

• **Everything Is Made of Something** •

**Contains:** Student Pages  
Teacher Pages  
National Science Standards Correlation  
Background Sheets  
Video and Reading Lists  
**Everything Copyable**

**Everything Comes From  
Our Natural Resources**

**A  
Study  
of the  
Earth**

**Let's appreciate the Earth and our place on it.**

- • • • •  
*Adaptable to your style, and  
the abilities and learning  
styles of your students.*
- • • • •  
*Activities suitable for  
individual, group or full class  
presentations.*
- • • • •  
*Using Science to learn  
Geography, and Music to  
learn History. Integrated  
learning without stretching.*
- • • • •  
*Easy Remediation For  
Kindergarten & First Grades,  
and Special Needs Students.*
- • • • •

- **Where in the World Do Our Natural Resources Really Come From**
- **Is It Plant, Animal, or Mineral**
- **How Many Countries Does It Take to Make A Light Bulb**
- **Coloring Pages and Word Searches**
- **Legends and Lost Gold Mines**
- **Identifying Organics & Inorganics**
- **What Are Clothes Made Of**
- **If You Were King of the Land**
- **Discover The Resources That Made Your Classroom**

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# Materials Standards Compliance

## A Study of the Earth

Grade Level: K-4

### Natural Resources Matter

Type: Lessons & Activities

Science K-4.A (Science as Inquiry)

Science K-4.B (Physical Science)

Science K-4.D (Earth and Space)

Science K-4.F (Personal and Social)

Science K-4.G (History and Nature of Science)

### A World of Resources

Type: Lesson & Activities

Science K-4.A (Science as Inquiry)

Science K-4.E (Science and Technology)

Science K-4.F (Personal and Social)

Science K-4.G (History and Nature of Science)

### Look Around: Everything is Made from Something

Type: Lessons, Activities & Poster

Science K-4.D (Earth and Space)

Science K-4.E (Science and Technology)

Science K-4.F (Personal and Social)

Science K-4.G (History and Nature of Science)

### Recycling Metals

Type: Lesson & Activities

Science K-4.A (Science as Inquiry)

Science K-4.F (Personal and Social)

Science K-4.G (History and Nature of Science)

### Clothing Matters

Type: Lessons & Activities

Science K-4.A (Science as Inquiry)

Science K-4.B (Physical Science)

Science K-4.D (Earth and Space)

Science K-4.E (Science and Technology)

Science K-4.F (Personal and Social)

### How Do We Use Our Land?

Type: Lesson & Activities

Science K-4.A (Science as Inquiry)

Science K-4.F (Personal and Social)

Science K-4.G (History and Nature of Science)

### People & Earth's Minerals

Type: Word Search Story

Science K-4.D (Earth and Space)

Science K-4.F (Personal and Social)

### The Earth – Nature's Storehouse

Type: Lesson & Activities

Science K-4.A (Science as Inquiry)

Science K-4.D (Earth and Space)

Science K-4.E (Science and Technology)

Science K-4.F (Personal and Social)

Science K-4.G (History and Nature of Science)

### A Classroom Full of Resources

Type: Lesson & Activities

Science K-4.A (Science as Inquiry)

Science K-4.D (Earth and Space)

Science K-4.F (Personal and Social)

### Geology & Natural Resource Development

Type: Lesson & Activities

Science K-4.A (Science as Inquiry)

Science K-4.D (Earth and Space)

Science K-4.F (Personal and Social)

Science K-4.G (History and Nature of Science)

### Your House Comes From A Mine

Type: Lesson and Activities

Science K-4.A (Science as Inquiry)

Science K-4.D (Earth and Space)

Science K-4.F (Personal and Social)

### Mineral Uses

Type: Lesson & Activities

Science K-4.B (Physical Science)

Science K-4.D (Earth and Space)

Science K-4.E (Science and Technology)

Science K-4.G (History and Nature of Science)

### Mining Legends

Type: Lesson & Activities

Science K-4.A (Science as Inquiry)

Science K-4.G (History and Nature of Science)

# Materials Standards Compliance

## A Study of the Earth

### Grade Level: 5-8

#### Natural Resources Matter

Type: Lessons & Activities

Science 5-8.A (Science as Inquiry)

Science 5-8.B (Physical Science)

Science 5-8.F (Personal and Social)

Science 5-8.G (History and Nature of Science)

#### Recycling Metals

Type: Lessons & Activities

Science 5-8.A (Science as Inquiry)

Science 5-8.E (Science and Technology)

Science 5-8.F (Personal and Social)

Science 5-8.G (History and Nature of Science)

#### Look Around . . . Everything is made from Something

Type: Lessons, Activities & Poster

Science 5-8.F (Personal and Social)

Science 5-8.G (History and Nature of Science)

#### How Do We Use Our Land

Type: Lessons & Activities

Science 5-8.A (Science as Inquiry)

Science 5-8.F (Personal and Social)

Science 5-8.G (History and Nature of Science)

#### Clothing Matters

Type: Lessons, Activities

Science 5-8.A (Science as Inquiry)

Science 5-8.E (Science and Technology)

Science 5-8.F (Personal and Social)

#### The Earth – Nature’s Storehouse

Type: Lessons & Activities

Science 5-8.A (Science as Inquiry)

Science 5-8.F (Personal and Social)

#### People & Earth’s Minerals

Type: Word Search Story

Science 5-8.D (Earth and Space)

Science 5-8.F (Personal and Social)

#### Geology & Natural Resource Development

Type: Lessons & Activities

Science 5-8.A (Science as Inquiry)

Science 5-8.F (Personal and Social)

Science 5-8.G (History and Nature of Science)

#### A Classroom Full of Resources

Type: Lessons & Activities

Science 5-8.A (Science as Inquiry)

Science 5-8.F (Personal & Social)

#### Copper – The Ancient Metal

Type: Lessons & Activities

Science 5-8.A (Science as Inquiry)

Science 5-8.F (Personal and Social)

Science 5-8.G (History and Nature of Science)

#### Your House Comes From a Mine

Type: Lessons & Activities

Science 5-8.A (Science as Inquiry)

Science 5-8.E (Science and Technology)

Science 5-8.F (Personal and Social)

#### Mineral Uses

Type: Lessons & Activities

Science 5-8.E (Science and Technology)

Science 5-8.F (Personal and Social)

Science 5-8.G (History and Nature of Science)

#### Mining Legends

Type: Lessons & Activities

Science 5-8.A (Science as Inquiry)

Science 5-8.F (Personal and Social)

Science 5-8.G (History and Nature of Science)

#### A Voyage To Mars

Type: Lessons & Activities

Science 5-8.A (Science as Inquiry)

Science 5-8.D (Earth and Space)

#### A World of Resources

Type: Lessons & Activities

Science 5-8.A (Science as Inquiry)

Science 5-8.E (Science and Technology)

Science 5-8.F (Personal and Social)

# Materials Standards Compliance

## A Study of the Earth

Grade Level: 9-12

### A World of Resources

Type: Lessons & Activities

Science 9-12.A (Science as Inquiry)

Science 9-12.F (Personal and Social)

Science 9-12.G (History and Nature of Science)

### Copper – The Ancient Metal

Type: Lessons & Activities

Science 9-12.A (Science as Inquiry)

Science 9-12.F (Personal and Social)

Science 9-12.G (History and Nature of Science)

### Recycling Metals

Type: Lessons & Activities

Science 9-12.A (Science as Inquiry)

Science 9-12.F (Personal and Social)

Science 9-12.G (History and Nature of Science)

### Mineral Uses

Type: Lessons & Activities

Science 9-12.F (Personal and Social)

Science 9-12.G (History and Nature of Science)

### How Do We Use Our Land?

Type: Lessons & Activities

Science 9-12.A (Science as Inquiry)

Science 9-12.F (Personal and Social)

Science 9-12.G (History and Nature of Science)

### A Voyage to Mars

Type: Lessons & Activities

Science 9-12.A (Science as Inquiry)

Science 9-12.D (Earth and Space)

### The Earth – Nature’s Storehouse

Type: Lessons & Activities

Science 9-12.A (Science as Inquiry)

Science 9-12.F (Personal and Social)

Science 9-12.G (History and Nature of Science)

### Geology & Natural Resource Development

Type: Lessons & Activities

Science 9-12.A (Science as Inquiry)

Science 9-12.F (Personal and Social)

Science 9-12.G (History and Nature of Science)

# HOW DO WE USE OUR LAND?



Source: Alaska Mineral and Energy  
Resource Education Fund

# NATURALLY YOURS

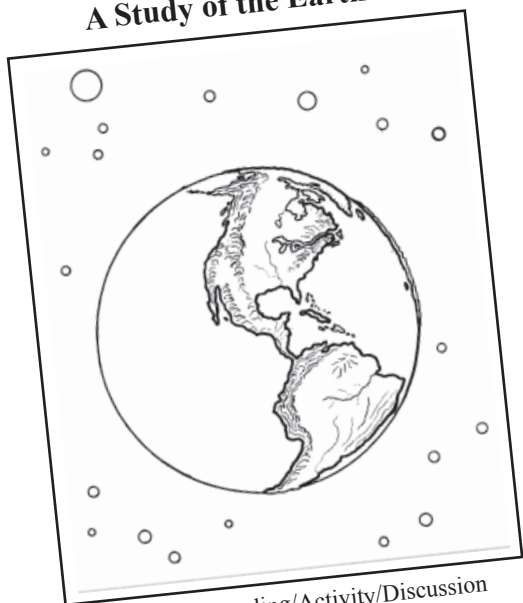
## An Appreciation of the Earth and All It Provides

Most people live each day without thinking about the role natural resources plays in their lives. They know where to buy the things they want, but they seldom consider the origins of these items. They think food comes from a grocery store, electricity comes from a wall socket, clothes from a store, cars from a dealer, appliances from a department store... and so on. If we do think about how these things are

created, many of us probably imagine farms, factories and power stations. But without minerals and mining, we could not till our soil, build our machines, heat and cool our homes, transport our goods or maintain our society beyond the most primitive level.

