan</b> Destroyed by the Taliban in Afghanistan in 2001

On another page for your science notebook:

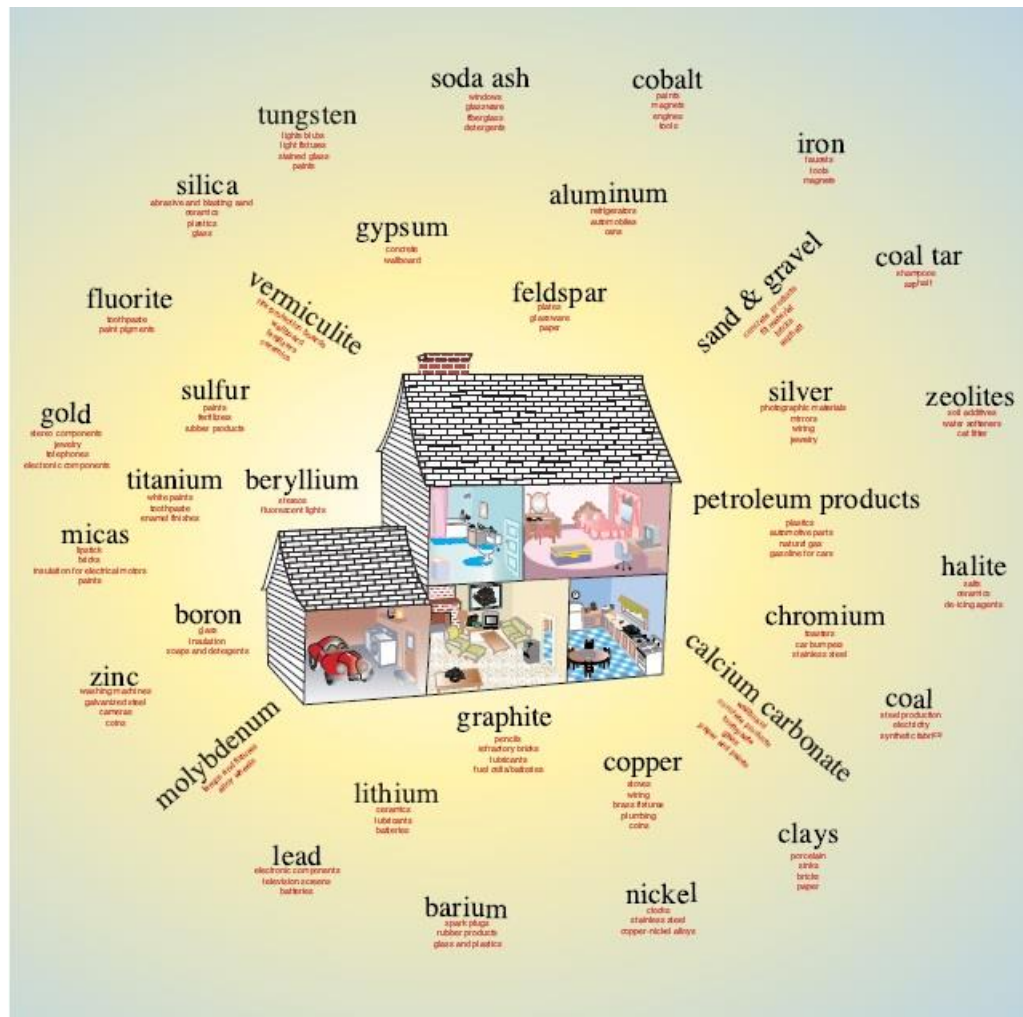
In areas with a lot of limestone, rainwater and streams dissolve away the calcite in the limestone. Over thousands of years calcite drips on the roof and floor. These form pointed "icicles" of rock.

Draw a picture of a cave with stalactites and stalagmites:



