# Week 1 March 30 – April 3, 2020

**ELA** R.I. 3.9 Lesson 20- Comparing Two Text

Language L.3.1.D, L.3.2.C-Daily Language

Math - MD. 3.5 Lesson 27- Understanding Area

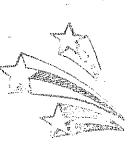
Science - 3.P.10.2 - Forces and Motion

<u>Social Studies</u>- SS.3.G.2.3- Label the States (Alabama, Alaska, Arizona, California, Colorado)

**Handwriting**- Letter X

Cellular Phones Approved for Sale	Reading
Computers (2 Articles)	
Hisory of Television/Shoule We Watch TV	
Goodbye, Books?/E-Readers: No Substitute for Books	
Daily Language - Cursive	
Lesson 27 Understand Area	Math
Lesson 27 Area Using Different Units	
Lesson 27 Ideas About Finding Area	
Understand Area - Practice Pages	
Articles - Meet Sir Isaac Newton & Force	Science and Social Studies
Aricles - Newton's Law/Speed	and S
Social Studies -	ocial Si
Complete Fact Sheets about States	tudies

### Lesson 20 Comparing and Contrasting Two Texts





Looking at how two texts on the same topic are alike and different can give you a better understanding of the topic.

Read When you read two texts on the same topic, remember to compare and contrast their most important points and key details. When you compare, you look at how the texts are alike. When you contrast, you look at how they are different.

Read the ad and the news story. How are they alike? How are they different?



Talk for up to 60 minutes.

Order yours today!

go anywhere you can.

And at only 28 ounces, this phone can

# for Sale September 21, 1983

Cellular

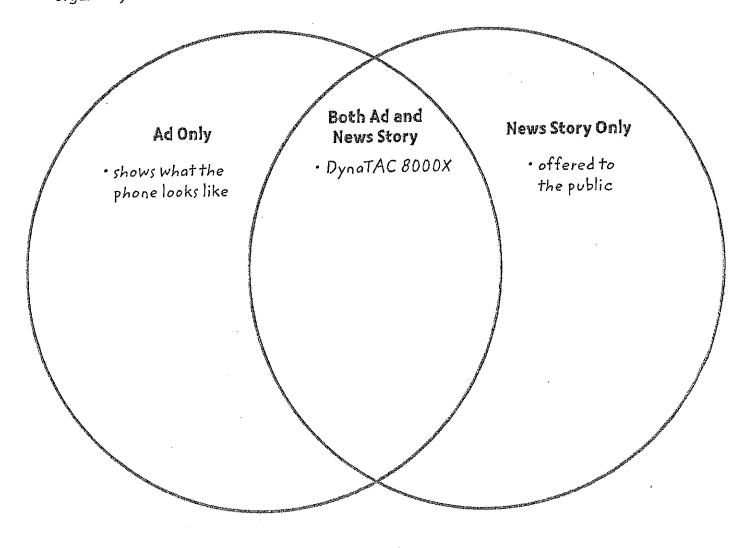
**Phones** 

Approved

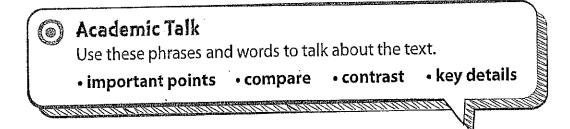
Today, a company received FCC approval to sell the DynaTAC 8000X. This phone will be the first handheld cellular phone to be offered to the public. It offers 60 minutes of talk time and weighs 28 ounces. The initial price will be \$3,995.

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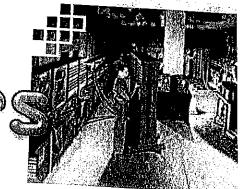
Think Think about what you've learned so far about comparing and contrasting two texts on the same topic. How are they the same? How are they different? Use the *Venn diagram* below to organize your ideas.



Talk Read the ad again and look at the details. Which details show that the ad is written for people who might want to buy the phone?



# A Short History of Computer Kay



- In 1833, a man named Charles Babbage came up with the idea of the modern computer. But there was one problem. He couldn't figure out how to make one.
- A hundred years later, computers became a reality. In 1939, the first computers were invented to help countries fight wars. Then, around 1950, companies began using computers to help run their businesses. These computers were so huge that they filled large rooms.
- In 1981, the first PC, or personal computer, was sold. It fit on a desktop and had a keyboard and a screen. Since then, computer use has exploded. Computers are everywhere today. Computers have become faster, smarter, and smaller. They are so small that we hold them in our hands!

