

We Are

Colorado



Written by Gillian English Bishop

n/e

NEWSPAPER
IN EDUCATION
THE DENVER POST

THE DENVER POST

Dear Teachers,

This curriculum focuses on a different kind of diversity from many of the curricula in this series – the different ways Coloradans contribute to the health and vitality of our state through work. What we do for a living has a great impact on how we read the newspaper. This curriculum encourages kids to see through the eyes of many different groups who have very different concerns.

My hope is that this curriculum will help you and your students identify issues to look out for as you read *The Post* together this year, but it is by no means an exhaustive collection of the concerns of Coloradans. If you find that certain sections of the curriculum are more interesting to you and your students than others, please use those sections as a springboard to more in-depth studies. Although I have divided the curriculum into four sections, jumping around is encouraged.

In the introduction, your students are asked to identify a kind of Coloradan they would like to be and collect articles of interest over a period of time. This exercise is designed to help kids read *The Post* through others' eyes and to become an expert on the concerns of one group. If you choose to do this activity with your students, there are many ways to extend it. In the concluding lesson, I ask kids to write a lesson plan to teach their classmates about the concerns of their Coloradan. This activity could easily become a newspaper-based research project culminating in a presentation to the class.

Every lesson addresses at least one of the Colorado Model Content Standards. Some may need to be extended for older students. Others may need to be simplified for younger students. You know your students best and should see these lessons and activities as possible inspirations for your own curriculum.

Every lesson also has an activity related to *The Denver Post*. Some of these activities involve reading and understanding *The Post*. Others are designed to familiarize kids with the newspaper and to have fun with it. I hope you *and* your students have fun learning about some of the things going on around the state!

Gillian Bishop

Introduction: We Are...

Reading and Writing Standards 1, 4, and 5

Today's Coloradans are many things. We are:

There's something for everyone in Colorado. Which of these things are you? Which would you like to be someday? What other kinds of people would you add to this list of Coloradans?

Depending on who we are, each of us reads *The Denver Post* differently. The owner of a high-tech company reads the business pages, checks on his technology stocks, and probably follows election news closely so he'll know how political changes could affect his business. He might look at want ads to see which competitors are hiring.

A ski bum would flip to the weather page, check on the snow pack at her favorite slope, and watch the ads for good deals on ski equipment. She might want to keep her eye out for articles about global warming, too!

In this unit, you will peek through the eyes of some kinds of people around our state and learn about the things that are important to them.

Before you start, choose one kind of Coloradan that you would like to be and write it below. Be very specific. If you would like to be in the military, which branch of service would you be in? What would your job be? If you would like to be an environmentalist, what would be your main concern – pollution, water quality, endangered species?

I am _____

As you read the *Post* over the next few weeks, look for articles that would concern the person you would like to be. Paste your articles in a notebook or keep them safely in an envelope. Don't forget to check advertisements as well as articles. You will see through someone else's eyes and become an expert on the current events in your area. Happy news hunting!

Teachers: You can post a list of your students' specialties, so they can help each other spot relevant articles.



Actors
Archaeologists
Artists
Athletes
Bikers
Builders
Business people
Cooks
Cowboys
Doctors
Environmentalists
Farmers
Fishermen/women
Government officials
Hikers
Historians
Hunters
Industrialists
Kids
Lawyers
Loggers
Military personnel
Miners
Musicians
Naturalists
Olympians
Parents
Photographers
Ranchers
Realtors
Recyclers
Sales people
Scientists
Senior citizens
Skiers
Social workers
Students
Teachers
Techies
Tour guides
Transporters
Veterinarians
Wildlife Protectors
Writers



We Are



People Who Live Off the Land

Farmers, Ranchers, and Miners



Making a living from nature is not easy because nature is impossible to control. Colorado's farmers, ranchers, and miners have to worry about weather, animals, and the location of resources buried deep inside the earth. They can't always depend on these things to help them do their jobs.

But Colorado depends on them for food and many, many other things. In this section, you will learn a little about the things these Coloradans give to us and some of the challenges they face.

Feeding the World: Colorado's Agricultural Products

Math Standards 2 and 3

Colorado ranchers and farmers raise and grow food products that are sent all over the United States and the world for people and animals to eat. Here is a table that shows about how much money farmers and ranchers received for some of their main products in 1998:

Product	Thousands of \$	Percent (%)
Cattle/Calves	\$2,149,000	
Corn	\$328,000	
Dairy Products	\$260,000	
Greenhouse Plants (not to eat)	\$202,000	
Hay	\$204,000	
Hogs/Pigs	\$187,000	
Potatoes	\$110,000	
Sheep/Lambs	\$109,000	
Sugar Beets	\$44,000	
Wheat	\$275,000	
Other	\$442,000	
Total	\$4,309,000	100%

You can complete this graph by figuring out what percent of the total money received came from each product. Here's how:

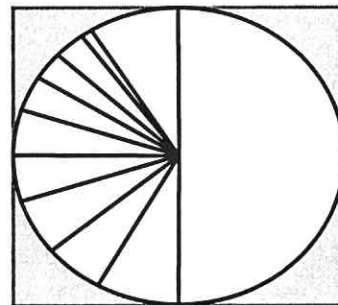
- Divide each number by the total, using a calculator or paper and pencil:

$$\$2,149,000 \div \$4,309,000 = 0.498$$
- Then round to the nearest hundredth. Look at the number in the thousandths place (the third place after the decimal point). If it is 5 or greater, round up. If it is 4 or less, round down.
 In 0.498, the number in the thousandths place is 8, which is greater than 5. You would round up to 0.50.
- Multiply your answer by 100.

$$0.50 \times 100 = 50.$$
 The answer is **50 percent** or **50%**.

- On the lines to the right, list the products in order, from the one that brings the most money to Colorado to the one that brings the least.
- Now you can color in this pie graph to show how much of Colorado's agricultural income comes from each product.
- Label and color the key to match the graph. Use a different color for each product.

**Colorado's Agricultural Products
Percent of Total Cash Receipts**



- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____

THE DENVER POST

Find a recipe in *The Denver Post* that includes several of Colorado's food products. Remember that beef comes from cattle, veal from calves, and ham, pork, and bacon from pigs. Try cooking the recipe at home.

Making an Agricultural Products Map

Geography Standards 1 and 4

Colorado farmers and ranchers watch the weather very carefully. They need to know when their crops are going to be rained on and when the soil will be dry. Some farmers depend on *irrigation*, a system that carries water onto their land from other places, but the water falling from the sky can still affect their crops, for better or worse. Hot or cold weather can affect plants and animals, too.

You can keep tabs on the weather that blesses or curses Colorado farms and ranches by using the weather maps in *The Denver Post*. The only trouble is those maps don't tell you where the farms and ranches are.

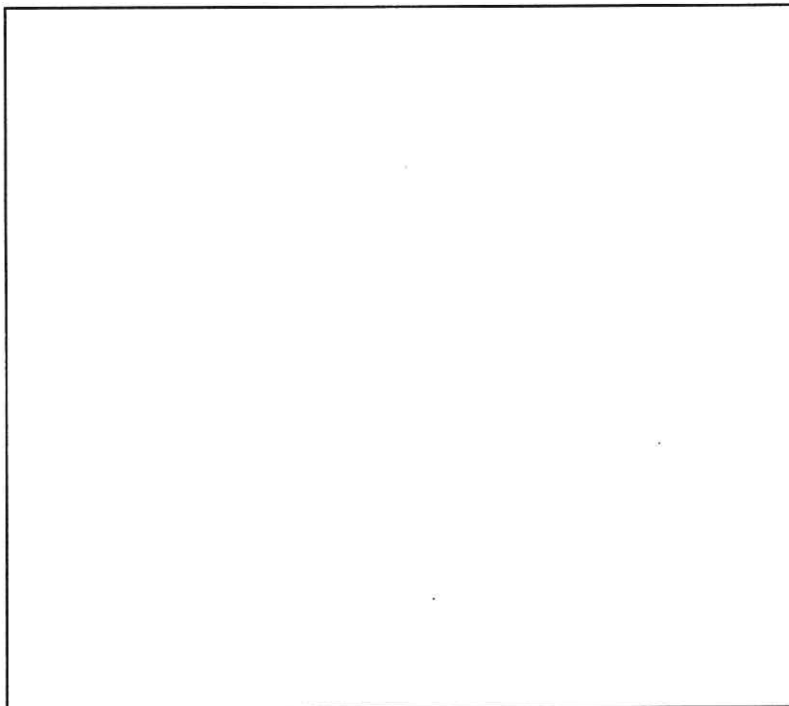


You can make your own agricultural products map.

1. Clip out the Colorado map from *The Denver Post* and glue or tape it below.
2. Create a symbol for each agricultural product and draw it next to the right product in the map legend.
3. Draw symbols in the right places on the map, using the information on the next page.

A hint: The Colorado map shows mountains in dark green. You can tell where valleys are because they are solid green spaces in between mountains. The high plains will be darker than the lower plains areas.

Colorado Agricultural Products



Legend

Apples

Apricots

Cattle

Cherries

Corn

Cut flowers

Peaches

Pears

Plums

Sugar beets

Wheat

Making an Agricultural Products Map (continued)

Geography Standards 1 and 4

Here are some of the areas in Colorado where agricultural products can be found:

- Many *cattle* are raised around Greeley.
- *Sugar beets* are grown in the fertile San Luis Valley (south of Salida) and near the Platte River (which runs along I-76) and the Colorado River (which runs along I-70).
- *Wheat* is grown mostly on the high plains.
- *Peaches* and *pears* grow on the mesas and flood plains of the Colorado River and the Gunnison River (which runs along Highway 50 west of the town of Gunnison).
- *Apples, cherries, apricots, and plums* can be found on the western slope of the Rocky Mountains.
- Many greenhouses near Denver raise *flowers* to be cut and sold in flower shops.
- *Corn* is grown on the eastern plains.



Now use your map to answer these questions:

Which agricultural products can be found near your home? _____

Would you be more likely to find apple orchards near Lamar or Montrose? _____

Would you expect there to be a sugar beet factory in Grand Junction or La Junta? _____

What are you most likely to find growing on a farm near Burlington? _____

Which crop probably requires more water, sugar beets or wheat? _____

THE DENVER POST

You can use *The Post* weather map to track the precipitation (rain and snow) falling on some of the crops you mapped.