# What do we use minerals for?

## Minerals Around Our Homes:



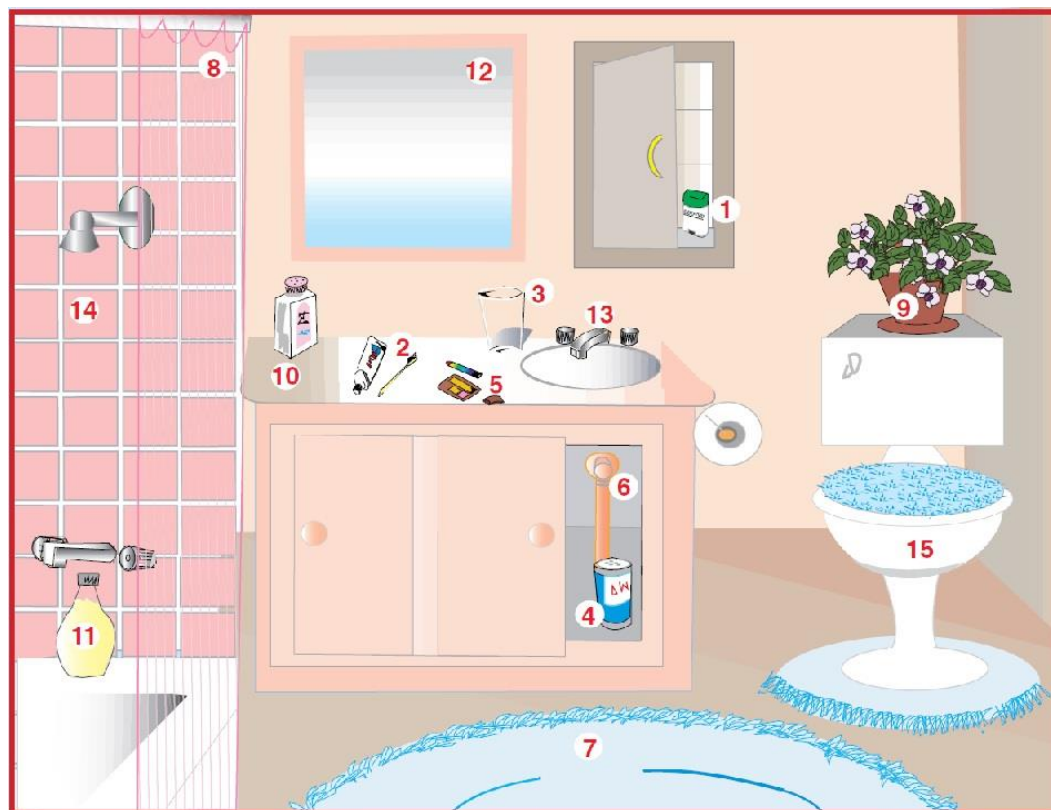
[Minerals in the workplace](http://minerals.usgs.gov/minerals/pubs/general_interest/safety/mineralsusesafety.pdf): A four page pamphlet about how everything from aluminum to zinc is used in and around workplaces.

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# Minerals in Our Environment

What minerals can be found in our environment?



Visit this page -- <http://geopubs.wr.usgs.gov/open-file/of00-144/of00-144.pdf> for more about this poster.

Answers for the picture above, on left. Answers for the pictures on the next page below, on right.

1. **DEODORANT:** Includes aluminum and the container is made of petroleum products.
2. **TOOTH PASTE:** Includes fluorite, barite and calcite. The container is made of petroleum products or aluminum.
3. **DRINKING GLASSES:** Includes feldspar, silica and soda ash.
4. **ABRASIVE CLEANSER:** Includes silica or calcite.
5. **LIPSTICK AND MAKEUP:** Includes clay, mica, talc, limestone and petroleum products.
6. **PLUMBING:** Made of copper, clay and petroleum products.
7. **RUGS:** Includes limestone, petroleum products and selenium.
8. **PLASTIC SHOWER CURTAINS:** Contains petroleum products.
9. **FLOWER POT:** Made of clays and metallic minerals for pigments in glaze.
10. **TALCUM POWDER:** Contains talc and mica.
11. **DANDRUFF SHAMPOO:** Includes coal tar, lithium clays and selenium. The container is made of petroleum products.
12. **MIRROR:** Includes feldspar, silica and silver.
13. **FAUCETS:** Includes iron, nickel and chromium.
14. **TILES:** Made of clay, feldspar, wollastonite or talc, mineral pigments.
15. **TOILET:** Includes clays, silica, copper, zinc, petroleum products and borates.

1. **COMPUTER:** Includes gold, silica, nickel, aluminum, zinc, iron, petroleum products, and about thirty other minerals.
2. **PENCIL:** Includes graphite and clays.
3. **TELEPHONE:** Includes copper, gold and petroleum products.
4. **BOOKS:** Includes limestone and clays.
5. **PENS:** Includes limestone, mica, petroleum products, clays, silica and talc.
6. **FILM:** Includes petroleum products and silver.
7. **CAMERA:** Includes silica, zinc, copper, aluminum and petroleum products.
8. **CHAIR:** Includes aluminum and petroleum products.
9. **TELEVISION:** Includes aluminum, copper, iron, nickel, silica, rare earths, and strontium.
10. **STEREO:** Includes gold, iron, nickel, beryllium and petroleum products.
11. **COMPACT DISC:** Includes aluminum and petroleum products.
12. **METAL CHEST:** Includes iron and nickel. The brass trim is made of copper and zinc.
13. **CARPET:** Includes limestone, petroleum products and selenium.
14. **DRYWALL:** Includes gypsum, clay, vermiculite, calcium carbonate and micas.





Visit this page -- <http://geopubs.wr.usgs.gov/open-file/of00-144/of00-144.pdf> for more information.