Everything comes from something, and that "something" is our natural resources.

### A Study of the Earth



Student Page: Reading/Activity/Discussion

*"The vast loneliness we see up here is awe-inspiring, and it makes you realize just what you have back there on Earth. The Earth from here (the Apollo-8 spacecraft) is a grand oasis in the big vastness of space."*

*Astronaut James A. Lovell, Jr.*

## Exploring the Earth

### Classroom Experience

- Using a globe, have the students identify which parts are solid, liquid, and gas.
- Have the students discuss where on Earth they are and where they have been on vacation.
- Demonstrate how day and night work by turning off the lights and using light from a window to illuminate the globe.
- More than 70% of the surface of the Earth is covered with water. Describe how snow and rain get to the rivers and eventually the ocean, and back again to land.

### Elements Comprising the Earth's Crust

Oxygen	46.6%
Silicon	27.7%
Aluminum	8.1%
Iron	5.0%
Calcium	3.6%
Sodium	2.8%
Potassium	2.6%
Magnesium	2.1%
All Other	1.5%

### Dig A Little Deeper

The demand for more resources comes with every breath you take. Try to find out how many minerals you use every day.

Is it possible for the Earth to run out of natural resources? Is it probable?

Why do we have more of some resources today than in the past?

**AT HOME** Discuss with families what would life be like if we didn't use natural resources. Discuss why we need to treat the Earth with respect and use our natural resources wisely.

**If You Can See It, Touch It, Taste It,  
Smell It, Or Hear It,**

**It's A Natural Resource**

### Visualization

If visualization is difficult for the students, try this:

Show a photograph of you or one of your students. Show a photograph of the entrance to your school that students are familiar with, stating that you (students) are inside the building. Show aerial photo of school (use Google Earth or MapQuest, satellite view), stating that this is how the school looks from up in the sky. Then show photo or sketch of Earth in Space, pointing out where your school (town) is located.



Everything we have and everything we use comes from our natural resources. The Earth is the source for all of it. The air we breathe, the food we eat, the clothes we wear, and the houses we live in all come from our natural resources. We must use them wisely and treat them with respect.



# NATURAL RESOURCES MATTER

**Objective:** To develop the concept that everything is made from a natural resource.

## A Few Facts

Everything is either plant, animal or mineral. There is no exception. Each natural resource can be classified according to its state of matter – solid, liquid or gas. Each can also be divided into organic and inorganic matter.

Organic matter is (or once was) alive; it can live and die. Matter that can be *derived* from something that was alive is also organic, such as coal and some types of limestone. If something contains carbon, it is organic.

Inorganic matter, such as rocks, water and air, are not alive.

- Organic matter needs inorganic matter to live.
- Inorganics can exist without organics.

All jobs are related to natural resources – some more directly than others. All jobs are involved in upgrading (manufacturing) or using (service industry) natural resources. Only a few jobs are involved in actually developing the natural resources upon which everything else is dependent. They are:

*Farmers, ranchers and fishermen:* work to make the food we need from organic natural resources.

*Timber workers:* work in the forest to help us use the wood from the trees.

*Miners and oil field workers:* produce mineral resources from the ground to help us make things such as steel, glass, concrete, oil, plastics, electricity, etc.

**Everything Is Made of Something**  
Everything the earth is made of is called a natural resource. The land, the oceans, and the air in our atmosphere are natural resources. All the plants and animals are natural resources. People are natural resources.

Natural resources can be a solid, a liquid or a gas.

Some natural resources are not alive, like coal, rocks, water, and air. These natural resources are called inorganics.

The darker words on this page are hidden in the word search. Can you find them?

I	N	W	A	T	E	R	Y	U	I
N	A	T	U	R	A	L	H	L	R
O	R	E	S	O	U	R	C	E	O
R	W	X	I	D	O	O	F	K	C
G	F	O	F	G	U	F	S	K	K
A	J	R	G	A	S	D	O	A	S
N	H	E	R	I	I	R	L	I	D
I	J	G	H	L	W	Q	I	R	A
C	K	J	Q	G	O	L	D	O	P
D	W	I	E	R	T	Y	Y	U	O
S	L	W	H	D	Y	O	O	D	W
A	T	M	O	S	P	H	E	R	E
O	M	I	N	E	R	A	L	S	W

States of our natural resources are also, like plants and animals. They are called organic. Something is organic if it was once alive.

Almost all of the food we eat is organic, because it came from things that were alive.

Minerals aren't all around us. There aren't a lot of special minerals in our place, the natural is called ore.

Inorganic natural resources have many special uses. Some of them have special uses we call minerals.

Can you think of something that is not made from our natural resources? Facts about natural resources are hidden in this word search. Can you find them? Your teacher has a list, if you need help.

Student Page

## Read More About It!

Check out these books for your class:



- *Around the World in Eighty Days* by Jules Verne (many editions available)
- *The Magic Schoolbus Inside the Earth*, by Joanna Cole; Scholastic
- *From Seed to Plant* by Gail Gibbons; Holiday House

## Video Deal *Rock Odyssey*, 30 minutes.

Possibly the best introduction to rocks and minerals for grades 2-6. Check [www.mii.org](http://www.mii.org) to see how to purchase one.

**Teachers are developing one of our greatest natural resources:**

## Our Children

## Classroom Experience

In order to better understand the composition of the things around us:

Title a piece of paper "Natural Resources." Rule the paper into three wide columns, and label each column with one state of matter (solid, liquid, or gas).

Divide each column vertically again with a dotted line. Label the columns "organic" and "inorganic" or "grown" and "mined."

Brainstorm with the students to list items to insert into the chart under the correct classification. Include everything in sight and even those things out of sight, such as air.

Absolutely everything that's mentioned can be categorized into at least one of these groups, with many fitting both groups.



## Dig A Little Deeper

Is there anything that isn't made from a natural resource? Have groups of students challenge one another to research something that doesn't come from natural resources. (They won't find anything.)

## Integrating the Curriculum

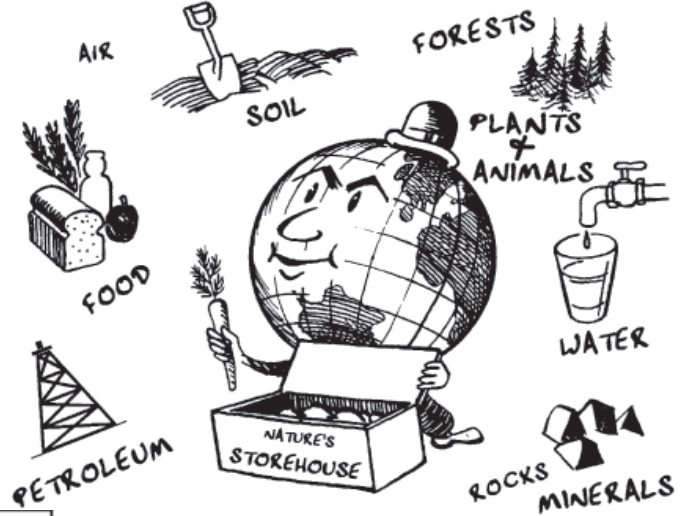
1. Explore the various ways to measure the three states of matter.
2. Prepare a list of rock formations that have become geographic symbols of countries or specific parts of countries, such as Gibraltar, Mt. Rushmore, etc.
3. "Colorado Home" was written by gold prospectors during the winter of 1884. Was it the original "Home on the Range"? Check the words (on page 13), the tune and the dates.

# Everything Is Made of Something

**Primary Word Search** - Everything the Earth is made of is called a *natural resource*. The land, the oceans, and the air in our *atmosphere* are natural resources. All the plants and animals are natural resources. People are natural resources.

Natural resources can be a *solid*, a *liquid* or a *gas*.

Some natural resources are not alive, like most *rocks*, *water*, and *air*. These natural resources are called *inorganic*.



The *darker* words on this page are hidden in this word search. Can you find them?

I	N	W	A	T	E	R	Y	U	I
N	A	T	U	R	A	L	H	L	R
O	R	E	S	O	U	R	C	E	O
R	W	X	I	D	O	O	F	K	C
G	F	O	F	G	U	P	S	K	K
A	J	R	G	A	S	D	O	A	S
N	H	E	R	I	I	H	L	I	D
I	J	G	H	U	W	Q	I	R	A
C	K	J	Q	G	O	L	D	O	P
D	W	I	E	R	T	Y	Y	U	O
S	L	W	H	D	Y	O	O	O	W
A	T	M	O	S	P	H	E	R	E
O	M	I	N	E	R	A	L	S	W

Some of our natural resources are alive, like plants and animals. They are called *organic*. Something is organic if it can grow and die.

Almost all of the *food* we eat is organic, because it came from things that were alive.