Fill in the chart below. Put the date at the top of a column and then mark the boxes with the weather symbol that shows the weather over each crop.

Crop					
Apples					
Apricots					
Cherries					
Corn					
Peaches					
Pears					
Plums					
Sugar beets					
Wheat					

Farming: It's Not as Hard as It Used to Be

History Standards 1, 2, and 4. Math Standard 3.

Farming is a hard job, but it used to be a lot harder. In 1830, a wheat farmer had to push his *plow*, a tool that turned over the soil and made it ready for planting. He had to plant the seeds, cut the wheat, and separate the grain from the rest of the plant, all by hand. Today's farmer has machines to help him do all those things. Here's a timeline of the new inventions and changes that made farming easier.

1837 – A *threshing machine*, which separated the grain from the rest of the plant

1841 – A *grain drill*, which made holes in the soil and planted seeds

1862 – Farmers started using *horses* to pull equipment instead of pushing it themselves.

1865 – *Gang plows*, which used a few blades to turn over the soil instead of just one

1869 – *Spring-tooth harrows*, which broke up clods in the soil

1880 – *Twine binders*, which tie up the grain

1910 – Big gas-powered *tractors*, which were used to pull farm machinery



1918 – Small *combines*, which cut the wheat in the field and separated the grain from the rest of the plant

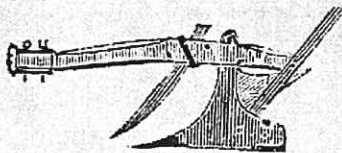
1926 – Light *tractors*

1930 – Rubber-tired *tractors* that came with other machinery

THE DENVER POST

Over the years, many things have been invented to make our lives easier. Look through *The Denver Post* to find a picture of an item you use.

Pretend this item has just been invented. Cut out the picture and write an advertisement for the item. Tell people all the ways it will make things easier for them.



All these new inventions made farmers work much more quickly. The same work could be done in less time. This table tells how long it took for a farmer to produce 100 bushels of wheat.

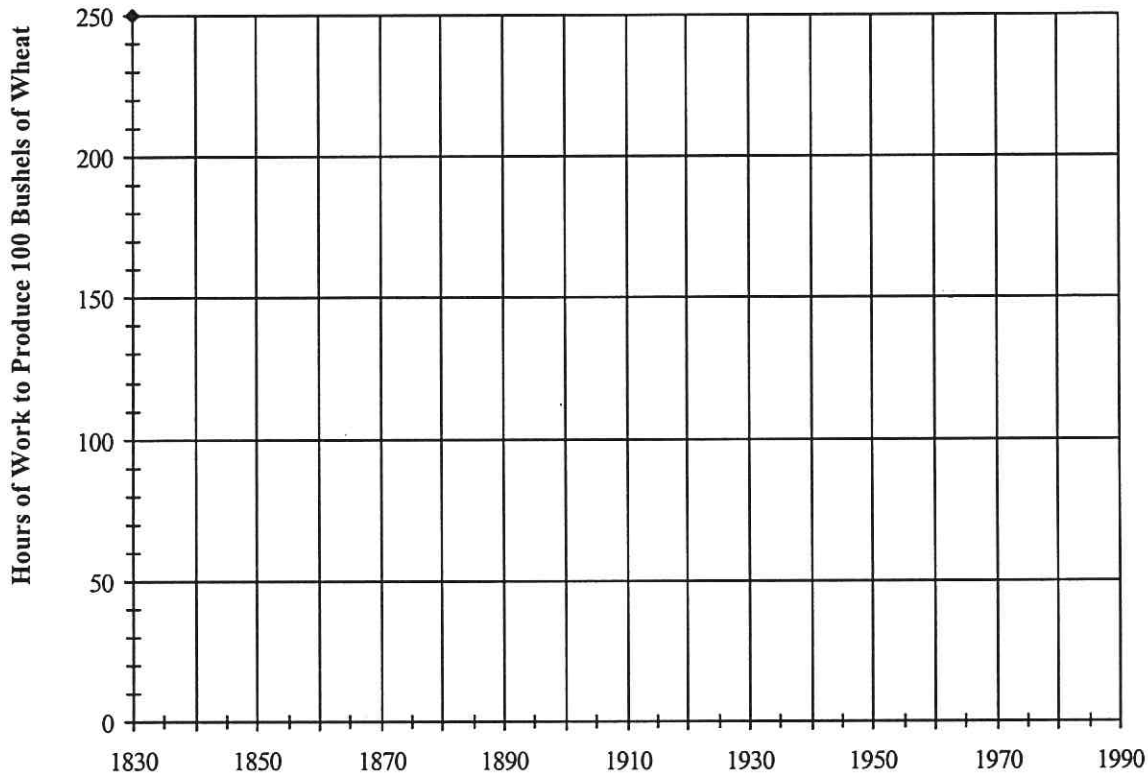
Year	Hours of Work
1830	250-300
1890	40-50
1930	15-20
1955	6-12
1965	5
1975	3 ¾
1987	3

You will use this table to make a graph on the next page.

Farming: It's Not as Hard as It Used to Be (continued)

History Standards 1, 2, and 4. Math Standard 3.

Using the table from the previous page, graph the hours of work it took to produce 100 bushels of wheat for each of the years in the table. The first point has been plotted for you. After you have plotted all the points, connect the points with a curving line. In the boxes under the graph, fill in the inventions that changed farming. Draw a line from the invention to the year each one was invented.



Years

THE DENVER POST
 Find articles in *The Post* that refer to historical events. Clip them and attach them to your timeline.

Which years showed the biggest drop in the number of hours farmers had to work? _____

Why did farming improve so much during those years? _____

What was the biggest change in farm equipment between 1890 and 1930? _____

A farmer in 1890 had to work _____ more hours to produce 100 bushels of wheat than a farmer in 1930.

A farmer in 1987 only worked 2 hours faster than a farmer in 1965. Why? _____

Draw how you think this graph would look if it showed the changes in the hours it took to print 100 books. Explain.

Habitat Partnership Program

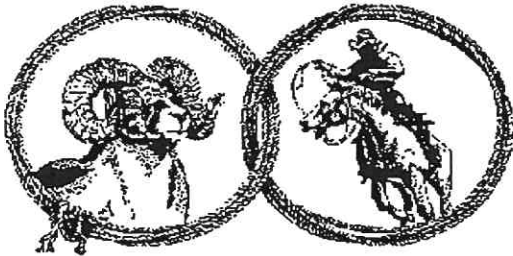
Reading and Writing Standards 2, 3, and 4. Geography Standard 4.

Farmers and ranchers often face the problem of wild animals coming onto their land and attacking their crops or livestock. Often the wild animals come in to farms and ranches because they are hungry and can't find food in the usual places. Sometimes, the animals just get used to invading ranches and farms and will break through fences over and over to get what they want. When farmers and ranchers lose crops or livestock or have to rebuild their fences, they lose money.

To help them and to help the animals, the Colorado Division of Wildlife has developed the Habitat Partnership Program to resolve the conflicts between big game animals and landowners in the state. Here are some of the solutions they have used:

1. They let hunters hunt game animals in certain areas, so there won't be so many animals looking for food.
2. They improve the game animals' habitats or homes, so they will be able to find plenty of food there.
3. They repair fences and make them stronger, so game animals cannot get through them.
4. They pay landowners who have lost money because of animal attacks.

Imagine you own a ranch or a farm and you have had problems with big game animals on your land. Write a letter to the Colorado Division of Wildlife explaining your problem to them. Be specific. What kind of animal is coming on your land? How often? What damage has been done? Tell the Division of Wildlife what you would like them to do about your problem. Do you want them to use one or more of the solutions above or do you have your own solution? Explain why you think your solution would work. Remember that the big game animals need to be protected, too.



THE DENVER POST

Find an article in the *Post* about a conflict between two people, two groups, or people and nature. List 4 or 5 solutions you would suggest to resolve the conflict. Which one is the best? Why?

For more information about the CO Division of Wildlife, check out <http://www.wildlife.state.co.us>.

Use this checklist to edit your letter:

- Your return address and date in upper right
- The Division of Wildlife's name and address on the left, a few lines under your address (You can look up the nearest DOW office in the Government Pages of your phonebook.) Greeting followed by a colon (:)
- Each paragraph indented
- Good details about your problem
- Good reasons that your solution would work
- Correct spelling, capitalization, and punctuation
- Closing lined up with return address and followed by a comma (,)
- Your signature

Cowboy Poetry

Reading and Writing Standards 1, 2, 4, and 6

Probably for as long as there have been cowboys, there have been cowboy poets who have written and spoken poems about the ranching life. Cowboy poems almost always have rhyming lines and are fun to read out loud. They are often sentimental and sometimes sad, but they are usually very funny. Here is a look at springtime on the ranch.



SIGNS OF SPRING by Hilma (Volcano) Volk



The buttercups are pushing up
Through the patches of melting snow.
The willows are tinged in yellow.
Streams are swollen with the flow.

Least three calves were born this morn.
Dozens more about to pop.
The cows got through the winter well.
It'll be a good calf crop.

The ducks are dabblin' in the pond.
The swallows are back again.
I'm walkin' to the ranch house
In the cold and pourin' rain.

For the surest sign of spring of all
Is not the leaves in bud.
But two miles back, it's my 4x4
Buried up to its axles in mud.