# COMPUTES LOCAL by Aparna Singh

- Fifty years ago, few people knew much about computers. For the most part, they were used by the government or in businesses. But today computers are everywhere!

  You might be surprised to be a supplied to the computers.
- You might be surprised to learn how many everyday items contain computers. Cell phones and digital cameras use computers. So do TVs and kitchen ovens. Computers are used to run cars and airplanes. They also keep traffic lights blinking and trains on schedule.

#### Close Reader Habits

**Underline** the key details in each passage. Which details in the passages are alike? Which are different?

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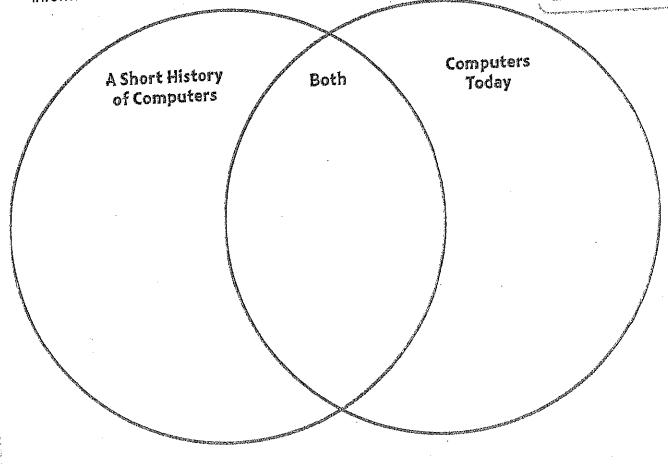
How are the two articles about computers alike and different?



#### Think

Complete the Venn diagram to show how the two articles give information about computers that is alike and different.

Looking for key details in each text will help you find information that's alike and different.



#### Talk

Get together with a partner and talk about how the information in each article is alike and different. What did you learn about computers by reading both articles?

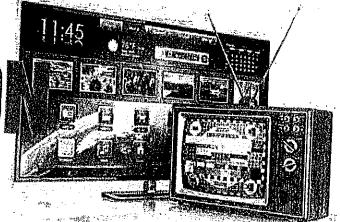


#### Write

**Short Response** Why has the use of computers increased so much over the last fifty years? Find reasons in **both** articles. Use the space provided on page 332 to write your answer.

HINT Beginning in 1981, what changed about computers and how they were used?

# TISTOLY OF SOLUTION OF SOLUTIO



- David Sarnoff had an idea. If sound could travel over the radio, why couldn't pictures? In 1939, he showed the world it was possible. Broadcast television was born.
- No one person can claim that he or she invented television. People in several countries were inventing it about the same time. But even though television was invented, there was a catch. No one knew what to do with it. Sarnoff did, and he knew where to introduce it.
- In 1939, Sarnoff showed the first television broadcast at the New York World's Fair. People crowded around the tiny sets to watch the black-and-white pictures. The first show was of President Franklin D. Roosevelt, who gave a speech. That same year, television sets went on sale. The first ones were small—only 5-inch by 12-inch screens.
- Television companies began showing programs. In 1939, the first baseball game was put on television. Stations began to broadcast news shows, children's shows, comedies, and dramas. Today there are hundreds of channels and many more kinds of programs.
- The number of TV sets in use also keeps growing. In 1946, there were about 6,000 televisions sets in use in the United States. In 1951, there were 12 million. As more people watched, more shows were added. By 1962, around 49 million U.S. households had televisions in the home. Today, 99 percent of homes have a television. Some even have three or more!

#### Close Reader Habits

Underline the most important idea in each paragraph. Then look for key details that support each idea.

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- What do you do in your free time? If you say, "watch television," you are not alone. About 99 percent of American households own a television. The airwaves are flooded with all kinds of programs. There are hundreds of channels to choose from.
- And there's so much to see! You can watch a tiger hunt in the jungle—something you might never see in person. You can visit the bottom of the ocean or cruise in outer space from your sofa. You can learn how to do new things, such as cook. TV is also a good way to relax. Watching a funny show can be relaxing.
  - But do Americans watch too much television? One study said that the average person watches four hours each day. If that person lived to be 65 years old, he or she would have watched TV for nine years! Watching television doesn't require effort. All you have to do is sit and
  - watch. When children watch TV, they are not playing and running. They aren't playing games or solving problems. Also, children who watch a lot of TV tend to eat more junk food, including chips and soda. So watching a lot of TV can be bad for your health.