Minerals occur all around us. When there is a lot of a special mineral in one place, the mineral is called *ore*.

Inorganic natural resources have many special uses. Most rocks that have special uses are called *minerals*.

Can you think of something that is not made from our natural resources?

Words about natural resources are hidden in this word search. Can you find them?

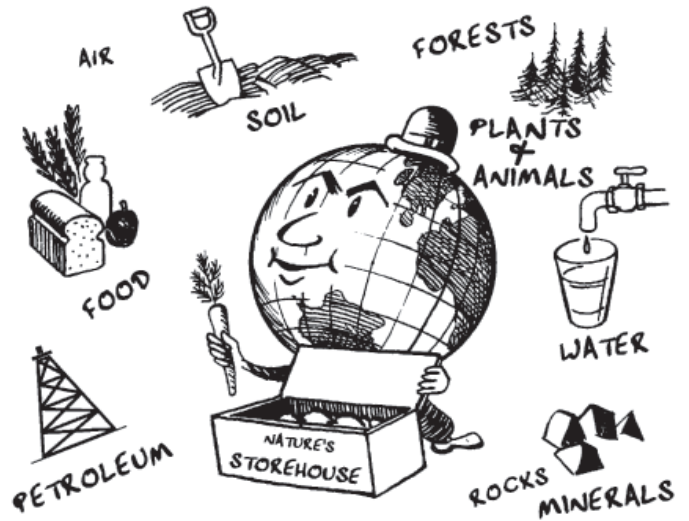
Your teacher has a list, if you need help.

# Everything Is Made of Something

**Secondary Word Search** - Everything the Earth is made of is called a *natural resource*. The land, the oceans, and the air in our *atmosphere* are natural resources. All the plants and animals are natural resources. People are natural resources.

Natural resources can be a *solid*, a *liquid* or a *gas*.

Some natural resources are not alive, like most *rocks*, *water*, and *air*. These natural resources are called *inorganic*.



The *darker* words on this page are hidden in this word search. Can you find them?

A	I	R	S	T	O	R	E	H	O	U	S	E	E	R
S	N	A	T	U	R	A	L	H	H	O	F	P	L	M
D	O	N	T	W	O	R	R	E	S	O	U	R	C	E
F	R	C	I	M	R	M	E	E	R	O	E	A	A	N
S	G	H	O	E	O	E	U	D	W	R	L	L	H	E
F	A	R	M	T	L	S	D	E	K	E	W	I	I	R
G	N	N	P	A	L	I	P	G	L	F	O	O	D	G
H	I	S	D	L	U	R	P	H	S	O	D	S	T	Y
J	C	W	M	Q	G	O	L	D	E	P	R	W	D	L
J	L	C	I	E	R	C	N	B	U	R	I	T	O	P
K	A	L	N	W	F	K	G	W	A	T	E	R	E	K
F	O	R	E	S	T	S	Q	S	C	E	H	U	I	P
K	C	E	S	D	R	B	S	L	A	R	E	N	I	M
L	A	G	G	R	E	G	A	T	E	W	E	R	T	N
P	O	I	U	U	Y	T	G	R	A	V	E	L	R	E

Some of our natural resources are alive, like plants and animals. They are called *organic*. Something is organic if it can grow and die.

Almost all of the *food* we eat is organic, because it came from things that were alive.

Minerals occur all around us. When there is a lot of a special mineral in one place, the mineral is called *ore*.

Inorganic natural resources have many special uses. Rocks that have special uses are called *minerals*.

Can you think of something that is not made from our natural resources?

Other natural resources are hidden in this word search. Can you find them?

Your teacher has a list, if you need help.

**Primary Word Search on Page 10**

	1	2	3	4	5	6	7	8	9	10
a	I		W	A	T	E	R			
b	N	A	T	U	R	A	L			R
c	O	R	E	S	O	U	R	C	E	O
d	R			D	O	O	F			C
e	G		O					S		K
f	A		R	G	A	S	D	O	A	S
g	N		E			I		L	I	
h	I			U				I	R	
i	C		Q	G	O	L	D			
j			I							
k		L								
l	A	T	M	O	S	P	H	E	R	E
m		M	I	N	E	R	A	L	S	

Word— Beginning letter 1 diagonal word

- Natural Resource— b1, c2
- Minerals— m2
- Liquid— k2, diagonal
- Food— d8 (backward)
- Atmosphere— l1
- Inorganic— a1
- Water— a3
- Gas— f4
- Organic— c1
- Rocks— b10
- Air— f9
- Gold— i5
- Ore— e3
- Solid— e8

**A little harder word search on Page 11**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
a	A	I	R	S	T	O	R	E	H	O	U	S	E			
b		N	A	T	U	R	A	L			F					
c		O	N	T	O		R	E	S	O	U	R	C	E		
d		R	C		M		M			O	E				N	
e	S	G	H		E	O		U			R	L	L	E		
f	F	A	R	M	T		S	D	E		E	I		R		
g		N	N		A		I	P		L	F	O	O	D	G	
h		I		D	L	U	R		H		O	S		Y		
i		C		M	Q	G	O	L	D	E		R				
j		L	I		C					R		T				
k		A	L	N			K			W	A	T	E	R	E	
l	F	O	R	E	S	T	S								P	
m		C							S	L	A	R	E	N	I	M
n		A	G	G	R	E	G	A	T	E						
o									G	R	A	V	E	L		

Word— Beginning letter

- Natural Resource— b2, c8
- Atmosphere— b3, diag.
- Solid— c10, diag.
- Liquid— k3, diag.
- Minerals— m15, bkwds.
- Gas— o8, up
- Rocks— h7

5 diagonal words

- Inorganic— a2
- Organic— c2
- Food— g11
- Ore— d11
- Gold— i6
- Water— k9
- Air— a1
- Fuel— b12
- Energy— c15
- Storehouse— a4
- Sand— e1, diag.
- Ranch— a3
- Metal— d5
- Gravel— o8
- Mine— i4
- Oil— g13, up
- Soil— h13
- Petroleum— L15, diag.
- Oro— a6
- Farm— f1
- Forests— l1
- Coal— m2
- Aggregate— n2

	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p
1	M		T	L	U	A	F	O	R	E	B	O	D	Y		E
2	O		I				T	U	N	G	S	T	E	N		A
3	U		T			O	R	E			Y	A	S	S	A	R
4	N		A	J	A	D	E						M			T
5	T	E	N				H			J		G	I			H
6	A	R	I	E		H	C	S	L	A	R	E	N	I	M	
7	I	O	U	L	F	A				S		M	I			
8	N	C	M	B	O	L	E	A	D	P		S	N			
9	S	L		R	R	I				E			G	L		
10		L		A	M	T		F		R	R	K	C	I	R	B
11	O	I	L	M		E	C	L	A	Y	E			M	E	
12		R	O	B	S	I	D	I	A	N	V	A	S	E	N	
13		D	P			T	I	N			L	G	C	S	I	
14	Q	U	A	R	T	Z	I	T	E		I	A	I	T	L	
15	V		L		U	I	E				S	T	E	O	C	D
16	A	H			R	N		K	P	V		E	N	N	I	U
17	L	S	Q	G	Q	C		A	A		O		C	E	T	N
18	L	A	U	N	U		R		D	U		L	E	L	N	E
19	E	T	A	I	O	T		L		M	Q		C		A	S
20	Y	O	R	G	I		O		H	U		H	G	A	S	
21	S	P	R	G	S	G		C		D			T		N	
22			Y	O	E		R								R	O
23				L	C	A	N	Y	O	N	S				A	
24	S	T	R	A	T	I	G	R	A	P	H	I	C			E

**People and Earth's Minerals**

page 17-18 5 diagonal words

- Agate, l-12
- Anticline, o-19
- Arch, f-23
- Assay, o-3
- Brick, p-10
- Canyons, e-23
- Chert, g-6
- Clay, g-11
- Drill Core, b-13
- Dunes, p-15
- Earth, p-1
- Earthquake, p-24
- Fault, g-1
- Flint, h-10
- Form, e-7
- Gas, m-20
- Gems, l-5
- Gold, f-21
- Halite, f-6
- Jade, d-4
- Jasper, j-5
- Lead, f-8
- Limestone, n-9
- Logging, d-23
- Marble, d-11
- Minerals, o-6
- Mining, m-4
- Mountains, a-1
- Mud, j-19
- Obsidian, c-12
- Oil, a-1
- Opal, c-12
- Ore, f-3
- Orebody, h-1
- Potash, b-21
- Quarry, c-17
- Quartzite, a-14
- Science, m-12
- Silver, k-15
- Stratigraphic, a-24
- Tin, f-13
- Titanium, c-1
- Tungsten, g-2
- Turquoise, e-14
- Trap, f-19
- Valleys, a-15
- Volcano, j-16
- Zinc, f-14

# Was *Home On The Range* really written by Colorado gold miners?

During the bleak winter of 1884-1885 in the boomtown of Leadville, Colorado, few diversions were at hand to occupy the evenings of those lonely prospectors who preferred to avoid the saloons, gambling halls, and scarlet ladies. But for Crawford O. "Bob" Swartz and his friends, there was music to make.