Did you think this poem was funny? _____ Why? _____

What did you expect the poet to say was the surest sign of spring? _____

What is a 4x4? _____ How did you figure that out (or how could you) if you didn't know it before? _____

Describe the setting of the poem. _____
What words did the poet use to help you picture the setting in your mind? _____

What did the poet do to make her poem *sound* more cowboy-ish? _____

What hints did the poet give you in the first verse that foreshadowed the end? _____

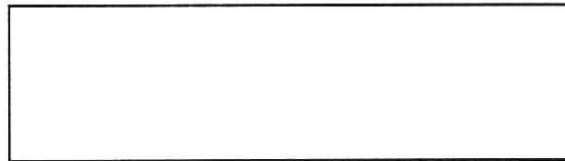
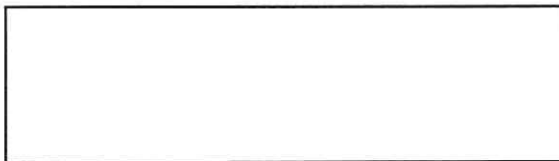
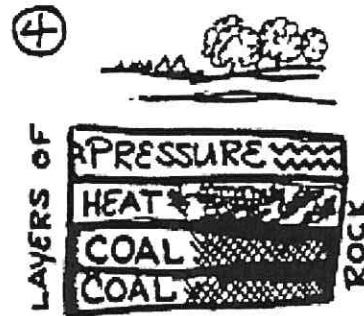
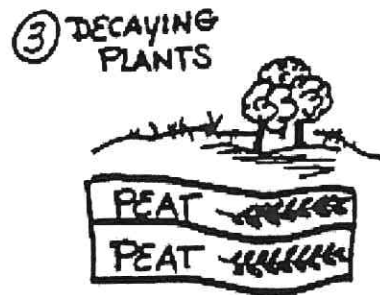
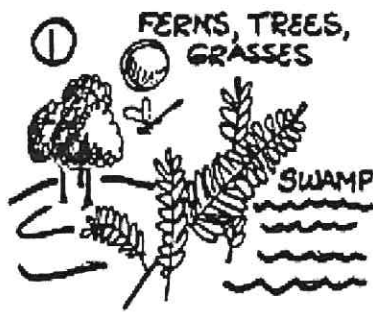
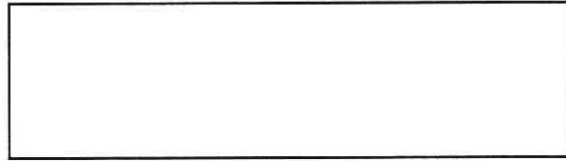
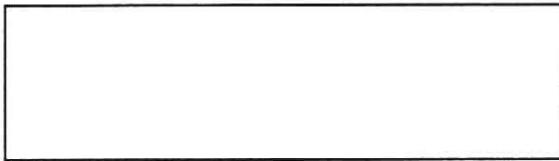
What about the third verse? _____

<p><u>THE DENVER POST</u></p> <p>In her poem, Hilma Volk made fun of the trouble with living on dirt roads.</p>	<p>Read the comics section of <i>The Post</i> and make a list of the things the comic strip creators make fun of. Add to your list some things</p>	<p>you think are funny about your life. Choose one and write a cowboy poem about it. Remember to make it rhyme.</p>
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How Coal Is Formed

Geography Standard 3

Coal is very important to Colorado's economy. In 1998, our state produced 29.9 million tons of coal, with a total value of about \$410,000,000. While many coal mines back east are beginning to run low, Colorado's mines are going strong. How did we get so lucky to have so much of this important resource? Match the words with the pictures below to put together the story.



Oceans covered Colorado and deposited layers of silt, sand, and other matter on top of the peat. These layers became rock.

The plants died. As they died, they rotted and formed layers and layers of peat.

Over 250 million years ago, Colorado was covered with giant ferns, grasses, and trees. The plants stored up energy from the sun.

When the oceans were gone, heat and pressure from the layers of rock changed the peat to coal.



We Are



People Who Care About the Land

Environmentalists, Conservationists,
& Outdoors Enthusiasts



Colorado is such a beautiful state that lots of people want to live here. As more people move in, it becomes harder to keep Colorado beautiful and healthy for everyone and everything.

Environmentalists work to protect our air, water, animals, and plants from pollution and other dangers. Conservationists try to make sure we don't run out of our natural resources. These groups are important to the many, many Coloradans who are outdoors enthusiasts; the fishermen, hunters, hikers and, yes, skiers, who enjoy the beauty of our state.

Testing Air Quality

Geography Standard 2. Math Standard 3

One of the things environmentalists are most concerned about is the quality of our air. Anyone who has spent time in Denver knows there are days when you can see the mountains and days when you can't. Usually, this is because of pollution from cars and factories. Pollution can be very bad for people if we breathe too much of it. Do you think pollution is a bigger problem for people living in cities or for people living in the country? Why?

Which places in or around your school do you think will have the worst pollution? You can test your hypothesis (or guess) with a simple experiment. Here's how:

Materials:

Large jars
Small jars
Petroleum jelly
Labels
Map-making materials



Procedure:

1. Smear petroleum jelly all over the small jars and place each one inside a large jar.
2. Place the jars at different places around the school. Put some in places you think will have lots of pollution. Put others in places you don't think will have much pollution. Label the jars with the name of the places. Be sure to put the jars in places where other students and teachers won't disturb them.
3. Leave the jars for about a week.
4. Pick up the jars. Some of them will have dirt and grime stuck to the petroleum jelly. Rank the jars according to how much pollution they contained.
5. Make a map of your school and show the pollution rankings for the places you selected.
6. If you want to, you could put your map in the hallway for other students to see.

Results:

What did you notice? Which areas had lots of pollution? Why? What could be done to cut down on pollution in your school?

THE DENVER POST

You can keep track of the air quality in Denver by calling the Air Quality Info number on the weather page of *The Denver Post*. They will give you information about the *ozone* level, *visibility*, and number of *particulates* in the air. *Ozone* is formed when the sun heats up pollution from cars and chemicals. It can make it hard for people to breathe. *Visibility* means how far you can see. If visibility is

low, it means you can't see very far. *Particulates* are tiny pieces of dust and other junk in the air.

Make bar graphs to show the visibility and ozone and particulate levels each day. Make a line graph to show the temperature and weather. Is there a connection? Are certain kinds of pollution worse when it's hot or cold? How does rain affect pollution?


Recycle!

Geography Standards 2, 5, and 6. Reading and Writing Standards 1 and 4

When your mom or dad tells you to take the garbage out, do you ever wonder where it ends up? It ends up in *landfills*, big, stinky fields of garbage. Yuck! Wouldn't it be great if we could find a way to use our garbage again, so these stinky landfills don't get bigger?

We can! Today we have tools that can crush some of our garbage down and get it ready to make new cans, boxes, bags, bottles, and paper. When we give our garbage a second life, we are *recycling*.

One great thing about recycling is that it takes less energy to recycle something than it does to make a new one. That means we don't have to use up all our *non-renewable resources* (like coal, petroleum, and natural gas) so quickly. Once we use up a *non-renewable resource*, we can't get more.

To know which things can be recycled, look for this symbol:  Usually, it will have a number in it. Match up the numbers to tell you which things you can recycle together.

If you see the recycling symbol without a number in it, it probably means you're using something in a package that has been recycled already. Buy things with that symbol, if you can. Sometimes you can even recycle them again!

Recycle at Home and School

1. Ask around or check the phone book under "Recycling" to find out where you can recycle in your neighborhood.
2. Find out what can be recycled there.
3. Set up bins to hold different kinds of recyclable garbage. Here are some of the kinds of things that can be recycled:
 - Aluminum cans and foil
 - Steel cans (soup, cat food, etc.)
 - Plastic bags and bottles (Sort by the number in the recycle symbol.)
 - Newspapers
 - Office and school paper
 - Paperboard (cereal boxes, etc.)
 - Glass (Sort by color.)
4. When your bins fill up, have someone help you take the bins to the recycling center.

Recycling Review

Name two good reasons to recycle.

What is a non-renewable resource?



Look at the list of recyclable things above. Use what you learned in "Mine and Yours" to make a list of non-renewable resources that are used in making these things. List them here to see what you can save by recycling.

What might our world be like if no one recycles? _____

This Land Is Your Land, This Land Is My Land

History Standards 3, 4, and 6. Reading and Writing Standards 1, 2, 3, 4, and 5.

Colorado is blessed with lots of wonderful land, but how do we decide what to do with it? Some people want to use it to hike or fish or ski. Some people want to use it to farm or ranch. Others want to mine it for its resources. Others want to *preserve* some areas, or keep them the way they were in the past, so we can appreciate the history of the people who lived there long ago and the beauty of the places. Still others want to build houses and offices on the land for the many, many people who want to live in Colorado.

Through the years, the government has made many different laws about how land could be used in the United States, including Colorado. As you read about some of these laws below, see if you can figure out who would have been helped by the law and who would have been hurt. Write your answers in the spaces on the right.



Laws

Helped

Hurt

1862 – The Homestead Act gives people free land in the West if they set up a home on it within 5 years.

1872 – The Mining Law of 1872 gives people the right to land if they find resources on it and want to mine them.

1891 – The Forest Reserve Act lets the President keep homesteaders from living on some land, to save trees and water.

1906 – The Antiquities Act preserves historic places and buildings.

1969 – The National Environmental Policy Act makes businesses report what affect their projects will have on the environment before starting them.

1973 – The Endangered Species Act protects the homes of animals who are becoming extinct.

1999 – The Recreation Act lets people use wildlife areas for fun as long as they don't hurt the wildlife.

THE DENVER POST		
Find an article, editorial, or letter to the editor in <i>The Denver Post</i> about a disagreement over land use.	Make a list of the reasons each side gives for why the land should be used their way. If you need to, do more research by looking up each side on the Internet.	Which side has the best reasons? Write a letter to the editor telling why you support that side. (Read the Letters to the Editor section for examples.)

Take a Land Use Poll

Math Standards 1 and 3

As you saw on the last page, our lawmakers and politicians come up with lots of new laws to make different people happy. They want to know what people want them to do with the land. Sometimes, politicians take *polls* to help them. To take a poll, they ask many different kinds of people a question or set of questions. Then they look at the answers and try to figure out what people want.

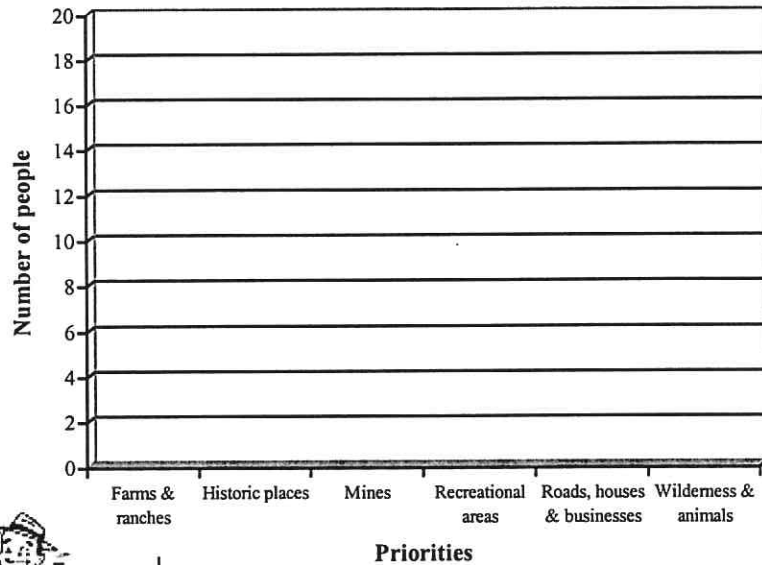
You can take a poll to find out what some people think is most important. The thing they think is most important is called their *priority*. Make a bar graph to help you understand your results. Try to ask at least 10 adults and 10 kids. You could keep track of adults' and kids' answers separately and make separate bars for each group on your graph.