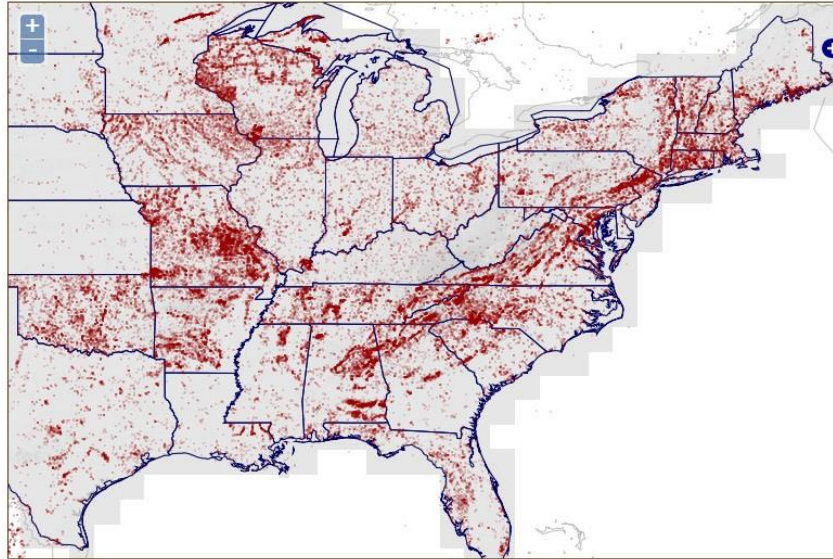
## What are these minerals used for? (matching)

copper	glass, electrical components, optical lenses
aluminum	cement
diamond	pencils
quartz	cans, airplanes, automobiles
graphite	wire, pots, plumbing
limestone	jewelry, drilling, construction



# Mining

Mines are found all around the USA (the red dots are mines, past or present)



## Impact of Mining:

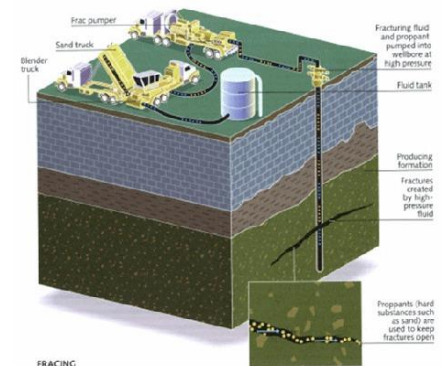
strip coal mining



underground mining



fracking



Picture credits: Wikimedia Commons -- [coal mining](#), [underground mining](#), [fracking](#)

Great information for kids about mining:

[http://www.nativeaccess.com/sites/default/files/curriculum/worksheet/Mining\\_WS.pdf](http://www.nativeaccess.com/sites/default/files/curriculum/worksheet/Mining_WS.pdf)

Color the picture and talk about how the environment is impacted by the mining you see.

[http://www.oresomeresources.com/resources\\_view/resource/worksheet\\_impacts\\_diagram](http://www.oresomeresources.com/resources_view/resource/worksheet_impacts_diagram)



# Recycling:



Recycling video clip:

<http://www.youtube.com/watch?v=P9UjmOHC300>

Recycling aluminum cans coloring book:

[http://www.mrcollinson.ca/4%20science/rocks%20and%20minerals/4 science rocks minerals aluminum can book.pdf](http://www.mrcollinson.ca/4%20science/rocks%20and%20minerals/4%20science%20rocks%20minerals%20aluminum%20can%20book.pdf)

The life of an aluminum can

[http://www.mrcollinson.ca/4%20science/rocks%20and%20minerals/4 science rocks minerals aluminum can pictures.pdf](http://www.mrcollinson.ca/4%20science/rocks%20and%20minerals/4%20science%20rocks%20minerals%20aluminum%20can%20pictures.pdf)

About 127,000 aluminum cans are recycled every minute.

## Recycling Cell Phones:

What valuable metals can be found in cell phones?



copper      gold      silver  
platinum      palladium



# Months and Birthstones

Traditionally there is a birthstone for each month. Here are the months and the gemstones for each month. Trace your birthday month and birthstone. Trace the months and birthstones for the rest of your family as well.

January -- garnet

February -- amethyst

March -- aquamarine

April -- diamond

May -- emerald

June -- pearl, alexandrite

July -- ruby

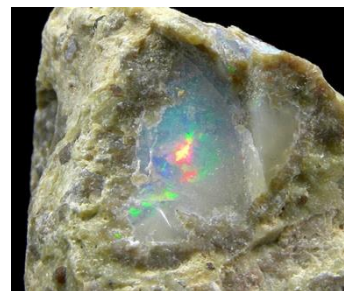
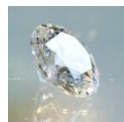
August -- peridot