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Watching a little television each day isn't harmful. It might even make you smarter. But if you are watching four hours a day, think about doing something else!

#### ( ose keader lable

In "Should We Watch TV?", underline important ideas that are like those in "History of Television."

Draw a wavy line under important ideas that are new.

#### Think

- Which choice **best** describes why the author wrote "History of Television"?
  - A to tell why David Sarnoff was important to TV
  - **B** to show how television has grown since 1939
  - **C** to describe the types of programs available on TV
  - **D** to prove that people watch too much television
- This question has two parts. Answer Part A. Then answer Part B.

#### Part A

What is one of the most important ideas of "Should We Watch TV?"

- A Television shows will make you smarter.
- B Watching too much TV can be harmful.
- C The number of TVs in homes is increasing each year.
- **D** A wide variety of programs is available on TV.

#### Part B

What are **two** details from "Should We Watch TV?" that support your answer to Part A?

- A "The airwaves are flooded with all kinds of programs."
- B "About 99 percent of American households own a television."
- "One study said that the average person watches four hours each day."
- D "Watching a little television each day isn't harmful."
- **E** "Watching television doesn't require effort."
- F "So watching a lot of TV can be bad for your health."



When you compare two texts, think abou each author's reason for writing.

- Which of the following ideas is found in **both** passages?
  - A Watching television might make you smarter.
  - B Too many Americans watch too much television.
  - C The first television screens were only 5 inches by 12 inches.
  - **D** Most households in America have a television.
- Which sentence **best** describes the difference between the two passages?
  - A The first passage shows the benefits of television; the second passage shows the problems with television.
  - B The first passage describes the invention of television; the second passage explains why television is so popular.
  - C The first passage explains the importance of TV; the second passage describes how TV can be used in education.
  - D The first passage describes the history of television; the second passage explores whether watching TV is good or bad.

#### Talk

In which passage would you find information about how TVs have changed? Which one would you use to learn how TV has affected us? Refer to details from each passage when talking about your answers.



Short Response What are two things you learned in "Should We Watch TV?" that you didn't learn in "History of Television"? Use the space provided on page 333 to write your answer.

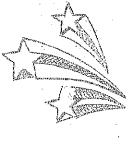
"Should We Watch
TV?" Look again at
the sentences you
underlined or marked
with a wavy line.

		faced first matte			
Supply Su	Write Use	the space below	w to write you	answer to the c	Juestion on page 327.
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E7 ESP TOTAL	1. 2. 2.				
					Don't forget to check your writing.

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#### **Check Your Writing**

- ☐ Did you read the prompt carefully?
- ☐ Did you put the prompt in your own words?
- ☐ Did you use the best evidence from the text to support your ideas?
- ☐ Are your ideas clearly organized?
- ☐ Did you write in clear and complete sentences?
- and punctuation?



#### WORDS TO KNOW

As you read, look inside, around, and beyond these words to figure out what they mean.

- skeptical
- access

# GOODINE.

by Jamie Joyce, Time for Kids

Oushing Academy used to have 20,000 books in its library. But over the summer, this small Massachusetts high school began to replace printed books with electronic books, or e-books. Why? "The school wanted to put its focus on 21st-century learning," Tom Corbett, the library's executive director, told TFK. Few students were using library books to do their school assignments. Most did their research online. Transforming the library seemed like the best way to meet students' needs. Without a print collection to care for, Corbett says librarians can now concentrate on helping students use the online collection in new and better ways. They can also work with teachers to bring technology into the classroom.

#### More Books, More Reading

Teacher Nancy Boyle says her students still enjoy regular books. But they're also testing out the Kindle, an electronic reader. So far, it's been a success. "It's great," Boyle told TFK. "The kids are reading more."

3 Sixteen-year-old Meghan Chenausky was skeptical at first. "I love the feeling of books," she told TFK. "I really thought I was going to be missing out when I started using a Kindle. But now I absolutely love using it. It's so convenient. You can have so many books right at your fingertips."

#### Meet an E-Reader

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Can your backpack fit 1,500 books? An e-reader can. Most e-readers are pencil-thin and weigh less than a pound. They can download an e-book in 60 seconds. Don't understand the meaning of a word? Click on it to get the definition. Is the print too small? An e-reader can adjust the size.