Question: What is the most important thing for us to protect when deciding how to use land in Colorado?

Priority	# of people
Farms & ranches	
Historic places	
Mines	
Recreational (fun) areas	
Roads, houses & businesses	
Wilderness & animals	



Land Use Poll



THE DENVER POST

Find an article in *The Denver Post* about a poll.

Who did the polling? _____
 What were the results? _____

Whom did they poll? _____
 How could this have affected the results?

How will the poll be used? _____

Do you believe in this poll? _____
 Why? _____

Poll Results

What is the top priority among the people you asked? _____

What is the lowest? _____

Where do most of the people you polled live? _____

Why might this have made a difference in your results? _____

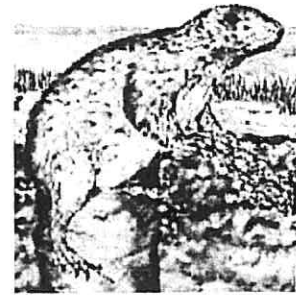
Was there a difference between adult priorities and kid priorities? _____

Why? _____

Prairie Dog Towns: An Ecosystem Study

Geography Standards 1, 2, and 3. Reading and Writing Standards 1, 4, and 5

If you've lived in Colorado long (especially on the plains), you've probably seen prairie dogs, cute little rodents who dig large systems of tunnels (or *burrows*) underground. These systems are called "prairie dog towns," and they're very important. Many other animals depend on them, too. When animals depend on each other and the environment in a certain area, we call it an *ecosystem*.



Prairie dog

In 1900, there were lots of prairie dogs on the Great Plains. As people moved in, many of the prairie dogs were killed, some by accident and some on purpose. Fewer prairie dog towns were made, and other animals started to suffer. Here are some of the animals who depend on prairie dog towns:



The *burrowing owl* lives in prairie dog burrows (tunnels) and eats insects and small mammals like mice and squirrels.

The *black-footed ferret* is the most endangered mammal in the U.S. They live in prairie dog burrows and eat prairie dogs. In the last 100 years, their population went from 5.6 million ferrets in the U.S. to only 18 known in 1986.



When prairie dogs dig their tunnels, they churn up the soil and make it easier for tasty, nutritious plants to grow. Because of this, *buffalo*, antelope, and deer like to eat the grass and plants around prairie dog towns.

Other Animals Who Depend on Prairie Dog Towns

- Badgers
- Coyotes
- Golden eagles
- Rattlesnakes
- Rabbits
- Red foxes

Because buffalo, antelope, and deer graze so much near prairie dog towns, *birds* can see insects and animals more clearly than they can in very grassy areas. They like prairie dog towns because they help them find their food. Plovers, killdeers, larks, and hawks all hunt at prairie dog towns.



THE DENVER POST

The prairie dog is *interdependent* with many other animals, plants, and insects. That means they depend on each other.

Find an article in *The Denver Post* that shows how we are dependent on something else in nature – an animal, plant, or environment.

People are dependent on many things in nature, too.

Make a chart showing how we are connected.

If Animals Could Read *The Post*

Reading and Writing Standards 1, 2, 3, 4, and 5. Geography Standards 2 and 3

On the last page, you learned about why the black-footed ferret is endangered in Colorado. Here is a list of other animals that are on Colorado's endangered species list:

Fish

- Bonytail
- Razorback sucker
- Rio Grande sucker
- Lake chub
- Plains minnow
- Suckermouth minnow
- Northern redbelly dace
- Southern redbelly dace

Amphibians

- Boreal toad

Birds

- Whooping crane
- Least tern
- Southwestern willow flycatcher
- Plains sharp-tailed grouse

Mammals

- Gray wolf
- Grizzly bear
- Lynx
- Wolverine
- River otter
- Kit fox



Grizzly bear

Choose one of the endangered animals in the list to the left. Find out as much as you can about your animal and why it is endangered in Colorado. (One good place to start is the Colorado Division of Wildlife web page at <http://www.wildlife.state.co.us>.) Here are some questions to answer in your research:

- If you were that animal, what would you be dependent on?
- What animals or plants would you eat?
- Where would you live?
- What other animals would hunt you?
- Why are you important to your ecosystem? What do you do to help other plants or animals? (Remember that animals can help each other without being eaten. The buffalo and deer in the prairie dog town ecosystem help birds to see insects by grazing on the grass and plants.)
- Why are you leaving Colorado?

Draw a picture to show the ecosystem that's best for your animal. Label the parts of the ecosystem and tell why each part is important.

THE DENVER POST

Pretend you are your animal and you can read *The Post*.

Find an article about something that might affect you or your ecosystem in some way.

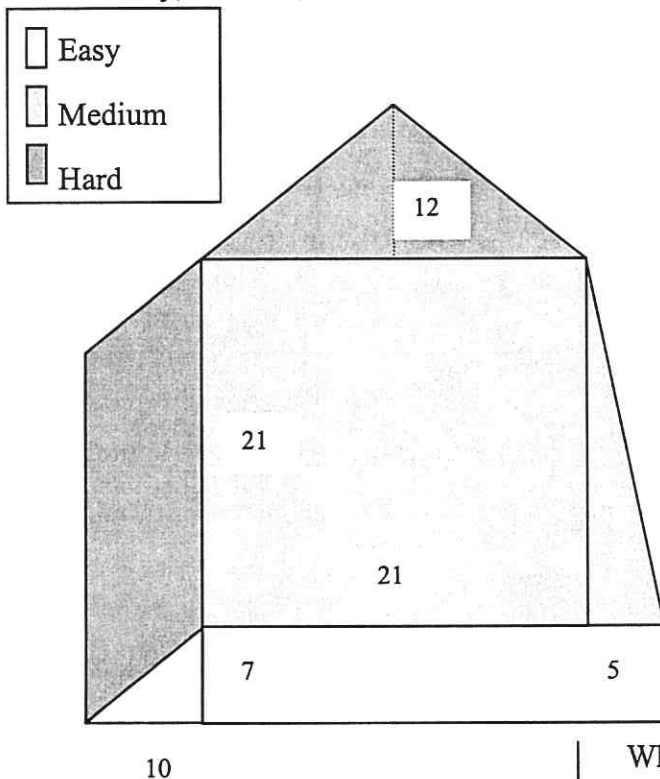
Write a journal entry telling how you feel about this article. Does it make you happy or sad? Does it make you want to leave Colorado? How will it change your life?

If you think this article will affect something else in your ecosystem, you might want to write a letter to another animal or plant to let them know the news. What would you say to them?

Hit the Slopes at Telluride

Math Standards 4 and 6

People from all over the world come to Colorado to enjoy our amazing ski slopes. Some say Colorado has the best skiing in the world! Telluride, just one of our many great ski resorts, has something for everyone – easy runs, intermediate (medium) runs, and hard runs. But how much of each does Telluride offer? Here is a *very* rough sketch of the slopes at Telluride. Use what you know about calculating area to find out how many acres are easy, medium, and hard. The measurements of each section are in acres.



A few reminders about the formulas for calculating area:

For a square or rectangle
 $\text{LENGTH} \times \text{WIDTH} = \text{AREA}$

For a triangle
 $\frac{1}{2} (\text{WIDTH} \times \text{HEIGHT}) = \text{AREA}$

To calculate part of the hard area, you'll have to know how to find the area of a parallelogram. (Hint: What would happen if you cut a triangle off one end and attached it to the other end?)



What is the total area of the easy slopes?
 _____ acres

What is the total area of the medium slopes?
 _____ acres

What is the total area of the hard slopes?
 _____ acres

Bonus: Now divide each number by the total number of acres to find what percent of the mountain is easy, medium, and hard.

THE DENVER POST

Check the weather map in *The Post* to see what the temperature and weather are in Telluride. Do you think there will be good snow for the ski season this year? Why or why not?

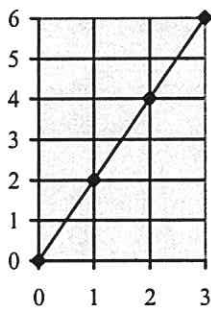
What Makes a Ski Hill Hard?: Rise and Run

Math Standards 1, 2, 4, 5, and 6

Now you know how much of Telluride is easy, medium, and hard. But what makes some hills easy and some hard?

The answer is their slope. The *slope* of a mountain tells us how many feet it goes up for every foot it goes over. The slope tells us how steep it is. The equation for slope is: $\frac{\text{RISE}}{\text{RUN}} = \text{SLOPE}$

Rise is how much a line goes up. *Run* is how much it goes over.



For this line

$$\frac{\text{RISE}}{\text{RUN}} = \frac{6}{3} = 2$$

because the line goes up 6 squares and across 3 squares.

Here are some estimates (guesses) about the rise and run of some of the hills at Telluride. Calculate the slope. Later, you will use this information to figure out whether each hill is easy, medium, or hard.

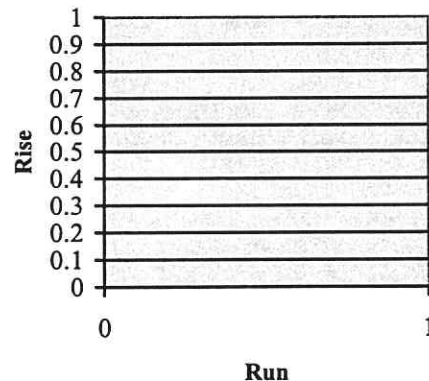
Name	Rise (feet)	Run (feet)	Slope
Double Cabin	1,720	13,200	
Little Rose	2,703	10,560	
Lower See Forever	995	4,752	
Upper See Forever	1,355	6,336	

Now decide whether each hill should be called easy, medium, or hard. Choose the number that is closest to your slope. Draw the correct symbol next to the name of each hill in the table above.



- (easy) = about 0.15
- (medium) = about 0.20
- ◆ (hard) = about 0.25

Draw the slope for Little Rose.