September -- sapphire

October -- opal

November -- topaz, citrine

December -- zircon, turquoise



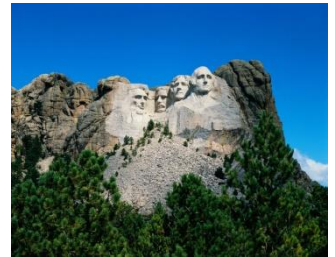


# Rocks and Minerals Unit

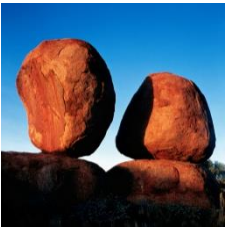
Name: \_\_\_\_\_

Date: \_\_\_\_\_

- rocks
- how we use rocks
- famous rock formations
- 3 types of rocks
- minerals
- mining
- recycling
- birthstones







# Rocks and Minerals Unit



Big rocks are called \_\_\_\_\_

Small rocks are called \_\_\_\_\_.

Tiny rocks as small as grains of salt are called \_\_\_\_\_.

Some rocks are very hard. Many buildings are made of

\_\_\_\_\_ and \_\_\_\_\_.



Rocks can be red-hot. Melted rock is called \_\_\_\_\_.

Devil's Tower is made from lava that hardened inside a volcano.

The softer rock of the volcano has worn away.

You can set fire to one rock called \_\_\_\_\_.



There are three main types of rocks:

\_\_\_\_\_ rocks

\_\_\_\_\_ rocks

\_\_\_\_\_ rocks

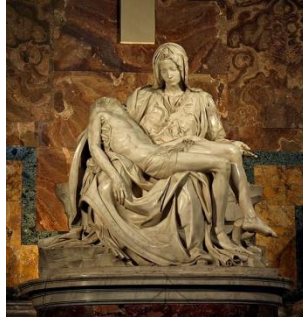


## What are rocks used for?

Making buildings	Building roads
Creating statues, like Michelangelo's Pieta	Heating homes and running factories
Walls	Pyramids
Building Stonehenge, an ancient calendar	Castles



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# Famous Rocks Around the World









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<b>Devil's Tower</b> Wyoming, USA	<b>Kaaba</b> Mecca, Saudi Arabia <small>A cube shaped building made of granite which has a mosque built around it. It is the most sacred site in Islam. Every Muslim is to make a pilgrimage here once in his/her life time.</small>
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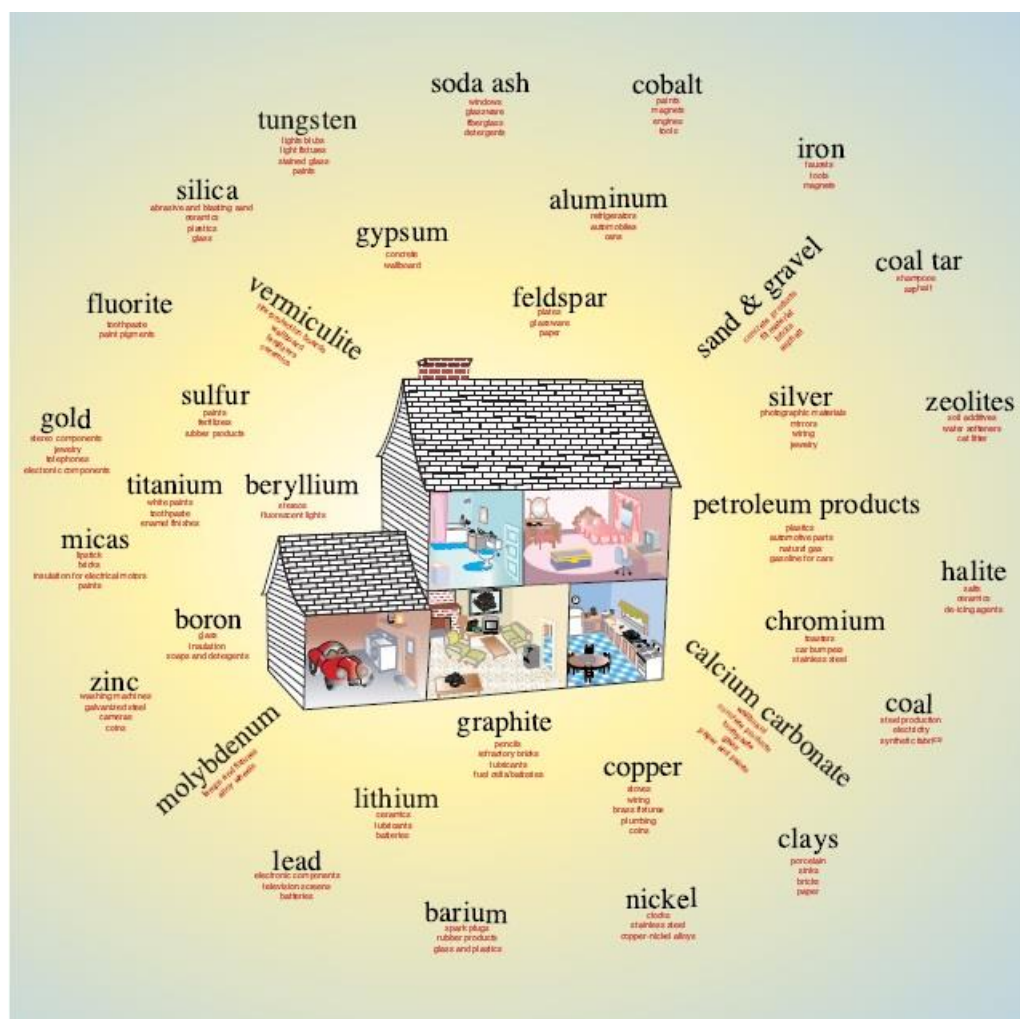
## On another page for your science notebook:

In areas with a lot of limestone, rainwater and streams dissolve away the calcite in the limestone. Over thousands of years calcite drips on the roof and floor. These form pointed "icicles" of rock.

Draw a picture of a cave with stalactites and stalagmites:



# What do we use mineral for? Minerals around our homes:



Read one of the pamphlets below and tell us what you learned:

[Minerals in the workplace](#): A four page pamphlet about how everything from aluminum to zinc is used in and around workplaces.

[http://minerals.usgs.gov/minerals/pubs/general\\_interest/safety/mineralsusesafety.pdf](http://minerals.usgs.gov/minerals/pubs/general_interest/safety/mineralsusesafety.pdf)

[copper](#) - <http://pubs.usgs.gov/fs/2009/3031/FS2009-3031.pdf>

[gold](#) - <http://pubs.usgs.gov/gip/gold/gold.pdf>

[lead](#) - <http://pubs.usgs.gov/fs/2011/3045/pdf/fs2011-3045.pdf>

[beryllium](#) - [http://pubs.usgs.gov/fs/2012/3056/pdf/fs\\_2012\\_3056.pdf](http://pubs.usgs.gov/fs/2012/3056/pdf/fs_2012_3056.pdf)

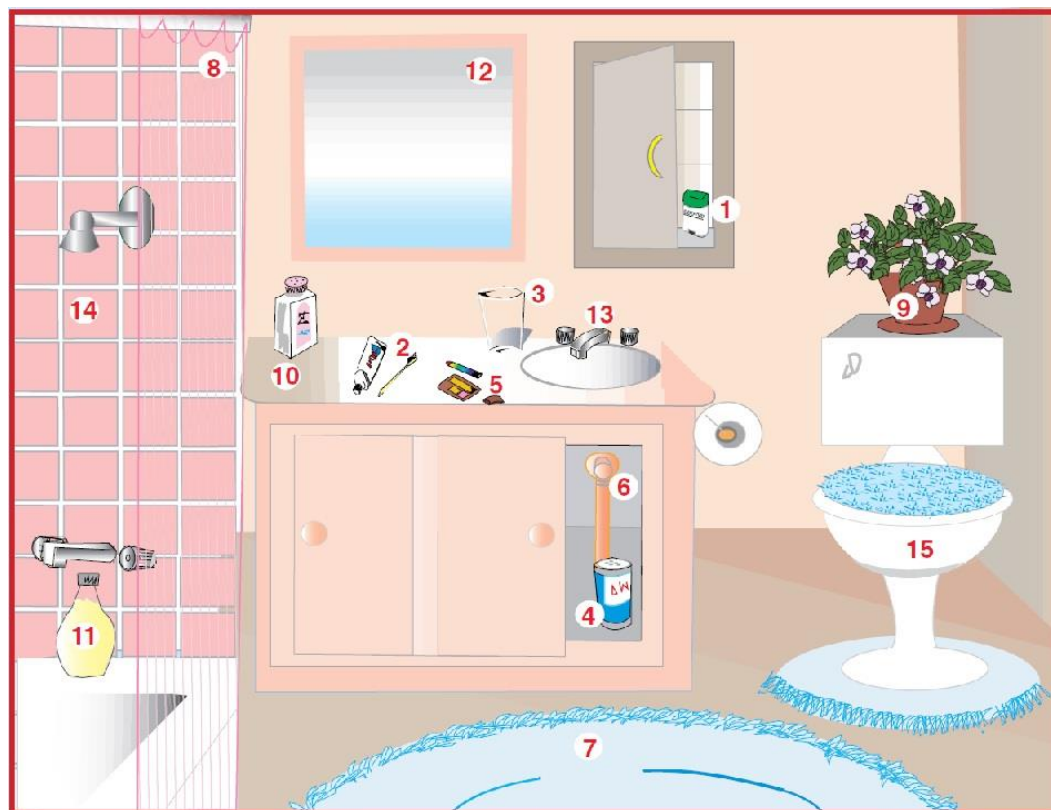
[nickel](#) - <http://pubs.usgs.gov/fs/2012/3024/pdf/fs2012-3024.pdf>

[chromium](#) - <http://pubs.usgs.gov/fs/2010/3089/pdf/fs2010-3089.pdf>



# Minerals in Our Environment

What minerals can be found in our environment?