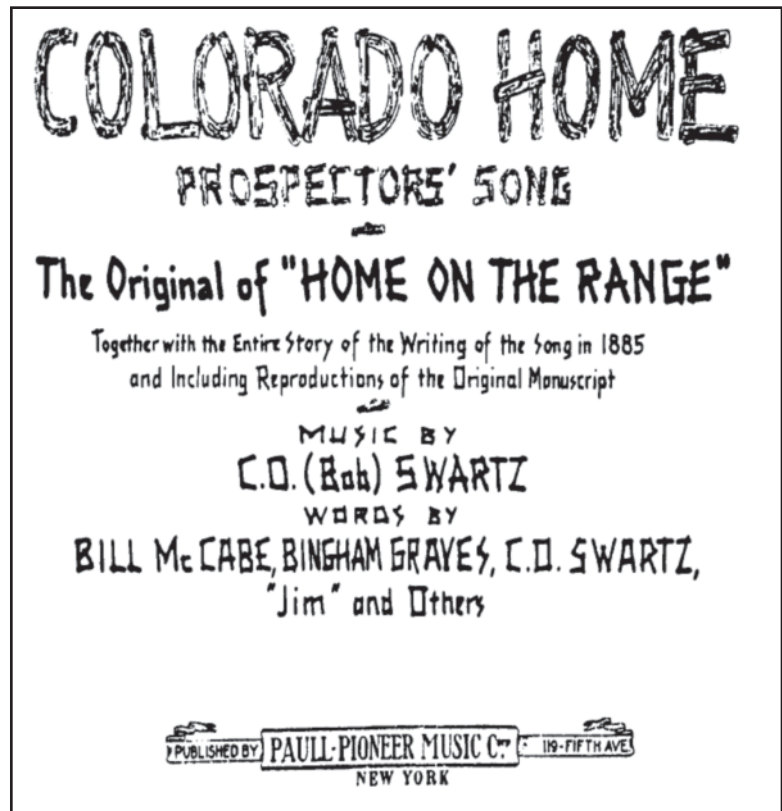
Bob and Bill McCabe and Bingham Graves and "Jim" (surname probably Fouts) had a fiddle, harmonica, and banjo band, and they would lounge about their shanty, which they called the "Junk Lane Hotel," and play and sing. "I can still see," Bob wistfully wrote years later, and these are his spellings, "the whole gang setting around on soap boxes & on the bed, all trying to make the lines rhyme so they sounded like poetry. Then when they got a verse so it sounded good, I would play the tune & Bill McCabe with the banjo & his nice tenor voice would lead in singing. I can see them all yet."

One of the tunes Bob and friends wrote was titled "Colorado Home," and the first verse began "Oh! Give me a home/ Where the buffalo roam/ And the deer and the antelope play."

Bob jotted the words in the musical notebook he always carried, and in a letter to his parents dated February 15, 1885, he described the writing of the song: "We have originated a new song, music and all, & it's creating quite a stir among the boys all around. I got up the tune and Bill most of the words, but we all had a hand in it. As the cabin was full that night & every body help make it up, if it keeps on going it will become a popular western song."

Soon the Junk Lane Gang broke up and scattered in all directions, Swartz returning to his home in Pennsylvania.

Many years passed, and radio was invented, and from these electronic loudspeakers wafted a hit song titled "Home on the Range." Imagine the surprise of Swartz to hear "his" song on the radio—even though some of the verses were different: What, for instance, had been:



*Oh, give me a hill  
And the ring of the drill,  
In the rich silver ore in the ground. . . .*  
was now:

*How often at night,  
When the heavens are bright  
With the light of the glittering stars. . . .*

Swartz died on March 12, 1932, convinced that his, and not the other, was the original of "Home on the Range." Concerned that her brother may have written an American classic for which he received neither recognition nor recompense, Swartz's sister, Laura M. Anderson of Parkland, Pennsylvania, wrote to the Paull-Pioneer Music Corporation, publisher of "Home on the Range," inquiring of the song's origin. She included a copy of the 1885 letter written by her brother, citing the lyrics to "Colorado Home."

Kenneth S. Clark of the Paull organization, who had supervised Paull's publishing of "Home on the Range," responded:

[Writing of "Colorado Home"] was as close to general public recognition as Mr. Swartz came during his lifetime, for he died . . . without having received

credit before the world for the part played by himself and his comrades in the creating of what is now the favorite song of many Americans, including President Franklin D. Roosevelt. The story may therefore make us reflect meditatively that there must have been many other anonymous authors of our songs of the Far West who passed to the Great Round-Up, as did Mr. Swartz, without receiving the least public recognition of their contributions to our folk literature.

To assuage whatever wrongs may have been perpetrated against Bob Swartz and his friends, Paull-Pioneer in 1933 published sheet music of "Colorado Home," with lyrics as written in Leadville. The sheet also included the original jottings from Bob's notebook, a copy of the letter to his parents, an affidavit from his sister, a photo of Swartz and of Leadville including the

Junk Lane Hotel, and, most importantly, the assertion in bold print that "Colorado Home" was: "The Original of 'Home on the Range' Together with the Entire Story of the Writing of the Song in 1885." Added was a sympathetic explanation of the whole affair by Mr. Clark of the Paull organization:

[The] spread of the song in the Far West was typical of what are commonly known as folk songs—songs of no known authorship which have become songs of the people. . . . It is probable that the [Junk Lane crowd] performed it for their friends and associates, and thus it came to be generally sung without anyone's knowing who had written it. That is the case with many of most folk songs. . .

Thus it was recognized by the publisher of "Home on the Range" that the Junk Lane musicians were essentially the song's composers.

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## COLORADO HOME

Oh, give me a home where the buffalo roam,  
And the deer and the antelope play;  
Where seldom is heard a discouraging word,  
And the sky is not cloudy all day.

Oh, give me the hill and the ring of the drill,  
In the rich silver ore in the ground;  
And give me the gulch, where the miners can sluice,  
And the bright yellow gold can be found.

Oh give me the gleam of the swift mountain stream,  
And the place where no hurricanes blow;  
And give me the park with the prairie dog bark,  
And the mountains all covered with snow.

## PROSPECTORS' SONG The Origin of "Home on the Range"

Oh, give me the mines where the prospector finds,  
The gold in its own native land;  
With the hot springs below, where the sick people go,  
And camp on the banks of the Grand.

Oh, show me the camp where the prospectors tramp,  
And business is always alive;  
Where dance halls come first and fare banks burst,  
And every saloon is a dive.

### *Chorus*

A home, a home, Where the deer and the antelope play;  
Where seldom is heard a discouraging word,  
And the sky is not cloudy all day.

---

**A**nd there the matter rested until 1935, when New York attorney Samuel Moanfeldt was retained to investigate the origins of "Home on the Range" in conjunction with a \$500,000 copyright infringement lawsuit brought by William and Mary Goodwin of Tempe, Arizona. They contended that their "An Arizona Home" was the parent song of "Home on the Range."

Moanfeldt performed a thorough investigation which took him to several states and cities, including Leadville and other Colorado points, interviewing survivors and acquaintances of Swartz, Graves, Fouts, and McCabe. Moanfeldt's conclusions were (a) that the Goodwins had no case; (b) that the growing number of persons asserting authorship of "Home on the Range" was remarkable; (c) that the original song was probably much older than 1885 when Swartz claimed to have written it; (d) that the Junk Lane Hotel boys may indeed

have written five stanzas not in the original but instead which suited their own prospecting circumstances and their Colorado environment.

Moanfeldt and subsequent sources ascribe "Home on the Range" not to Leadville, Colorado, but instead to Smith Center, Kansas (indeed, in 1947 it became the Kansas state song). The melody is thought to have been written by carpenter and musician Daniel E. Kelly, and the words by itinerant alcoholic physician Brewster M. Higley, and first published in a December 1873 issue of the *Smith County Pioneer* under the title "Oh, Give Me a Home Where the Buffalo Roam."

*Source: From an article in Colorado Heritage, Spring 1992, p. 14-16, Colorado Historical Society. Colorado Sheet Music by Terry Shockey- excerpt by Clark Secrest.*

# CLOTHING MATTERS

**Objective: To discover the natural resources that create our clothing.**

## A Few Facts

Clothes of the distant past were made from organic (living) materials. Almost all synthetic fabrics and materials used today are made from petroleum or natural gas.

Tennis shoes are a great example: Some of the rubber is natural (latex from trees), but most tennis shoe rubber is synthetic. Shoelaces can be both natural and man-made materials. The uppers can be of leather, canvas, vinyls or other man-made materials.

Almost all modern buttons are made of plastic. Thread and labels are generally cotton, polyester or blends of the two.

Recent years have seen a renewal of interest in clothing made of natural fibers, but those fibers are fertilized and grown, processed, sewn, packaged, and transported by processes and machines made of minerals and metals.

## Classroom Experience

Research the origins of the following clothing fibers:

Cotton, silk, rayon, nylon, polyester or acrylic fibers, ramie and wool.

How are these different materials colored and made into clothing?

Discover what your clothes are made of.

Ask each student to choose a partner, and taking turns, read the labels in one another's clothing. Students can then make a chart listing the different fibers they are wearing and the sources of those fibers.

Discuss the purpose of clothing labels.

- Which materials are man-made and which are natural?
- What properties of fiber make it attractive for clothing use?
- Analyze the "content" and "care" information. Determine the characteristics of different clothing materials. Why can some be washed in hot water, others only in cold? Why can't some be put in a clothes dryer or ironed? What about bleach?