Are you surprised by how the slope looks? _____
Why or why not? _____

THE DENVER POST

The ski resorts in Colorado have not been making as much money recently as they have in the past. Some have been raising their prices. Some have been offering special deals to people who come to ski.

Look in *The Denver Post* and find an advertisement or an article about a ski resort. What are they doing to get people to ski there? Does it make you want to go?

If you can, compare prices at different ski resorts. Which one would you go to if you wanted to go skiing?





We Are



People Who Preserve the Past

Archaeologists, Historians,
and Cultural Artists



Coloradans are very proud of our history. Many interesting people have lived here. Archaeologists in Colorado learn about ancient people by looking at the objects they left behind. Historians study the history of all people and try to see how we all fit together. Many, many other people in Colorado still practice the same arts and traditions that their cultures have been practicing for years.

All of these people are important to us because they help us remember who we are and where we came from.

What Does Your Garbage Say About You?

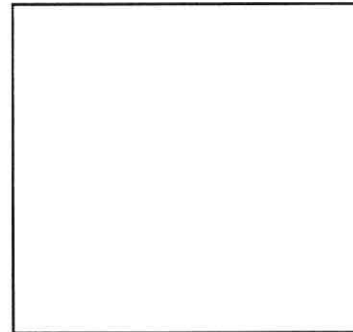
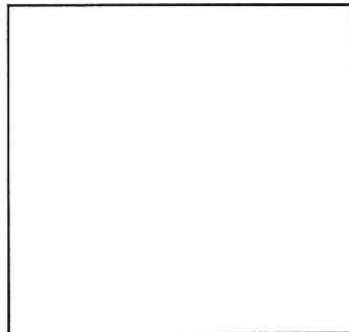
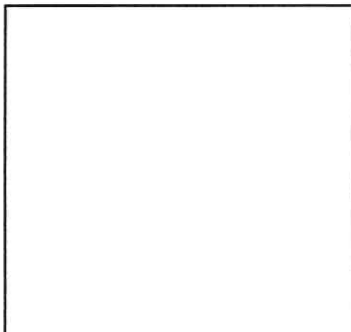
History Standard 2. Reading and Writing Standards 1, 2, 3, and 4

Archaeologists studying the Ancient Pueblo people of Mesa Verde, who lived in Colorado 1400-700 years ago, have learned a lot about them from looking at their garbage. The Ancient Pueblos often dropped their garbage down the cliffs in front of their homes.



From the tools that they threw away, we know that the Ancient Pueblos made most of their tools out of stream rock and bone and that they did not use any metals. We know that they met people from the ocean because they had seashells. When they first settled in Colorado, the Ancient Pueblos made beautiful baskets. However, when they learned to make pottery, they spent less time working on their baskets. We know this because the later baskets were not as well made as the earlier ones.

In 1000 years, if archaeologists were to come across a pile of garbage from your house, what would they think about you? In the spaces below, draw pictures of three things that archaeologists might find in your garbage. Under each picture, tell what each item might make them think about you and your family. Would they think the item was a tool, a work of art, a gift from another culture? Would they guess right?



THE DENVER POST

Archaeologists studying our culture will probably have an easier time because we have many writings about our lives and our times.

Imagine you are an archaeologist in the year 3000, studying Colorado in the year 2000. On a recent dig, you discovered just one page from *The Post*.

What can you learn about the people of 2000 by reading that page?

Choose one page from *The Post* and write a report about what it tells you. What does it tell you about the tools that were used? What were the *values* of the people, or the things that were most important to them? What was changing in their world? What were they worried about? How did they spend their time?

The Bear Dance

History Standard 5. Reading and Writing Standards 1, 2, 3, and 6

One way to learn about how people lived in the past is to look at the stories and traditions that continue in their families today. The Ute Indians are believed to have lived in Colorado for the past 10,000 years. Every year, the Utes participate in a Bear Dance which is based on a story that has been told for a very long time.

Purpose

The Bear Dance honors the grizzly bear, who was created to teach the Utes strength, wisdom, and survival. The dance will wake up the bear, and he will lead them to berries and nuts. During the four days of the Bear Dance festival, women often choose men to be their husbands.

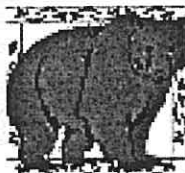
Origin (How it began)

The Utes tell a story about two brothers who were hunting. One brother saw a bear clawing at a tree and dancing around it. The

bear taught him the

dance while his brother hunted.

The bear told the boy to teach the dance to his people as a sign of respect for the bear's spirit, which gives them strength.



Preparation

The men build a corral where the dance will be held, and the women make the clothes for the dance. All winter, singers practice songs and storytellers tell stories to get ready.

When It Is Held

Long ago, the dance was held as soon as the Utes heard the first thunder of the spring, usually in March. Now, it is held in June.

What happens

The people enter the dance corral wearing *plumes* (like feathers) that stand for their worries. After four days of dancing, they hang their plumes on a cedar tree at the east end of the corral and leave their troubles behind.



Discussion Questions

What does this ceremony tell us about what the Utes believe?

What does it tell us about their *values*, what was important to them?

What was the setting of the Bear Dance story? Who were the characters?

Why might the bear have been important to the Utes?

Name ceremonies from other cultures where people leave their troubles behind.

THE DENVER POST

Find an ad or an article in *The Post* about an event that happens every year.

Write a paragraph about the event for each of the headings in the Bear Dance box above. If you can't find information about its origin, make up a story about it.

Look at the event as a historian would. Why is this event important to the people who take part in it? What role does each person play in the event? What does it tell us about the culture they live in? Will their children continue this tradition?

Changing Perspective: The Southern Cheyenne Indians

History Standards 1, 3, 4, and 6. Geography Standards 2, 4, and 6

One challenge historians face is that *perspectives* (the way people look at things) change over time. When white settlers began moving into Colorado in the 1800's, for example, they fought with the Indians who were living here and took most of the land away from them. At the time, the soldiers who fought the Indians were heroes. They had won the land so settlers could build homes and businesses out west.



Black Kettle

Today, we see that the Indians were treated unfairly. The white soldiers lied to them and did not show respect for their way of life. The story of the Southern Cheyenne people is an example of this. Their story, beginning in 1851 and ending in 1869, is told below, but it's out of order. Can you put it back together in a way that makes sense? Start with #7. Then go back and forth between what the U.S. government did and what the Cheyenne did. Cut out the events and glue them, in order, on a separate page. (Answers are on the next page.)

The U.S. Government

- 1) The government has promised peace, but Colonel John Chivington attacks Black Kettle at Sand Creek and kills many of his people.
- 2) General William Tecumseh Sherman tries to force Roman Nose and his band onto the reservation in Kansas.
- 3) The Pikes Peak gold rush brings many people to Colorado. They begin moving onto the Cheyenne's land. To make room for the white settlers, the government demands that the Cheyenne move onto a small reservation at Sand Creek in southeastern Colorado.
- 4) They cannot get the Cheyenne onto the Kansas reservation, so the government tries to move them onto a new reservation in Oklahoma. They promise to send them food and supplies.
- 5) The fighting of Roman Nose and his band leads the army, led by George Armstrong Custer, to attack a Cheyenne village on the Washita River. The army kills Black Kettle and many of his people.
- 6) Upset by Cheyenne attacks on settlers, soldiers attack a group of Cheyenne coming to make peace.
- 7) The U.S. first claims control of the lands in the West in 1851.

The Southern Cheyenne

- A) After the Sand Creek Massacre, many Cheyenne strike back. Wanting peace, Black Kettle moves his people to a new reservation in Kansas, but they are not allowed to use their best hunting ground. Many Cheyenne won't go to the new reservation. They join up with a Cheyenne war chief, Roman Nose.
- B) Angry that peaceful Cheyenne were attacked, Indians all over the Great Plains begin fighting white people. Black Kettle, the Cheyenne chief, meets with the army and agrees to lead his people back to Sand Creek if the army promises him they will be safe.
- C) The Cheyenne do not receive the food and supplies they were promised, so more of them join Roman Nose. Roman Nose and his band begin invading Kansas farms.
- D) Roman Nose and his band fight to stay off the Kansas reservation.
- E) Wanting peace with the white men who claim to own the land, the Cheyenne sign a treaty that lets them live in a big area in Kansas and Colorado.
- F) After losing Black Kettle and many others, the Cheyenne are driven off the plains in 1869.
- G) The Sand Creek reservation has poor farm land and no buffalo, so many Cheyenne leave and begin stealing food from settlers.

Changing Perspective: The Southern Cheyenne Indians (cont.)

History Standards 1, 3, 4, and 6. Geography Standards 2, 4, and 6

Discussion Questions

What discovery started the big white *migration* (movement) to the West?

What were some other reasons white people may have wanted to move west?

How did white settlers use the land in Colorado and other western states?

How did white settlers and soldiers see the West? The Native Americans (Indians) had been living there for a long time. Why didn't the white settlers ask if they could move onto their land?

How did Native Americans use the land before the white settlers came?

How did Native Americans see the land they lived on?



Why did some Native Americans, like Black Kettle, agree to live on reservations?

Why didn't the Cheyenne stay on the reservations?



Why did whites keep making the reservations smaller?

How is Colorado different from how it was before white settlers moved in? How did those changes happen?

What do you know about how most Native American people live today?

How do you feel about the story of the Cheyenne?

If you had been a white settler or soldier in the 1800's, how would you have tried to solve the problems between the whites and the Native Americans?

If you had been a Native American during that time, how would you have tried to solve the same problems?

THE DENVER POST

You have seen how the government and people of the U.S. have changed their

perspective on the Indian wars over the last 150 years. The heroes in the news then are now the bad guys.

Order of Cheyenne story
7-E-3-G-6-B-1
A-2-D-4-C-5-F

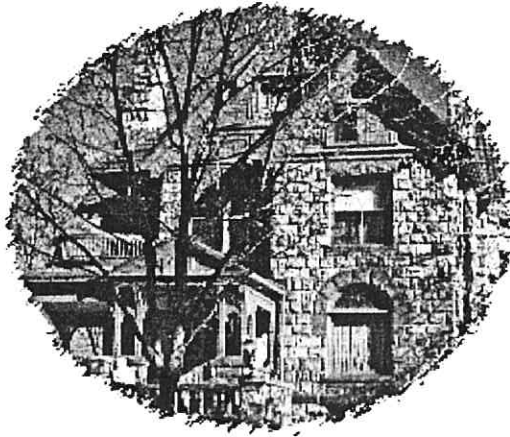
Sometimes our perspectives on current events can change from day to day, too.