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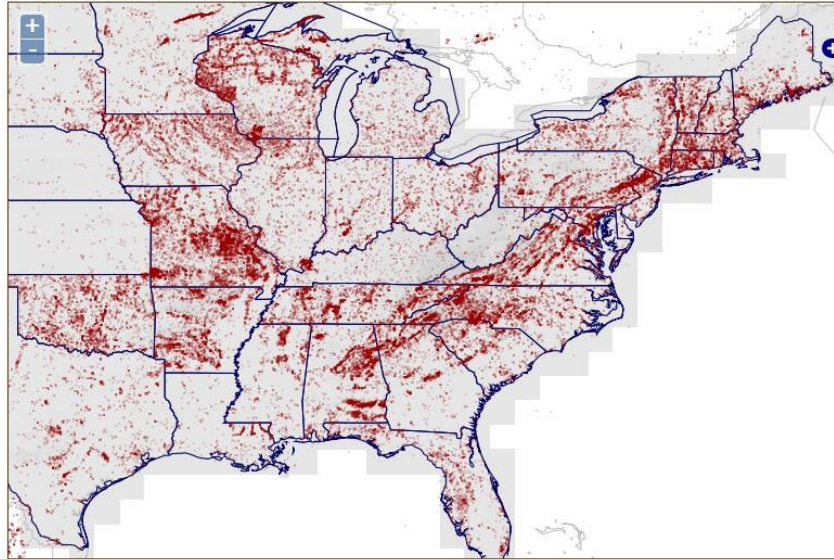
## What are these minerals used for? (matching)

copper	glass, electrical components, optical lenses
aluminum	cement
diamond	pencils
quartz	cans, airplanes, automobiles
graphite	wire, pots, plumbing
limestone	jewelry, drilling, construction



# Mining

Mines are found all around the USA (the red dots are mines past or present)



## Impact of Mining:

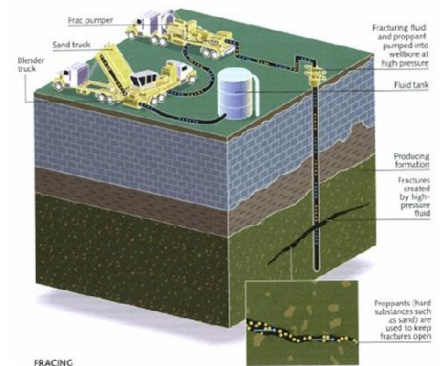
strip coal mining



underground mining



fracking



Picture credits: Wikimedia Commons -- [coal mining](#), [underground mining](#), [fracking](#)

Great information for kids about mining:

[http://www.nativeaccess.com/sites/default/files/curriculum/worksheet/Mining\\_WS.pdf](http://www.nativeaccess.com/sites/default/files/curriculum/worksheet/Mining_WS.pdf)

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# Recycling:



Recycling video clip:

<http://www.youtube.com/watch?v=P9UjmOHC300>

The life of an aluminum can

[http://www.mrcollinson.ca/4%20science/rocks%20and%20minerals/4 science rocks minerals aluminum can pictures.pdf](http://www.mrcollinson.ca/4%20science/rocks%20and%20minerals/4%20science%20rocks%20minerals%20aluminum%20can%20pictures.pdf)

Recycling aluminum cans coloring book:

[http://www.mrcollinson.ca/4%20science/rocks%20and%20minerals/4 science rocks minerals aluminum can book.pdf](http://www.mrcollinson.ca/4%20science/rocks%20and%20minerals/4%20science%20rocks%20minerals%20aluminum%20can%20book.pdf)

About \_\_\_\_\_ aluminum cans are recycled every minute.

## Recycling Cell Phones:

What valuable metals can be found in cell phones?



copper

gold

silver

platinum

palladium



# Months and Birthstones

Traditionally there is a birthstone for each month. Here are the months and the gemstones for each month. Trace your birthday month and birthstone. Trace the months and birthstones for the rest of your family as well.