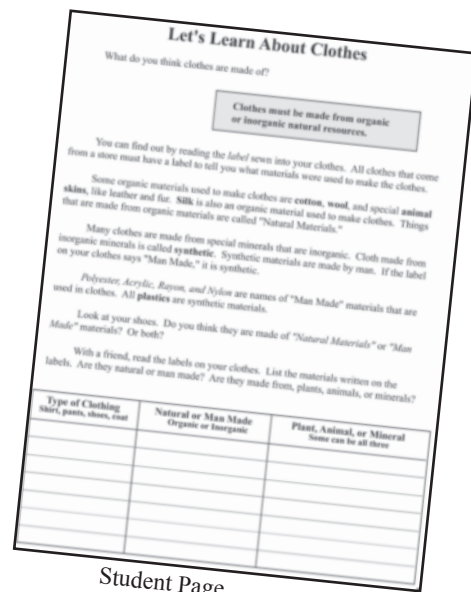
### Dig A Little Deeper



- Make life-size replicas of the clothing worn at different times in the history of the country; Pilgrims and Indians, the Civil War, World War II; and label each piece of clothing and the origin of its fiber.
- Write an advertisement for a new line of clothing using only man-made (synthetic) materials.
- Levi's were "invented" for miners during the California Gold Rush. What other special clothes were necessary if you lived 100 years ago?

## Integrating the Curriculum

1. How much does a wool sweater weigh? In about the same style and size, how much does an acrylic sweater weigh? Do they use the same amount of space when folded?
2. What is the process that makes raincoats waterproof and how does it work?
3. Have students search their homes for other labels such as these: nutrition and health – cereal boxes and vitamins; safety – electric hair dryer; operating instructions – appliances.



### Read More About It!

- Check out these children's books for your class:
- *Cotton* by Millicent Selsam; Morrow Junior Books
  - *The Keeping Quilt* by Patricia Polacco; Simon & Schuster
  - *The Rag Coat* by Lauren Mills; Little Brown
  - *18th Century Clothing* and *19th Century Clothing* by Bobbie Kalman; Crabtree Publishing
  - *Cotton in Your T-Shirt* by Aline Riquier; Young Discovery Library

# Let's Learn About Clothes

*What do you think clothes are made of?*

**Clothes must be made from organic or inorganic resources.**

You can find out by reading the *label* sewn into your clothes. All clothes that come from a store must have a label to tell you what materials were used to make them.

Some organic materials used to make clothes are **cotton**, **wool**, and special **animal skins**, like leather and fur. **Silk** is also an organic material used to make clothes. Things that are made from organic materials are called "Natural Materials."

Many clothes are made from special minerals that are inorganic. Cloth made from inorganic minerals is called **synthetic**. Synthetic materials are made by man. If the label on your clothes says "Man Made," it is synthetic.

*Polyester, Acrylic, Rayon, and Nylon* are names of "Man Made" materials that are used in clothes. So are Kevlar, Spandex, and Gor-Tex. All **plastics** are synthetic materials.

Look at your shoes. Do you think they are made of "*Natural Materials*" or "*Man Made*" materials? Or both?

With a friend, read the labels on your clothes. List the materials written on the labels. Are they natural or man made? Are they made from plants, animals, or minerals?

<b>Type of Clothing</b> Shirt, pants, shoes, coat	<b>Natural or Man Made</b> Organic or Inorganic	<b>Plant, Animal, or Mineral</b> Some can be all three



# PEOPLE AND EARTH'S MINERALS

## Word Search Story

Ancient people used **minerals** that came from the Earth. They used **chert**, **flint**, **jasper**, **obsidian** and **quartzite** for tools and weapons which they shaped by using deer antlers (which are shed every year) or other hard-pointed sticks or rocks.

Ancient people used **clay** to make pots for cooking and jars to hold water or store food. Some minerals and **gems**, such as **agate**, **jade**, **opal**, and **turquoise**, were prized possessions and were often used for trading and bartering.

Ancient people learned how to mix soil and water to make **mud**. Straw and grass were added to the mud to make it stronger. This mixture was then formed into brick-like shapes and dried. The bricks, called adobe, could be stacked and stuck together with more mud. Today, bricks are made of clay.

Even ancient people experienced the violent actions of **earthquakes** or **volcanoes** that change Earth's **form**. The land we live on has many forms and is always changing. In some places there are **mountains**. In other places there are **canyons** and **valleys**. Each type of land form has a name. In the San Luis Valley of Colorado you will find sand **dunes**. The wind action keeps the dunes in one area but their shapes are constantly changing. In Utah there is a land form called Arches National Monument. The wind, rain, and snow have actually worn huge holes all the way through **limestone** outcrops. Forms that look like rock bridges are called **arches**. There are many odd shapes formed by the erosion of wind and water. Some even look like people.

Modern people have an easier way of life than the ancient people because of advances in **science** and technology. All of the products we use today also come from the Earth. The raw materials used to make the products we need have to be mined.

**Mining** for minerals is done in many ways. Some minerals are found near the surface of the Earth. They can be mined by the open pit or strip mining method. Minerals that are hidden deep in the Earth are extracted by digging a deep shaft straight down. Horizontal drifts are mined off certain levels of the shaft. All mining depends on where economic concentration of minerals (**ore**) are found.

When economic amounts of a mineral are found it is called an **orebody**. As an example, **halite** (salt) is found in almost pure form in the state of Kansas. Halite is usually mined underground by the room-and-pillar mining method. This method is also used to mine trona and **potash**. Potash is used as a fertilizer. **Marble** (the metamorphic form of limestone) is mined by the **quarry** method. It is taken out of the ground in big blocks and is used for buildings, flooring, and for art works such as statues.

An orebody may contain a combination of metals such as **tin**, **titanium**, **lead**, **zinc**, **tungsten**, **gold**, and **silver**. When more than one mineral is found in an ore body a scientist (metallurgist) has to decide which processes will be needed to recover each mineral. Processing several metals/minerals can be expensive.

To determine the size and value of an ore body, geologists drill holes in the Earth. The drill they use is called a core drill. The entire core is brought to the surface where the geologist inspects its mineral content. Geologists call this core "**drill core**." The **logging** (recording) of the drill core is very important. The geologist records the depth at which the core was taken and the amount of mineral present. **Assays** by a chemist are made to determine the quantity and quality of the mineral or metals present. Sometimes many holes have to be drilled to show the outline of the ore body. After the drilling data is plotted on a map the geologist can determine whether the ore body is large enough to mine at a profit.

**Oil** and **gas** are also mined, but in a different way than metals and minerals. Holes (called wells) are drilled into the ground until they hit rocks containing economic amounts of oil or gas. Oil and gas fill the tiny spaces between the grains of porous rocks, usually sandstone. Oil and gas move upward in these porous rocks until they are stopped (trapped) by nonporous rocks, usually a shale called caprock. There are three types of **traps**. An upward bulge of rock layers is called an **anticline** trap. Where caprock is moved by faulting on top of oil and gas-bearing beds, the trap is called a **fault** trap. The hardest place to find oil is in a **stratigraphic** trap. A stratigraphic trap is where a body of sandstone (like a sandbar or river channel) is enclosed by nonporous rock.

There are 48 words in bold-face. These words can be found in the Word Search puzzle on the next page.

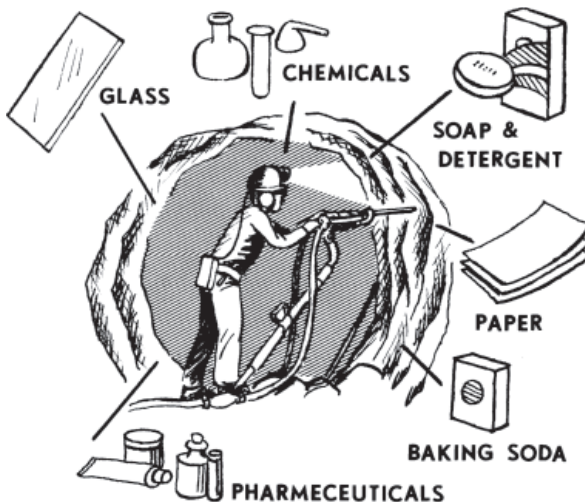
Formations containing oil and gas, coal, as well as minerals and metals may lie under mountains, deserts, marshes, or seas. They may be two or three miles below the surface. Some are deeper.

Natural resources are a gift to Earth's people. We should use and conserve them wisely. The quest for a better life-style has brought untold benefits to the human beings who inhabit our Earth—none of which would exist but for the ingenuity and thought processes of the human mind.

To investigate more about our Earth and its natural resources, just for fun—try your school or local library . . . which book will you use for starters?

The bold-face words used in the lesson you have read are shown to the right. Have fun finding them in the word search below!

(Note: there are only 5 diagonal words.)



### TRONA MINING and USES

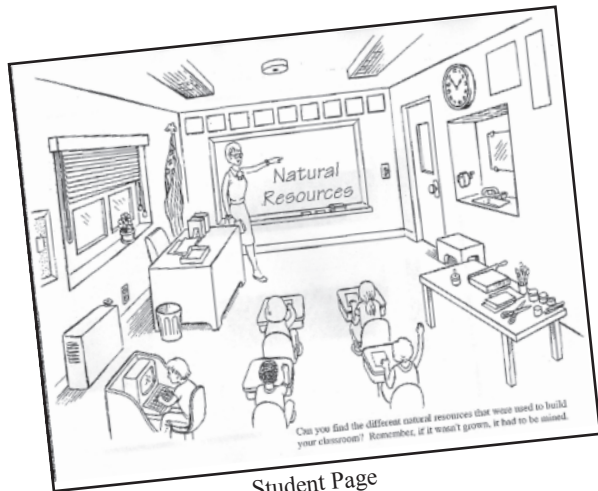
The world's largest deposit of trona is found in Wyoming's Green River Basin, located in the southwestern part of the state. This deposit produces about 95% of the United States' supply of natural soda ash.