Find an ongoing story in *The Denver Post*, one that you think *The Post* will have more articles about later. (This year, the presidential election would be a good one!)

Each day, read any articles in *The Post* about your story. Write down a few of your thoughts about it. Do you find yourself changing your mind about the issue, depending on what you read? Why or why not? What will people think of this story in 100 years?

Restoring a Historic Home

Math Standards 4, 5, and 6



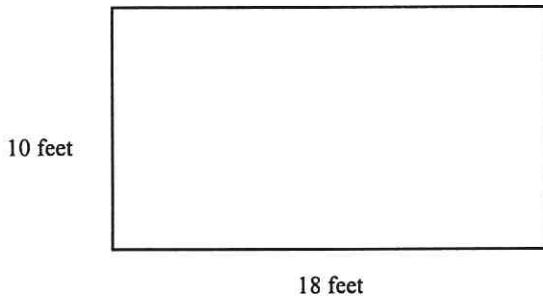
Molly Brown House, Denver

In Denver's early days, many rich and middle class people built beautiful houses. Over the years, though, the houses were changed. One way of preserving Colorado's history is by *restoring* some of these houses. *Restoring* means fixing the houses so they look the way they used to look.

Imagine you have been given the job of restoring an old home. Below are some of the problems you will need to solve.

THE DENVER POST

When J.J. and Molly Brown moved into this house in 1894, they paid \$30,000 for it. Check the Real Estate section of *The Post*. What is the average price of houses in your neighborhood?



◆ Your first job is to buy new wallpaper for one wall. The wall is 18 feet long and 10 feet tall. If the wallpaper comes in sheets that are 1 yard (3 feet) tall, how many yards of wallpaper should you buy? _____

◆ Oops! When you try to order the wallpaper, they ask you to tell them the length and width of the wall in meters!

$$1 \text{ yard} = .9144 \text{ meters}$$

How long is the wall in meters? _____

How tall is the wall in meters? _____

◆ Your next job is to put books on a bookshelf. The bookshelf has three shelves. Each shelf is 2 feet long.

You have:

- 15 1-inch books
- 11 2-inch books
- 5 3-inch books

_____	1-inch books
_____	2-inch books
_____	3-inch books

How many of each size can you put on each

_____	1-inch books
_____	2-inch books
_____	3-inch books

shelf? Use all the books you have and fill every shelf

_____	1-inch books
_____	2-inch books
_____	3-inch books

completely until you run out of books.

◆ Now you need to buy some new books to fill the empty space on the shelf. How many inches of empty space are there? _____

Here are the prices of books. What is the cheapest way to fill up the shelf?

- | | | |
|--------|-----------|-------|
| 1-inch | \$20/each | _____ |
| 2-inch | \$30/each | _____ |
| 3-inch | \$50/each | _____ |

Create a Culture

History Standards 1, 2, 3, 4, and 6

Archaeologists use *artifacts* (objects made by people) to learn about different parts of cultures. Many of the things they wonder about are listed in the box on the right.

Choose at least 8 of them and draw artifacts representing those parts of a made-up culture. Make sure your artifacts tell something useful about your people.

THE DENVER POST

Tip: Read about other cultures in *The Post* for ideas.

For example, instead of just making a spoon to show that your people used tools, you might make a bowl and grinder that still have tiny bits of corn stuck to them, to show that your people ate corn.

Draw your artifacts in the space below. On a separate sheet of paper, describe your culture.



Artifacts tell us about...

- Tools and technology
- Family
- Art and craftsmanship
- Food
- Beliefs and religion
- Rituals and ceremonies
- Language and writing
- Rules and laws
- Houses
- Calendars
- Play

Note to teachers: A fun way to extend this activity is to have groups of students invent cultures and actually create physical artifacts for them. If space can be found, each group can bury their artifacts in a plot of ground, to be dug up and analyzed by another group. Each archaeological group can present their findings and theories to the class.

Be an Archaeologist

History Standards 1, 2, 3, 4, and 6. Reading and Writing Standards 2, 3, and 4

Now that you've created a culture, it's time to turn it over to an archaeologist and become an archaeologist yourself. Trade your drawings of artifacts with a classmate. It's your job to figure out what their culture was like.

Look at the list on the right. Using the items in the list as section headings, write as much as you can about each part of the culture. Be sure to tell what you think each artifact was used for and what it tells us about the culture. What makes you think you're right?

If there's time, you might get a chance to present your findings to the class. How would you present each artifact? Why is this culture an important one to study?

Artifacts tell us about...

- Tools and technology
- Family
- Art and craftsmanship
- Food
- Beliefs and religion
- Rituals and ceremonies
- Language and writing
- Rules and laws
- Houses
- Calendars
- Play



How close did you come to understanding the culture? Check with the person who created it and compare your ideas about each artifact. Fill out the chart below with short answers. What made it easy or hard to understand each artifact?

Artifacts	How it was used in the culture	What the archaeologist said

THE DENVER POST

Choose one of the parts of culture in the box above. Make a collage of pictures and articles from *The Post* that show that part of American culture. (There are many cultures that make up America, so you might have many choices.)

For example, you might show many different ways people play in America. Have fun!



We Are



People Who Create the Future

Techies, Scientists, and Teachers



Colorado and the world are changing faster than ever. We're lucky that we have plenty of people who are keeping up with the changes. More and more people work with computers and other new technologies these days. Sometimes those people are called "techies." Colorado's techies, scientists, and teachers are all working hard to make our futures bright. In this section, you'll find out a little bit about the amazing things they're doing.

What Is Technology?

History Standard 4

We know that many Coloradans work with technology, but what is technology, exactly? Technology is any invention that makes our lives easier. Technology can be a tool, a machine, a material, a power source, or a way of doing something. Everything from the computer to the paper clip counts as a technology! Think about what you know about the history of the world. What do you think are the most important inventions of all time?

THE DENVER POST

Look through *The Denver Post* and find 10 examples of technologies, things that make our lives easier. Paste them in the space below and on the back of this page.

Top Ten Inventions of All Time

In the space below, write your picks for the 10 most important technologies of all time. Tell why you think each technology is so important.

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

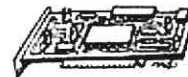
7. _____

8. _____

9. _____

10. _____

Note to teachers: As an extension, you can have your students research their top 10 technologies and make a class timeline of important inventions.



To find out someone else's opinions, check out <http://www.greatachievements.org>. They have a top 20 technologies list.

A "Bit" about How a Computer Works

Math Standard 1

One of the reasons lots of people are moving to Colorado these days is that there are so many jobs working with computers. But how do computers work with us?

A computer chip is like a tiny room with millions of light switches called *transistors*. Transistors pick up small bits of information called *binary digits* or *bits*. Each bit tells a transistor to turn itself "on" or "off." This is how all information is sent and stored in computers.

When a transistor is on, it uses the number 1. When it's off, it uses the number 0.

You know that, when we count, we use the digits 0-9, like this:

0, 1, 2, 3, 4, 5, 6, 7, 8, 9

Then we move to the tens place and using the same digits over, like this:

10, 11, 12, 13, 14, 15, 16, 17, 18, 19

This is called a *base 10* system.

When a computer counts, it uses a base 2 system. It only used the digits 0-1.

0, 1

We've already run out of digits, so we'll have to go to the next place and start over, like this:

10, 11

And again:

100, 101,

110, 111,

1000, 1001...

Can you keep counting the way computers do?

1010, _____

_____, _____

_____, _____

_____, _____

_____, _____

_____, _____

_____, _____

How high can you count? Answers are at the bottom of this page.

Do you notice any patterns?

If you're having a hard time, check with other kids to see how they are doing it!

THE DENVER POST

Here is a list of words that tell how much information computers can store.

byte – 8 bits

kilobyte – 1,024 bytes

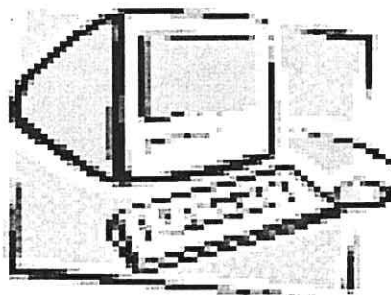
megabyte – 1,024 kilobytes

gigabyte – 1,024 megabytes

terabyte – 1,024 gigabytes

Look for computer advertisements or articles in *The Denver Post* to find these words. Multiply to find out how many bits they're talking about.

1010,
1011,
1100,
1101,
1110,
1111,
10000,
10000,
10001,
10010,
10011,
10100,
10101,
10110,
10111,
11000,
11001,
11001