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February -- amethyst

March -- aquamarine

April -- diamond

May -- emerald

June -- pearl, alexandrite

July -- ruby

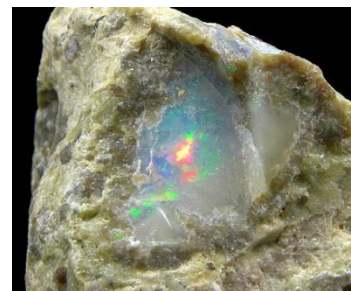
August -- peridot

September -- sapphire

October -- opal

November -- topaz, citrine

December -- zircon, turquoise





# You may also be interested in these units

## Rocks and Minerals Unit



[homeschoolden.com/earth-science/](https://homeschoolden.com/earth-science/)



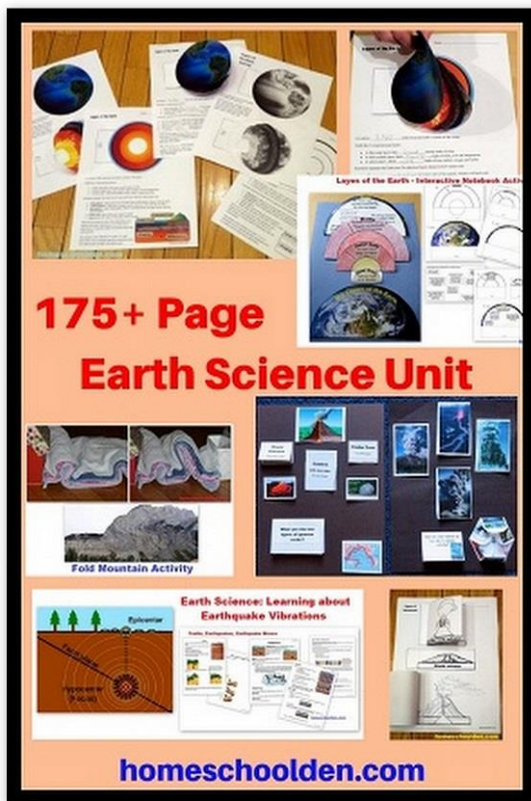








# Earth Science Unit



**175+ Page  
Earth Science Unit**

homeschoolden.com



**Earth Science Packet**

150-page packet

- Earth and the Solar System
- Layers of the Earth
- Pangaea, Plate Tectonics
- Faults
- Earthquakes
- Mountain Making
- Volcanoes... and more

homeschoolden.com



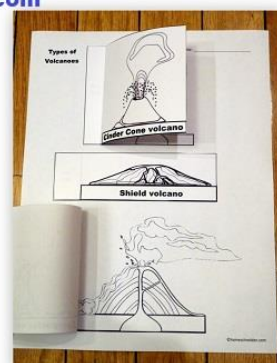
**Layers of the Earth Activities**

homeschoolden.com

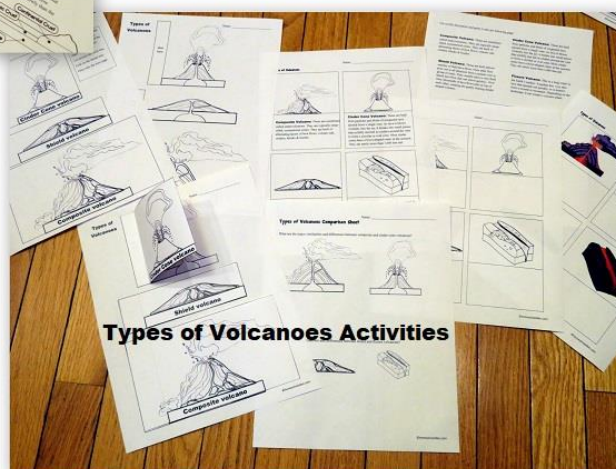


**Layers of the Earth Activities**

**New Activities added  
to our 100+ page  
Earth Science Packet!**

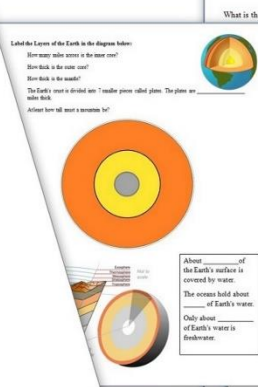
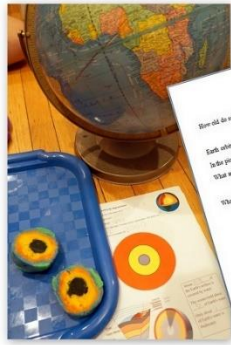


**Types of Volcanoes Activities**

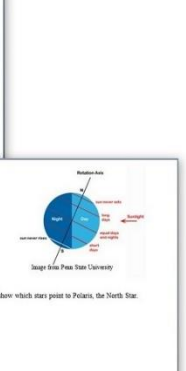
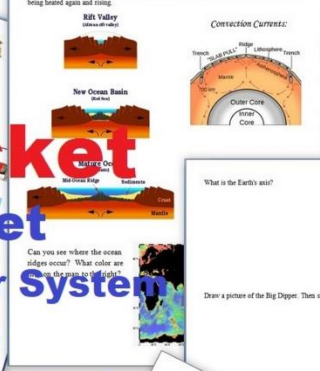
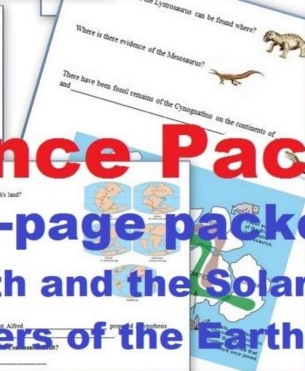
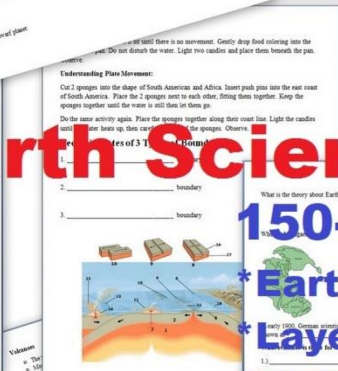