E-readers aren't cheap, but it costs the school just \$5 or \$10 to download an e-book on as many as six e-readers. "Now, students have access to a million titles," Corbett says.

Still, regular books have one big advantage over e-readers: They don't use electricity. E-readers have to be charged, like cell phones.



#### WORDS TO KNOW

As you read, look inside, around, and beyond these words to figure out what they mean.

- device
- portable

# No Substitute for BOOK by Linda Timm

It's a cold, stormy day, and lightning has knocked out the power in your neighborhood. No problem! You'll just grab a snack, curl up with a good book, and read for hours. You pull out your e-reader, press the button . . . and the screen remains dark. The battery is dead. And since there's no electricity, there's no way to recharge the device. Guess you're out of luck.

This is just one example of how impractical e-readers are. Sure, an e-reader can store thousands of books. But what good is that if you can't use the reader whenever you need to? Running out of power is only one of the issues. E-readers can also break. Drop one, and the screen may crack or the reader may just stop functioning. You have to purchase a new book AND a new device. If you drop a printed book, though, you can just pick it up and keep reading.

E-readers also make reading itself more difficult. Sentences may break across lines in awkward ways. Or, one sentence may get stretched across a page, leaving huge spaces between words. It's also hard to find parts you want to reread. Even with search tools, it's difficult to "flip" back and forth as you would with a printed book. Note-taking can also take longer and be more frustrating.

Still, some schools are beginning to buy e-readers for students in place of books. School leaders feel they can get more books for less money that way. But e-readers are expensive, so how much money will schools have to spend to replace readers that students lose or break? Also, one research study showed that some people don't learn as well from e-readers. They don't understand as much, and they don't remember what they read. So are e-readers really good for students?

Sometimes the simplest choice is the best one. Printed books are inexpensive, recyclable, and portable. They are easy to distribute, easy to care for, and easy to replace. And the best part? Printed books will NEVER run out of power!



Think Use what you learned from reading the passages to respond to these questions.

This question has two parts. First, answer Part A. Then answer Part B.

Which sentence **best** describes how the main ideas of these two passages are different?

- A "Goodbye, Books?" is about the new library at Cushing Academy, while "E-Readers: No Substitute for Books" is about a library that uses only printed books.
- "Goodbye, Books?" tells how e-readers are good for students and schools, while "E-Readers: No Substitute for Books" tells why e-readers should not replace printed books.
- C "Goodbye, Books?" explains why printed books are no longer useful, while "E-Readers: No Substitute for Books" explains why printed books are still good.
- **D** "Goodbye, Books?" is about the low cost of e-readers, while "E-Readers: No Substitute for Books" is about the low cost of printed books.

Choose one detail from each passage that supports your answer to Part A.

- "Cushing Academy used to have 20,000-books in its library." ("Goodbye, Books?")
- "So far, it's been a success. 'It's great,' Boyle told TFK. 'The kids are reading more." ("Goodbye, Books?")
- C "Still, regular books have one big advantage over e-readers: They don't use electricity." ("Goodbye, Books?")
- "Sure, an e-reader can store thousands of books." ("E-Readers: No Substitute for Books")
- "Still, some schools are beginning to buy e-readers for students in place of books." ("E-Readers: No Substitute for Books") E
- "Also, one research study showed that some people don't learn as well from e-readers." ("E-Readers: No Substitute

- Which **two** ideas can be found in **both** passages?
  - A E-books are inexpensive to use.
  - B Printed books are inexpensive and recyclable.
  - **C** Few students use library books to do assignments.
  - D E-readers can store more than a thousand books.
  - **E** E-readers can make the reading process more difficult.
  - **F** Schools are buying e-readers for students to use.
- Reread these sentences from paragraph 1 of "Goodbye, Books?"

Few students were using library books to do their school assignments. Most did their research online. Transforming the library seemed like the best way to meet students' needs.

Given the context, what does transforming mean?

- A changing
- B closing
- **C** rebuilding
- **D** emptying



#### Write

Should schools use e-readers instead of printed books? Reread both passages. Put a plus sign (+) next to facts that support the use of e-readers. Put a minus sign (-) next to facts that describe problems with e-readers.

- Plan Your Response Make a two-column chart. Put facts that support e-readers in one column. Put facts that show problems with e-readers in the second column. Study your chart.
- Write an Extended Response Explain whether or not schools should use e-readers instead of printed books. Use details from both passages to support your ideas. Your chart can help you choose your evidence.