Designing a Web Page

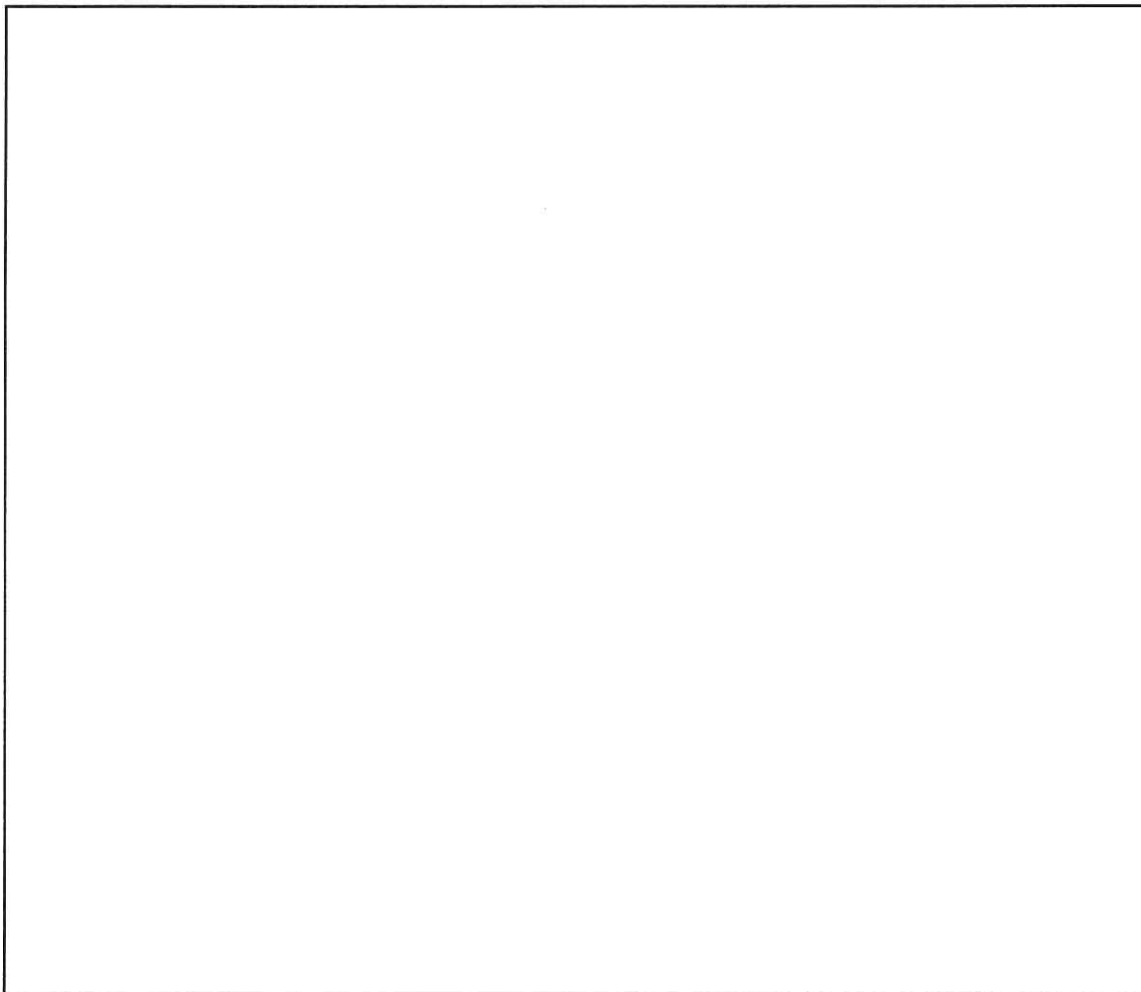
Reading and Writing Standards 2 and 3. Geography Standard 4

THE DENVER POST

The Internet has changed the way Colorado companies do business. With a couple clicks of a mouse, someone on the other side of the world can buy something in Colorado...or make plans to travel here.

The Internet has also changed the way we give information. When you read a book, you usually have to start at the beginning and read to the end. When you read a web site, you can click on *links*, which take you to new pages that will give you the information you want. Later you can come back and make another choice.

Find an advertisement or article in *The Post* that you would like someone on the other side of the world to read. Then draw the first page of a web site about it. Be sure to make buttons for links. On the back of this page, write a paragraph telling what each of your links will be.



For ideas, check out some of the web sites listed at the back of this curriculum.

Who Wants to Be a Millionaire?

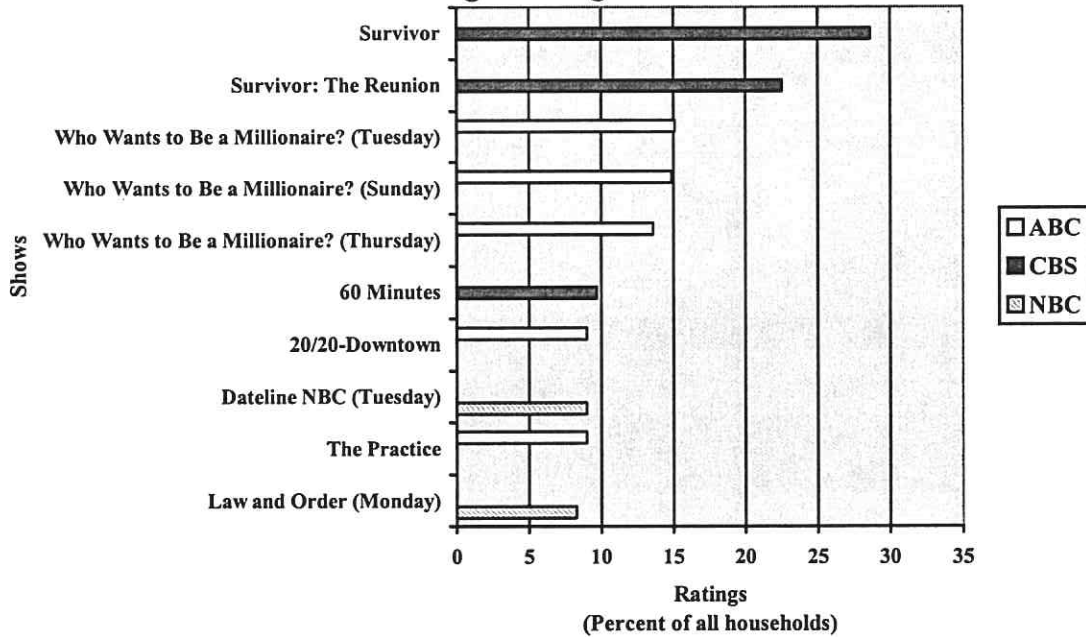
Math Standard 3

For most of us, TV, movies, and music are fun. For some Coloradans, they're big business. *Media groups* like Liberty Media Group in Englewood, Colorado, buy parts of TV networks, movie companies, and record labels (and other things, too). Of course, they want to buy into companies that will make lots of money. And they make lots of money if people like the shows and albums they put out.

One way TV networks can tell if they're doing well is by looking at the *Nielsen ratings*. Nielsen Media Research tracks TV watching in over 5,000 homes. Every week, they put out a ratings report that tells how many of those homes were tuned in to each TV show. The bar graph below shows the top 10 shows for the last week of August 2000. The rating tells us what percent of those 100 million homes were watching that show.

Pretend you work for a media group and you are thinking about trying to buy a TV network. Which one would you want to buy? _____

Nielsen Ratings for August 21-27, 2000



THE DENVER POST

Create your own ratings! Look at the TV schedule in yesterday's *Denver Post*. Take a poll in your class to find out how many of your homes were tuned in to each show.

Divide by the total number of students to figure out each show's rating. Graph your results.



Which network had the top-rated show? ____

Which had the most shows in the top 10? ____

These ratings are for the week of the last *Survivor* show. Which network do you think had the best ratings the next week? _____

If you owned a network, what kinds of shows would you want more of? _____

What else is interesting to you about this graph?

Mission to Mars

Geography Standards 3 and 4

Coloradans are usually pretty down-to-earth, but that doesn't mean we can't get a little spacey sometimes. Scientists and engineers at Lockheed Martin's Astronautics Operation in Littleton, Colorado, are hard at work designing spacecraft that will bring back information about Mars. Learning about Mars could help us understand our own planet better. NASA and Lockheed Martin are hoping to send *people* to Mars within 20 or 30 years. Here's a look at what we already know about Mars:



	Mars	Earth
What it's made of	95.3 % carbon dioxide 2.7 % nitrogen 1.6 % argon 0.3 % oxygen	78 % nitrogen 21 % oxygen
Average temperature	-55 °C (-67 °F)	15 °C (59 °F)
Average air pressure at surface	6 millibars	1013 millibars
Length of day	24.7 hours	24 hours
Length of year	687 Earth days	365.2 days
Distance from sun	1.52 Astro-nomical Units	1 Astronomical Unit

Mars is a very dry place. Because of the low temperatures and low air pressure, water freezes very quickly. Even at times and places when the temperature and pressure are higher, water is evaporated back into the air right away. This summer, though, spacecraft took pictures of what they think are small gullies with flowing water!

It looks like there was more water on Mars a long time ago. There are valleys and canyons that look like ones on earth, which were worn away by water.

If there is or was water on Mars, that means there's a good chance there might have been life on earth. These "Martians" won't be little green men, though. They will be microscopic (tiny) organisms.

Another interesting fact about Mars: Unlike on Earth, there is no *ozone layer* to block the sun's ultra-violet (UV) rays, the ones that cause sunburns. Ouch!

THE DENVER POST

On a large sheet of paper, make a weather page for Mars. Use the weather page in *The Post* to help you.

Don't forget sunrise, sunset, and the UV index! You could even study up on the other planets and make a "Solar System Forecast." For more information, check out www.nasa.gov.

Pack a Space Suitcase

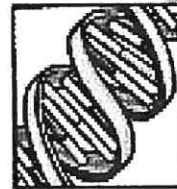
During your lifetimes, we will probably send people to Mars. Now that you know a little about the planet, what are some things you would definitely want to take? Think about the resources we have on Earth that we couldn't get on Mars.

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Building a Better Body

History Standard 4. Reading and Writing Standards 2 and 4

While some Colorado scientists are looking as far away as Mars, others are looking inside our own bodies. They're finding ways to make us healthier. One Boulder company, Ribozyme Pharmaceuticals, thinks they've found something that might help cure cancer and other diseases.



Almost every cell in our bodies carries DNA, which carries information about what we'll look like and what diseases we might get. RNA takes that information and creates proteins, the building blocks for our bodies...and also for some diseases. Ribozyme Pharmaceuticals is finding ways to keep those RNA from building too much of the proteins that lead to diseases.

Debate Questions

People have different ideas about how we should use new medical technologies like the one Ribozyme Pharmaceuticals is working on. Here are some questions that are being debated. Discuss what you think.

Pro: New medicines and technologies will make our lives longer and more enjoyable.

Con: Longer lives mean more old people and more expensive medical treatments. We can't afford that.

Pro: Doctors should do all they can to save a life, even if a person is very sick for a long time.

Con: Sometimes doctors should let people die so they don't have to suffer.

Pro: Learning how to change DNA and RNA can help us fix problems before babies are even born, so they never have to suffer.

Con: If we try to fix too many things, we may end up trying to make people "perfect." We aren't meant to be perfect.

THE DENVER POST

Find an article in *The Denver Post* about a new medicine or treatment for disease. Draw or write in the boxes below to answer each question.