- Agate
- Anticline
- Arch
- Assay
- Brick
- Canyons
- Chert
- Clay
- Drill Core
- Dunes
- Earth
- Earthquake
- Fault
- Flint
- Form
- Gas
- Gems
- Gold
- Halite
- Jade
- Jasper
- Lead
- Limestone
- Logging
- Marble
- Minerals
- Mining
- Mountains
- Mud
- Obsidian
- Oil
- Opal
- Ore
- Orebody
- Potash
- Quarry
- Quartzite
- Science
- Silver
- Stratigraphic
- Tin
- Titanium
- Tungsten
- Turquoise
- Trap
- Valleys
- Volcano
- Zinc

M	Q	T	L	U	A	F	O	R	E	B	O	D	Y	T	E
O	Y	I	U	G	K	T	U	N	G	S	T	E	N	R	A
U	T	T	G	R	O	R	E	G	O	Y	A	S	S	A	R
N	X	A	J	A	D	E	R	H	T	U	O	M	T	O	T
T	E	N	Y	U	N	H	E	A	J	H	G	I	X	Y	H
A	R	I	E	L	H	C	S	L	A	R	E	N	I	M	B
I	O	U	L	F	A	T	H	E	S	I	M	I	N	A	G
N	C	M	B	O	L	E	A	D	P	E	S	N	T	A	C
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O	I	L	M	X	E	C	L	A	Y	E	L	A	M	E	R
R	R	O	B	S	I	D	I	A	N	V	A	S	E	N	U
K	D	P	E	I	T	I	N	L	O	L	G	C	S	I	O
Q	U	A	R	T	Z	I	T	E	T	I	A	I	T	L	Y
V	O	L	Q	U	I	E	H	A	E	S	T	E	O	C	D
A	H	I	U	R	N	X	K	P	V	M	E	N	N	I	U
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E	T	A	I	O	T	W	L	P	M	Q	E	C	K	A	S
Y	O	R	G	I	K	O	J	H	U	U	H	G	A	S	D
S	P	R	G	S	G	W	C	N	D	A	W	T	L	N	Y
T	I	Y	O	E	X	R	Y	E	M	K	J	E	R	E	O
E	V	O	L	C	A	N	Y	O	N	S	Y	T	I	A	B
S	T	R	A	T	I	G	R	A	P	H	I	C	G	N	E

# A CLASSROOM FULL OF RESOURCES

**Objective: To reinforce the concept that natural resources are all around us.**



## A Few Facts

Natural resources are substances we obtain from the land, water, and air around us.

Our food, shelter and amenities of life – cars, bicycles, tents, baseballs and bats – all are made from our natural resources.

Look around the room you are in. The odds are very high that the majority of what you see is made from mineral products. In schools, unless it is a hardwood floor, it will be made of various rocks and minerals. Walls will almost always be brick or concrete block, sometimes drywall (gypsum) or wallpaper (almost always a vinyl). Wood is usually a major part of most desks and tables, and doors. There can be a lot of variety in the ceiling materials, but rest assured they were either grown or mined.

If your students seem reluctant, see "Your House Comes From A Mine" on page 21.

## Read More About It!

Check out these children's books for your class:

- *Prairie Visions: The Life and Times of Solomon Butcher* by Pam Conrad; Harper-Trophy
- *What's the Big Idea, Ben Franklin?* by Jean Fritz; Putnam Publishing Group
- *If You Sailed on the Mayflower in 1620* by Ann McGovern; Scholastic
- *The Erie Canal* by Peter Spier; Doubleday
- *The Evolution of Useful Things* by Henry Petroski; First Vintage Books

## Classroom Experience

Label as many resources as possible that are found in the classroom.

Divide students into several teams. Assign an area of the classroom (or wherever you choose) to each team and provide each group with peel-off removable sticky labels.

Ask the students to label all of the natural resources in their designated areas and to list each item they label. They can then cooperatively sort the list into common components, such as wood, metals (steel or aluminum), minerals (brick or concrete blocks), or synthetics.

Suggest they do the same at home and discuss the different materials in each student's home – tile vs. linoleum, brick vs. wood, carpet vs. wood floors, metal vs. wooden window and door frames, etc.

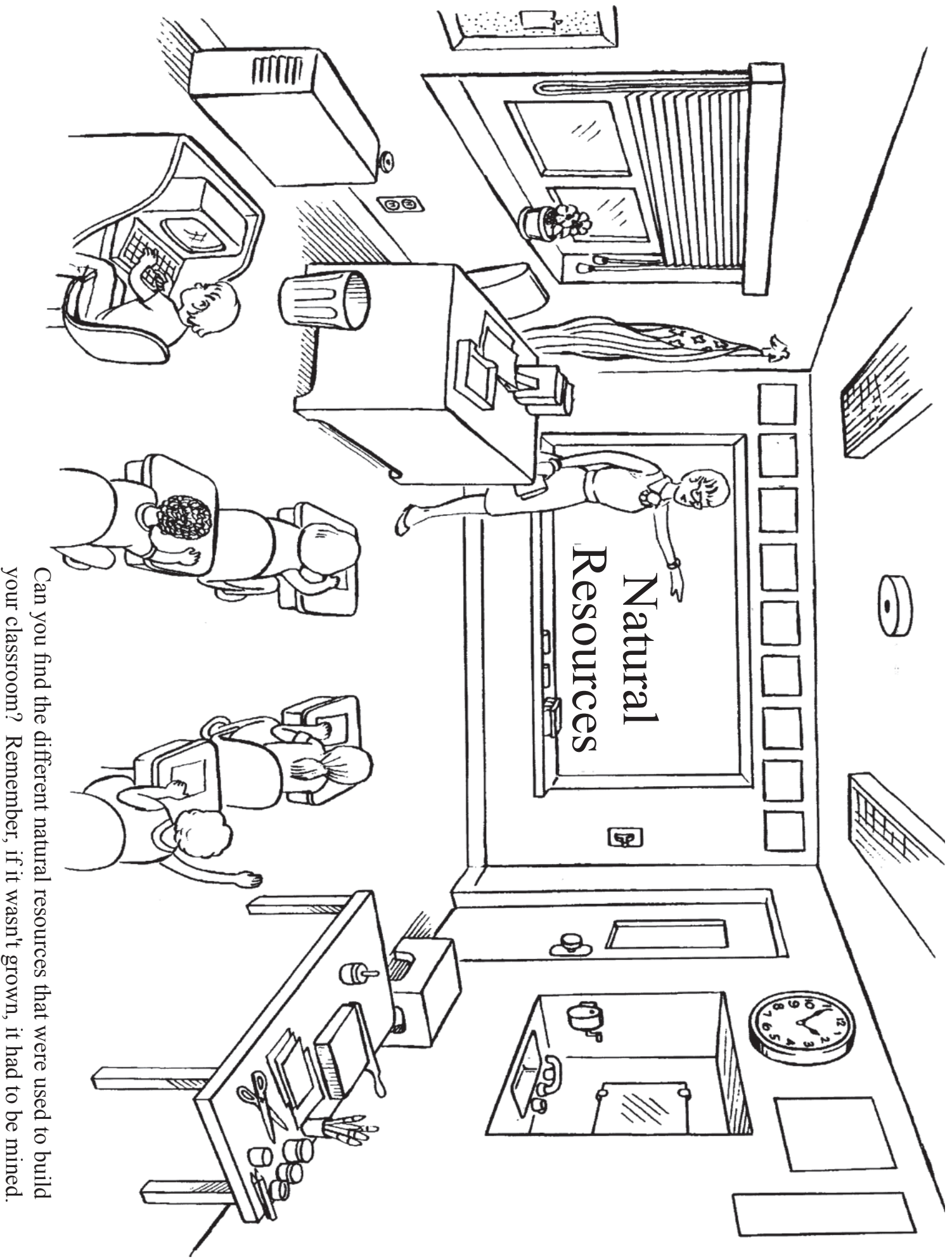
## Integrating the Curriculum

1. Where does electricity come from? How do we harness it?
2. What is a board foot of lumber? Suggest that the students interview a few local builders or carpenters and report back to the class on the skills these professionals feel they need.
3. What effect do the various climactic changes have on construction of houses and buildings in any one area. How are buildings made "earthquake-proof?"
4. Why do we paint our houses? What do we use?
5. What are computers made of? Computers make a great themed study from manufacture, to programming, to use in schools, businesses and the home.



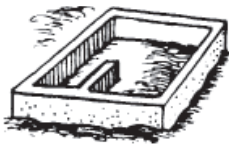
## Dig A Little Deeper

- Draw the cafeteria and label its natural resources.
- Find out what minerals used in your classroom are mined in your community, state or nation.
- Study a bicycle. How many different materials are needed to make it? Why is it important to use a strong material in the frame?



Can you find the different natural resources that were used to build your classroom? Remember, if it wasn't grown, it had to be mined.