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# DAILY ORAL LANGUAGE



BOOKI

Name:

### Week I, Monday

<u> </u>	
2. we is re	eading because of winn Dixie this afternoon
3. bens s	weater is still on the bus shouted sara
ek I. Tu	esday
1. sam h	aven't finish his book report yet
2. rosie lu	ucy and tom will sea a movie on friday

### Week I. Wednesday

	1. please bring four knifes to the table said mom
-	2. we will needed spoons and forks too she said
-	
_	. my sister she will bring the salad bowl and the italian salad dressing
	k I. Thursday  disneyland is in anaheim california
	are family will go there on may 4
	are family will go there on may 4

### Week I, Friday

1
77

# Lesson 27 Sintroduction Understand Area





#### Think It Through

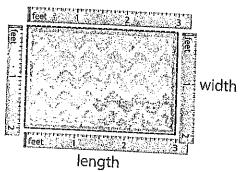
#### What are some ways that we measure shapes?



Think about different ways you can measure a rug that has the shape of a rectangle.

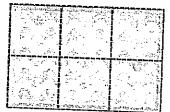
You can measure the length of the rug. The length tells how long the rug is from one end to the other. The rug at the right is 3 feet long.

You can also measure the width of the rug. The width tells how wide the rug is from one side to the other. The rug at the right is 2 feet wide.



# Think When you measure area, you measure both length and width.

Suppose you want to know the area of the rug. What you want to know is how much floor the rug covers. **Area** is the amount of space a shape covers.

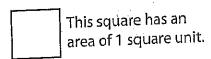


Underline the sentence that tells what area is.

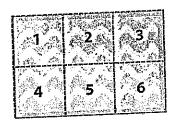
You can use a measuring tape to find out how long the rug is and to find out how wide it is. But that won't tell you how much of the floor the rug covers. You want to know about the space between the sides of the rug.

#### Think Area is the amount of space a shape covers.

You measure area in square units.



You can measure area by covering a shape with same-sized squares without gaps or overlaps. Then count to find out how many same-sized squares, or square units, cover the shape.





When I measure area,
I make sure the square
units line up with the
edges of the shape. I also
make sure the squares
do not overlap or have
gaps between them.

The rug is covered by 6 square units with no gaps or overlaps. So, the area of the rug is 6 square units.

#### ▶ Reflect

10	, page and the second s
	Explain how you use square units to find the area of a shape.

# Think About Area Using Different Square Units

Use an inch ruler to measure the length a width of one square unit in Square A.	Square A						
The square unit is inch long and inch wide.  So, 1 square unit has an area of square inch.							
Count the square units in Square A to find The area of Square A is square Use a centimeter ruler to measure the leng width of one square unit in Rectangle B.	inche	s.	# 1 1 2 m				1 12
The square unit is centimeter long and centimeter wide.  So, 1 square unit has an area of			-		1 s	quare	unit
square centimeter.			Re	ctang	le B		
Count the square units in Rectangle B to find the area.							;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;
The area of Rectangle <i>B</i> issquare centimeters.							A STATE OF THE STA
Suppose Square A is divided into smaller-sized square units. Can you also count these square units to		- To # 19	- 93 838				
describe the area of Square A?  Does the size of the square unit that is used how you find the area? Explain.	to cove	er a sh	ape i	squa make	re un a diff	it erenc	e in

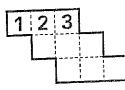
#### Let's Talk About It

Solve the problems below as a group.



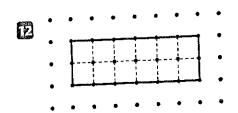
- How is finding the area of the Square A in square inches like finding the area of Rectangle B in square centimeters?
- If you found the area of Square A in square centimeters, do you think the number of square centimeters would be greater or less than the number of square inches you found for its area? Explain.
- Suppose you were measuring the area of a door. Would you need more square feet or more square inches to cover the door? Why?
- Number each square unit in the shapes below. Count the square units to find the area.

Area = \_\_\_\_\_square units

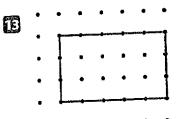


Area = \_\_\_\_\_square units

Try It Another Way Work with your group to find the area of each shape.



Area = \_\_\_\_\_ square units

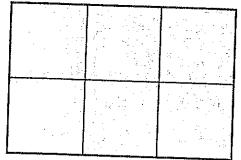


Area = \_\_\_\_\_square units

### Connects Ideas About Finding Area

Talk through these problems as a class, then write your answers below.