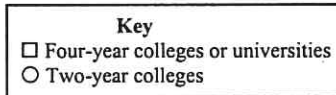
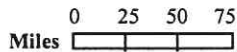
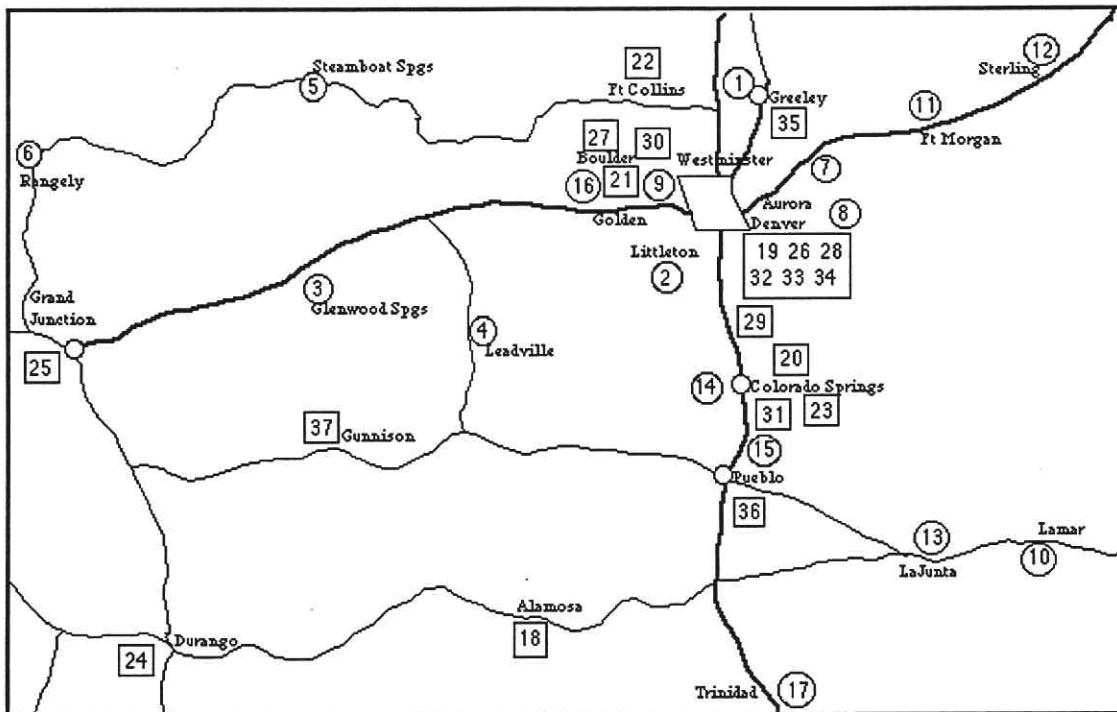
How does this technology work?

How could it change our lives for the better?

What bad results could come from it?

Colorado Colleges: Where the Future Begins

Geography Standard 1



Much of the scientific research done in Colorado is done in colleges and universities. More importantly, many Colorado students and students from other states come to Colorado colleges to learn how to shape the future. Use the map above to learn a little more about where some of our colleges are located. You might be a student at one of them someday!

- | | |
|--|--|
| 1. Aims Community College | 19. Colorado Christian University |
| 2. Arapahoe Community College | 20. The Colorado College |
| 3. CO Mountain College (Glenwood Springs) | 21. Colorado School of Mines |
| 4. CO Mountain College (Leadville) | 22. Colorado State University |
| 5. CO Mountain College (Steamboat Springs) | 23. Colorado Tech |
| 6. CO Northwestern Community College | 24. Fort Lewis College |
| 7. Community College of Aurora | 25. Mesa State College |
| 8. Community College of Denver | 26. Metropolitan State College of Denver |
| 9. Front Range Community College | 27. Naropa Institute |
| 10. Lamar Community College | 28. Regis College |
| 11. Morgan Community College | 29. United States Air Force Academy |
| 12. Northeastern Junior College | 30. University of Colorado at Boulder |
| 13. Otero Junior College | 31. University of Colorado at Colorado Springs |
| 14. Pikes Peak Community College | 32. UC – Denver 33. UC Health Sciences |
| 15. Pueblo Community College | 34. University of Denver |
| 16. Red Rocks Community College | 35. University of Northern Colorado |
| 17. Trinidad State Junior College | 36. University of Southern Colorado |
| 18. Adams State College | 37. Western State College |

College Quiz

Use the map on the previous page to answer these questions.

Which college is closest to your home?

Which is farthest away? _____

How far apart are UC – Boulder and UC – Colorado Springs?

If you were a student at Mesa State College, how far would you have to drive to visit a friend at Northeastern Junior College? _____

If Leadville is the highest town in the U.S., what might be the highest college?

Which town has the most colleges?

About how far do you live from the Air Force Academy?

How many colleges are west of Western State College? _____

If you went to school in Trinidad, how many years would you be in college? _____

Which college interests you? _____

...And Then There's You

Reading and Writing Standards 1, 4, and 5

The most important resource Colorado has for creating a great future is *you*, our kids. You are the ones who will grow up to be farmers, environmentalists, historians, scientists, and everything else we need to keep our state going.

Because you're so important, Colorado wants to make sure you're learning everything you need to know in school. As you may have noticed, *The Denver Post* runs lots of stories about the standards your teachers must meet and the tests you need to pass.

On the first page, you wrote the kind of Coloradan you would like to be. You may have been collecting articles that would interest that person. Think about what other students need to know about your Coloradan.

Now it's your turn to be the teacher. On the next two pages is list of the Colorado State Standards. Look at the list. Choose a standard you think is important. Then think of a lesson you would like to teach to your class about your Coloradan. Use the articles you have collected to help you. Describe your lessons in the box below. If there's time, maybe your teacher will let some of you teach them!

Lesson Title:

Standard:

What they'll learn:

What they'll do:

What they'll need:

Colorado Model Content Standards

History

1. The student knows the chronological organization of historical events and how to group them into major historical eras in order to detect and explain historical relationships.
2. The student knows how to use the processes of historical inquiry, cause and effect reasoning and interpretation of historical arguments in order to make sound historical judgments.
3. The student knows that throughout history societies have developed and been transformed as a result of their social interactions.
4. The student knows that economic and technological developments and changes have resulted from humankind's attempts to adapt to and modify the environment.
5. The student knows how various peoples have considered and addressed the great questions of humanity and how each culture has given expression to these questions.
6. The student knows how and why political theories and political organizations have developed as a result of the pursuit of effective order, power, and more just and humane societies.

Reading and Writing

1. Students read and understand a variety of materials.
2. Students write and speak for a variety of purposes and audiences.
3. Students write and speak using conventional grammar, usage, sentence structure, punctuation, capitalization, and spelling.
4. Students apply thinking skills to their reading, writing, speaking, listening, and viewing.
5. Students read to locate, select, and make use of relevant information from a variety of media, reference, and technological sources.
6. Students read and recognize literature as a record of human experience.

History

1. Pages 8, 9, 26, 27, 30, 31
2. Pages 8, 9, 24, 30, 31
3. Pages 17, 26, 27, 30, 31
4. Pages 8, 9, 17, 26, 27, 30, 31, 33, 38
5. Page 25
6. Pages 17, 26, 27, 30, 31

Reading and Writing

1. Pages 3, 11, 16, 17, 19, 20, 24, 25, 40
2. Pages 10, 11, 17, 20, 24, 25, 31, 35, 38
3. Pages 10, 17, 20, 24, 25, 31, 35
4. Pages 3, 10, 11, 16, 17, 19, 20, 24, 31, 38, 40
5. Pages 3, 17, 19, 20, 40
6. Pages 11, 25,

Math

1. Students develop number sense and use numbers and number relationships in problem-solving situations and communicate the reasoning used in solving these problems.
2. Students use algebraic methods to explore, model and describe patterns and functions involving numbers, shapes, data, and graphs.
3. Students use data collection and analysis, statistics, and probability in problem-solving situations and communicate the reasoning and processes used in solving these problems.
4. Students use geometric concepts, their properties, and relationships in one, two, and three dimensions to model and solve real-world problems.
5. Students use a variety of tools and techniques to make and use measurements in problem and everyday situations.
6. Students understand, develop, and use computational skills and techniques, including estimation, mental math, paper-and-pencil, calculators, and computers, in problem-solving situations.

Geography

1. Students know how to use and construct maps, globes, and other geographic tools to locate and derive information about people, places, and environments.
2. Students know the physical and human characteristics of places, and use this knowledge to define and study regions and their patterns of change.
3. Students understand how physical processes shape Earth's surface patterns and systems.
4. Students understand how economic, political cultural, and social processes interact to shape patterns of human populations, interdependence, cooperation, and conflict.
5. Students understand the effects of interactions between human and physical systems and the changes in meaning, use, distribution, and importance of resources.
6. Students apply knowledge of people, places, and environments to understand the past and present and to plan for the future.

Math

1. Pages 18, 22, 28, 34
2. Pages 5, 22
3. Pages 5, 8, 9, 15, 18, 36
4. Pages 21, 22, 29
5. Pages 22, 28, 29
6. Pages 21, 22, 28, 29

Geography

1. Pages 6, 7, 19, 39
2. Pages 15, 16, 19, 20, 26, 27
3. Pages 13, 19, 20, 37
4. Pages 6, 7, 10, 12, 26, 27, 35, 37
5. Pages 16
6. Pages 16, 26, 27

Resources

Web Sites

Bureau of Land Management
<http://www.blm.gov>

Colorado Air Quality Control Commission
<http://www.cdphe.state.co.us/ap/aphom.asp>

Colorado Council on High School/College Relations
<http://www.coloradocouncil.org>

Colorado Department of Agriculture
<http://www.ag.state.co.us>

Colorado Division of Wildlife
<http://www.wildlife.state.co.us>

Colorado Mining Association
<http://www.coloradomining.org>

Discovery Channel School
<http://school.discovery.com>

Greatest Achievements Project
<http://www.greatachievements.org>

Hilma Volk's Poetry
<http://www.nidlink.com/~hilmav/cowpie.html>

Kentucky Coal Council's Coal Education Site
<http://www.coaleducation.org>

Mesa Verde National Park
<http://www.nps.gov/meve>

Mineral Information Institute
<http://www.mii.org>

Molly Brown House Museum
<http://www.mollybrown.com>

NASA
www.nasa.gov

National Park Service
<http://www.nps.gov>

New Perspectives on the West
<http://www.pbs.org/weta/thewest>

Nielsen Media Research
<http://nielsenmedia.com>

Ribozyme Pharmaceuticals
<http://www.rpi.com>

Southern Ute Indian Tribe
<http://www.southern-ute.nsn.us>

Telluride
<http://www.telski.com>

United States Department of Agriculture
<http://www.usda.gov>

Books

Kent, Deborah. *America the Beautiful: Colorado*. Chicago: Childrens Press, 1989.

Perry, Phyllis J. *A Look at Colorado*. Boulder, Colorado: Pruett Publishing Company, 1976.