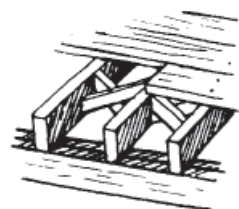
# Your House Comes From A Mine



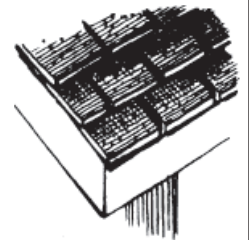
The **foundation** and **sidewalk** are probably concrete (*limestone, clay, shale, gypsum* and *aggregate*) and the **driveway** is made of concrete or asphalt (*petroleum* and *aggregates*).



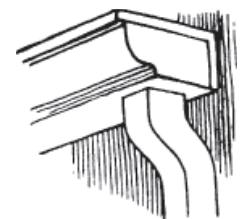
The **exterior walls** may be of *concrete* block, brick (*clay*), *stone* or *aluminum* siding, all provided by mining.



The **lumber** in the **walls**, **roof** and **floor** will be fastened together with nails and screws (*iron ore* and *zinc*).



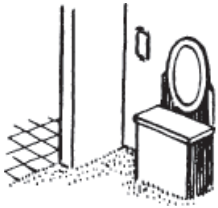
The **roof** may be covered with asphalt shingles (*petroleum* and a variety of colored *sands*), fiberglass (*silica sand*), clay, or corrugated *iron*.



The **gutters** can be made of galvanized steel (*iron* and *zinc*), aluminum (*bauxite*), or plastic (*petroleum*).

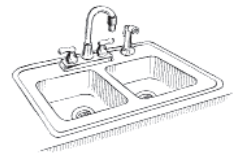


The **insulation** in the walls may be glass wool (*silica, feldspar, trona*) or expanded *vermiculite*.



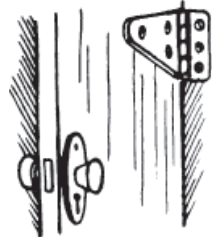
The **interior walls** are usually wallboard, made of *gypsum*.

Your **plumbing fixtures** may be made of brass (*copper and zinc*) or stainless steel (*iron, nickel and chrome*).



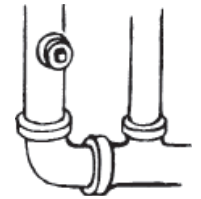
Your **windows** are made of glass (*iron, silica, sand and feldspar*).

Your **toilets, sinks and bathtubs** are made of porcelain (*clay*) over *iron*, or plastic (*petroleum*).



Your **door knobs, locks and hinges** are brass or steel (*copper, zinc, iron ore, and alloys*).

Your **sewer system** is made of *clay* or *iron* pipe (plastic pipes are made from *petroleum*); if you have a **septic tank** it is *concrete* and the leach field is filled with *sand* and *gravel*.



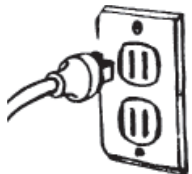
Your **fireplace** may be made of *rock, brick*, or you may have a wood/coal burning **stove** (*steel, iron, alloys, etc.*). Your **furnace** is made of steel (*iron and alloys*).

The **carpet** in your home is made from synthetic fibers (*petroleum*). The back is filled with *limestone*, even if your carpet is made of wool.



If your house is painted, **paint** is manufactured with *mineral fillers* and *pigments*.

And finally, your **mortgage** or **rental contract** is written on paper made from wood or cloth fibers. The fibers are filled with *clay* and *other minerals* to determine its color and texture.



Your **electrical wiring** is of *copper* or *aluminum* (*bauxite*).

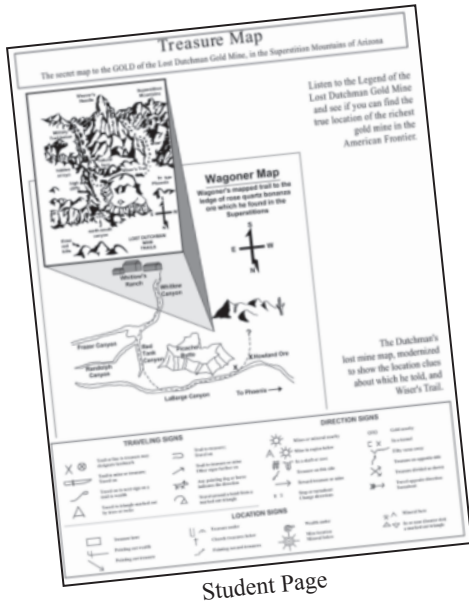
## Your House Came Out of the Ground

### Find Out

Which of the materials used to build your house came from your community or state? Can you discover which other states, and even other countries, were involved in producing the materials that were necessary to build your house?

# MINING LEGENDS

**Objective: To enrich and expand the study of natural resources with literature and history.**



Student Page

## A Few Facts

The first documented discovery of gold in the United States was made by 12-year-old Conrad Reed in 1799 while shooting fish with a bow and arrow in a North Carolina stream. Because gold was not known to be found in this part of the country, the boy's father kept the piece for several years and used it as a doorstop. In 1802, it was properly identified by a jeweller as gold.

Gold was mined in the U.S. prior to the Revolutionary War, but authentication of those discoveries is still missing. Some regions of Arizona have been mined for more than 600 years. The fabled Seven Cities of Cibola directed Spanish exploration of the New World in the 1500's.

The discovery of gold lured thousands of people to the American Frontier, and these prospectors settled the West and Canada.

The first authenticated U.S. gold rush was in Georgia in 1828 (though many believe that the lure of gold in Georgia did not create a true gold rush). The famous California Gold Rush began in 1849; it was followed by Colorado in 1859, South Dakota in 1874, Alaska in 1898 and Nevada in 1902.

- Gold is weighed in Troy ounces: 1 pound avoirdupois = 14.58 Troy oz.
- Gold content in jewelry and other applications is measured in karats.  
1 karat = 1/24th part. 24k is pure gold; 18k is 18 parts gold and 6 parts other metals. Most gold jewelry is 14k gold.

## Read More About It!



- *White Fang* and *Call of the Wild*, by Jack London; Macmillan Children's Book Group
- Robert Service Series and *Yukon Poems* by Robert Service; Putnam Publishing Group

## Classroom Experience

Discuss the term "legend." What is fact? What is fiction?

Working alone or in groups, students can create their own treasure maps based on various myths, legends and books. By exchanging maps, they may locate the well-known treasure from the map and clues provided.

## Dig A Little Deeper

- Research other mining legends or legends of the Old West.
- To recreate the emotion of the California Gold Rush, pan for gold in your own classroom. Special classroom panning kits are available from Mii.
- Write the legend of your classroom, or have students create their own legends and share them if they wish.
- Every state has legends of buried treasure or lost wealth waiting to be rediscovered. Research your local treasure.



## Integrating the Curriculum

1. How long is the course in the Iditerod race? How many miles per hour did the most recent winner average?
2. The Egyptians used a great deal of gold. Where did they find it? How was it mined? How much does the gold sarcophagus of King Tut weigh?
3. Why is there a Russian influence in Alaska?
4. What is the basic weight for Troy weight? (12 Troy ounces = 1 Troy pound) Why is it called Troy? How many Troy ounces does each student weigh?
5. Secure a street map of your community and locate the origin of its street names. Were they named for any important historical events, places or people?
6. Form several groups and have each select a decade of your state's history to research and present to the class.

# Treasure Map

The secret map to the GOLD of the Lost Dutchman Gold Mine, in the Superstition Mountains of Arizona.

Listen to the Legend of the Lost Dutchman Gold Mine and see if you can find the true location of the richest gold mine in the American Frontier.

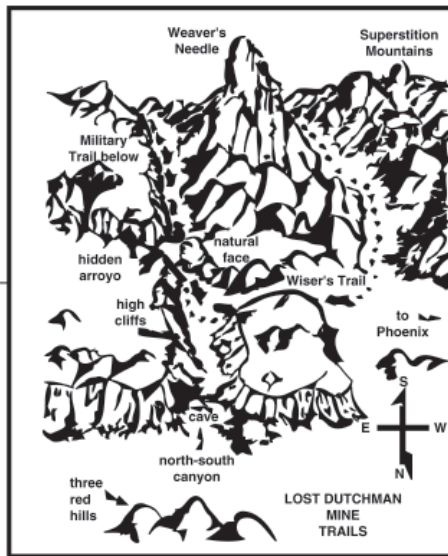
## Teacher's Note

cover before copying  
Students will not be able to find many clues at all that will lead them to the mine. That's why it is still lost.

Note: The Compass is "upside down".

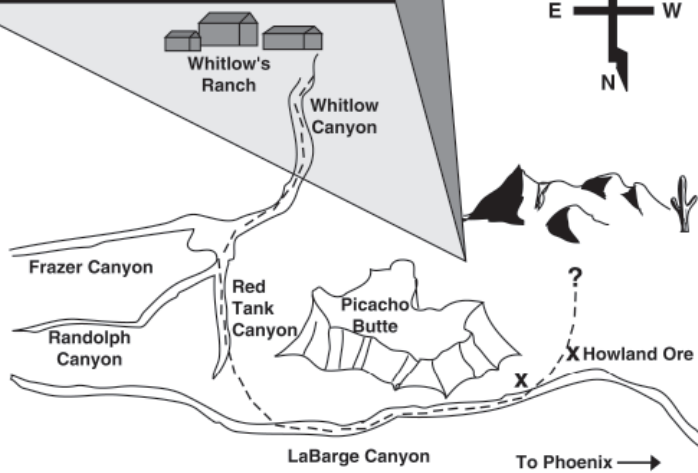
Have the students use the symbols below to create their own treasure maps.