**Types of Volcanoes Activities**





Earth's Geologic Timeline	
Hadean Eon	4.5 billion to 4 billion years ago
Archaean Eon	4 billion to 2.5 billion years ago
Proterozoic Eon	2.5 billion to 541 million years ago
Phanerozoic Era	541 million years ago to present
Palaeozoic Era	252.17 to 252.17 million years ago
Phanerozoic Era	252.17 to 66 million years ago
Phanerozoic Era	66 million years ago to present



## Earth Science Packet

150-page packet

\*Earth and the Solar System

\*Layers of the Earth

\*Pangaea, Plate Tectonics

\*Faults


\*Earthquakes

\*Mountain Making

\*Volcanoes... and more



These are just some of the packets we have available! [homeschoolden.com/store](https://homeschoolden.com/store)



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Earth Science Unit**

homeschoolden.com



**Earth Science Unit**

**150+ page packet  
Earth Science Packet**

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**Earth Science: Learning about  
Earthquake Vibrations**


**Earthquake Waves  
Activities**

**150+ Earth Science Unit**

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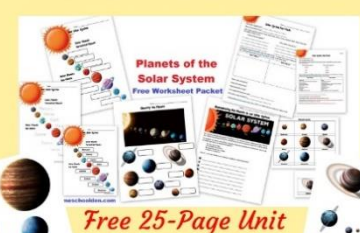
**FREE**

**Solar System to Scale Activity**



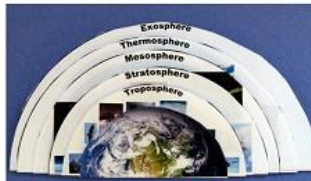
homeschoolden.com

**Solar System Unit  
Worksheets & Activities**




**Free 25-Page Unit**

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**Layers of the  
Atmosphere**

**50+ Page Packet**



homeschoolden.com

**Biomes 70+ page  
Packet**



**Biome Worksheets and Picture Cards**

8 x 11 Printable Photos of the 9 Biomes  
for print 4-per-page for smaller cards

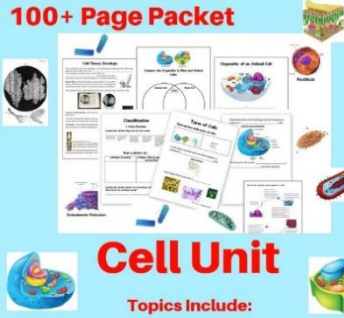
Part of our 70-page  
Biology Packet

homeschoolden.com

- Arctic
  - Alpine Tundra
  - Boreal Forest or Taiga
  - Deciduous Forests
  - Deserts
  - Grasslands
  - Tropical Savannas
  - Chaparral
  - Tropical Rain Forest

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**100+ Page Packet**



**Cell Unit**

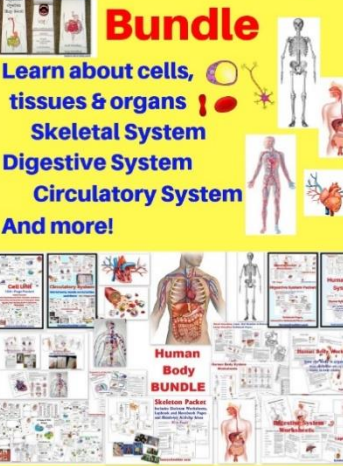
**Topics Include:**  
Cell Organelles and their Function, Animal vs. Plant Cells, Eukaryotic vs. Prokaryotic Cells, Hands-On Activities, Build a Cell Game and more!

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**Human Body  
Bundle**

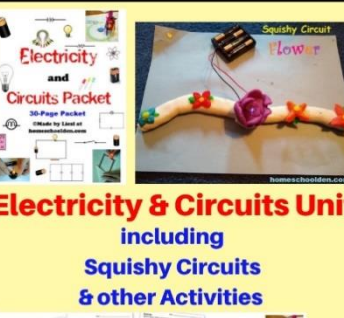
Learn about cells, tissues & organs !

- Skeletal System
- Digestive System
- Circulatory System
- And more!



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**Electricity and Circuits Packet**



**Electricity & Circuits Unit  
including  
Squishy Circuits  
& other Activities**

**30-Page Packet**  
Made by Lisa at  
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