The Dutchman's lost mine map, updated to show the location clues about which he told, and Wiser's Trail.



## Wagoner Map

Wagoner's mapped trail to the ledge of rose quartz bonanza ore which he found in the Superstitions



## TRAVELING SIGNS

- Trail or line to treasure may designate landmark
- Trail to treasure; Travel on
- Trail to mine or treasure; Travel on
- Trail to treasure or mine Other signs further on
- Travel on to next sign on a trail to wealth
- Any pointing dog or horse indicates the direction
- Travel to triangle marked out by trees or rocks
- Travel around a bend from a marked out triangle

## DIRECTION SIGNS

- Mines or mineral nearby
- Mine in region below
- In a shaft or cave
- Toward treasure or mine Stop or turnaround; Change directions
- Gold nearby
- In a tunnel
- Fifty varas away
- Treasure in opposite side
- Treasure divided as shown
- Travel opposite direction Turnaround

## LOCATION SIGNS

- Treasure here
- Pointing out wealth
- Pointing out treasure
- Treasure under
- Church treasures below
- Pointing toward treasures
- Wealth under
- Mine location Mineral below
- Mineral here
- In or near (locator dot) a marked out triangle



## **THE LEGEND OF THE LOST DUTCHMAN**

**T**he Lost Dutchman Gold Mine, still hidden in the Superstition Mountains east of Phoenix, Arizona, has it all—fabulous wealth, Spanish treasure maps, Apaches, claim jumping and murders, including mysterious 20th Century deaths and disappearances.

450 years ago, Coronado searched the area for the Seven Golden Cities of Cibola, the legendary wealth of earlier civilizations of the Indian and Mexican empires. For centuries, the Apaches watched as foreign men brought invading hordes in search of gold in the mountains that were their god—the Superstition Mountains.

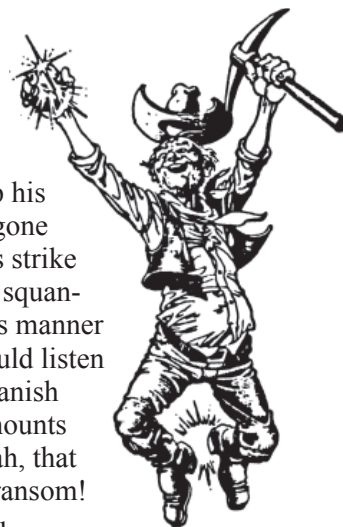
In the winter of 1847-48 the Apaches began to attack in earnest; and when all foreigners had been destroyed, the medicine men holding solemn council upon the matter stated that, should foreigners come again to disturb the gods, the Apaches might be “forever cursed by storms and floods and all manner of the natural disasters which angry deities could contrive.” So it was decreed that a band of thirty squaws and two youths would be sent back into the Superstitions to cover the mines and destroy all traces of the fabulous workings.

And there in the mountains this work party labored for one full moon, throwing ore and hastily abandoned tools back into the shafts. Then they covered the mines with stout logs, which in turn were covered with the natural caliche cement that hardens into rock. Over this they placed in cunning Indian fashion yet another covering of dirt and surface stones to match the surrounding ground.

In 1871, with the help of old Spanish treasure maps, Jacob Walz, “The Dutchman” and his partner, Wiser, were prospecting the Needles Canyon area of the Superstitions looking for lost Spanish gold. Both were well known throughout Arizona as “thorough-going scoundrels, capable of most anything.” At the unmistakable sound of hammering by miners, Walz grabbed his .45-90 Sharpes, and Wiser his .45-70 Springfield, and they proceeded to ambush two miners (Jacobs and Ludi) near Weaver’s Needle. Jacobs and Ludi, both mortally wounded, fled with Ludi dying soon. Jacobs stumbling on alone, finally reached Andy Starr’s cabin in the desert, where he collapsed in Starr’s arms, babbling wildly about Spanish-mapped mines and hidden ambushers before he, too, died.

Meanwhile, Walz and Wiser were examining the mine in a veritable frenzy of activity, for the fantastic ore was almost a third solid yellow gold. And, thought the Dutchman, wouldn’t that ill-gotten wealth be worth twice as much to one of them alone? The Sharpes fired again, and Wiser was left to die in the mine. However, Wiser, like the miners before him, was able to crawl from the mine and, when found delirious in the desert by friendly Pima Indians, was taken to Col. Walker’s ranch near Florence. There for days Wiser hovered between life and death, telling his incredible story of murder, bonanza gold and greedy treachery before he, too, died.

Source: *Thunder Gods Gold*, by Barry Storm



Back in the Superstitions, the Dutchman had gathered up his first sack of fabulous ore and gone to Florence, where word of his strike spread like wildfire. There he squandered his gold in an uproarious manner and regaled everyone who would listen with expansive tales of old Spanish workings and unbelievable amounts of gold. But of its location—ah, that was the secret worth a king’s ransom!

Walz vanished from Florence as abruptly as he had appeared. Then, weeks later, he turned up again with more of his fantastic ore, but this time in Phoenix for another drunken spree. He told even wilder tales than before of his bonanza, which promptly whipped the little village into such a frenzy that practically every able-bodied man there made immediate and secret preparations to follow the Dutchman. However, Walz was no fool, drunk or sober. He vanished suddenly one night, dragging a blanket behind him to wipe out his trail.

A few weeks later, he reappeared. This time after his usual spree, the Dutchman, upon leaving town, not only found a stampede-sized crowd waiting to follow but saw that many more were already camped out upon the desert hoping to intercept him. After that, he continuously changed his course. His tracks often ended abruptly, as though he had sprouted wings and flown off.

Shortly afterward, he appeared in Tucson with two burro-loads of ore. It was there it was discovered that Walz had never recorded his claim, meaning anyone who found it could own it. By this time everyone in Arizona was convinced the Dutchman was secretly working a hidden bonanza. In fact, there could have been no doubt of it in the face of his well-known ore sales and continued production of the same fabulous ore for more than six years.

In Phoenix, he rented a plot of ground and an adobe hut near Henshaw Road and 16th Street and settled down at last to a life of ease and the prosaic pastime of raising chickens and wine grapes. There he guarded his secret with all the delighted perversity of a child who knows something but won’t quite tell it.

Whenever he needed money for himself or for his small group of friends (who were in frequent need), he simply went into his backyard to a certain spot, but different each time, and dug up a tin can containing gold dust and nuggets. He did that for the next 14 years, until he died on February 22, 1891.

The Dutchman gave numerous clues, and even drew maps, as to the site of his now legendary mine, and more than a dozen have died trying to find it. The clues and maps are readily available, but America’s most famed lost gold mine is still lost.

# The First Authenticated Gold Discovery in America

## North Carolina - 1799

There is no doubt that gold mining occurred in "America" before the country was founded, but authentic records of discovery cannot be found. Therefore, the generally accepted first gold discovery is credited to the seventeen-pound nugget found by 12-year-old Conrad Reed in Cabarrus County, North Carolina in 1799.

According to *Historical Sketches of North Carolina 1584 to 1851*, by John H. Wheeler:

**T**he first piece of gold found at the mine was in the year 1799, by Conrad Reed, a boy of about twelve years old, a son of John Reed, the proprietor. The discovery was made in an accidental manner. The boy above named, in company with a sister and younger brother, went to a small stream, called Meadow Creek, on a Sabbath day, while their parents were at church, for the purpose of shooting fish with bow and arrow, and while engaged along the bank of the creek, Conrad saw a yellow substance shining in the water. He went in and picked it up, and found it to be some kind of metal, and carried it home. Mr. Reed examined it, but gold was unknown in this part of the country at that time, he did not know what kind of metal it was: the piece was about the size of a small smoothing iron.

Mr. Reed carried the piece of metal to Concord, and showed it to a William Atkinson, a silversmith, but he not thinking of gold, was unable to say what kind of metal it was.

Mr. Reed kept the piece for several years on his house floor, to lay against the door to keep it from shutting. In the year 1802, he went to market to Fayetteville, and carried the piece of metal with him, and on showing it to a jeweller, the jeweller immediately told him it was gold, and requested Mr. Reed to leave the metal with him and said he

would flux it. Mr. Reed left it, and returned in a short time, and on his return the jeweller showed him a large bar of gold, six or eight inches long. The jeweller then asked Mr. Reed what he would take for the bar. Mr. Reed, not knowing the value of gold, thought he would ask a "big price" and so he asked three dollars and fifty cents (\$3.50)! The jeweller paid him his price.

After returning home, Mr. Reed examined and found gold in the surface along the creek. He then



associated Frederick Kisor, James Love, and Martin Phifer with himself, and in the year 1803, they found a piece of gold in the branch that weighted twenty-eight pounds. Numerous pieces were found at this mine weighting from sixteen pounds down to the smallest particles. The whole surface along the creek for nearly a mile was very rich in gold.

The veins of this mine were discovered in the year 1831. They yielded a large quantity of gold. The veins are flint and quartz.

*"I do certify that the foregoing is a true statement of the discovery and history of this mine, as given by John Reed and his son Conrad Reed, now both dead."*

*George Barnhardt, January, 1848*