Compare Find the area of each shape below.



	1 1-51-6		

Each

has an area of 1 square unit.

has an area of 1 square centimeter.

Area = \_\_\_\_\_

Examine Anna counted the units in this rectangle. She said the area of the rectangle is 12 square units. What did Anna do wrong?

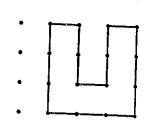
1	2	3
4	5	6
7	8	9
10	11	12

Relate Think about how you could find the area of this shape.

First draw the square units.

Then number the square units to find the area of the shape.

Area = \_\_\_\_\_square units



## Apply | Ideas About Finding Area

Part A	eter ru	ulei.	ctand	da wit	h an a	area O	f 8 sai	Jar <del>e</del> c	entim	eters.			
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Part I	3 Dra	aw an	other	recta	ingle	with a	an are	ea gre	ater t	han 8	squa	ire cen	timeters
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#### CESONY ULACISTOROW ATGOR

Name:
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Prerequisite: How can you break up a rectangle into squares of the same size?



Study the example showing how to break a rectangle into squares of the same size. Then solve problems 1-9.

the state of the s	- b. ov. 5112 1-2;	
Example	and a second	See all the second seco
These rectangles are the s broken into squares. Recta squares than Rectangle <i>B</i> .	angle A is broken into bigger	different destructions and the second
Rectangle A	Rectangle B	vicina policia condus
		entimental enterentiment enterentiment enterentiment enterentiment enterentiment enterentiment enterentiment e
1 row of squares	2 rows of squares	W. Haines, p., c.
2 squares in a row	4 squares in a row	
2 squares in all	8 squares in all	et in con
Owen started drawing sam Rectangle C. Finish drawing How many rows of squares squares are in each row?  How many squares are there	the squares.  are there? How many  in all?	Rectangle C
Amelia started drawing sam	e-size squares in	Rectangle D
Rectangle D. How many squ	Roctangle D	
altogether when she finished	s? Tell how you know.	

# Solve. Draw lines to show how to fill the rectangle with the two different-size squares. Look at square A. How many of these squares does it take to cover the rectangle? \_\_\_\_\_ Look at square B. How many of these squares does it take to cover the rectangle? \_\_\_\_\_ Explain why your answers to problems 6 and 7 are not the same. Show how to cover the shape with squares of the same size. Use the fewest squares that you can. How many squares did you use?

(Lessonez Name	:				
Study the example showing how to count square units to find area. Then solve problems 1-7.					-
Example	eter to the state of the state	arakini ya ka	amindinka sina	Parkety distribute	Same long to the long of the l
The red shape is covered with squares the same size.	1	2	3	4	
What is the area of this shape?	5	6	7	8	
Count the square units. The area of the shape is	Corporation and Corporation	9	10		
12 square units. You must use same-size squares to find the area in square units.		11	12		
		COMPANY OF THE PARTY.			
Count to find each area.	A Company of the Comp	= 1 s	quare		لدنستاخ يسئسينه تكوز
Area = square units Area =	square	units			
What is the area?  1 square inch	si si w	rea the care a side a s	cabu e amou shape c unit a e lengti at is use the are	unt of covers. square hs of ed to	

Area = \_\_\_\_\_ square inches

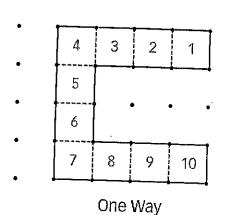
a figure.

Name:

Study the example. Underline two parts that you think make it a particularly good answer and a helpful example.

#### Example

Show and explain two different ways to find the area of the "C" shape below. Tell how you know that both ways work.



		o——	·		
	1	2	3	4	
	1			•——.—•	
,	2		•	•	
	1	2	3	4	
Another Way					

Another Way

Possible answer: One way I found the area is by counting each square unit in the shape. There are 10, so the area is 10 square units.

Another way I found the area is by dividing the shape into 3 different rectangles. I counted the square units in each rectangle to get 4, 2, and 4. Then I added 4 + 2 + 4 to get 10 square units.

In both ways, I counted each square unit exactly once. I got the same area using both ways.

#### Where does the example...

- · show the two ways to find the area?
- explain how to find the area using each way?
- tell why both ways work?



#### Solve the problem. Use what you learned from the example.

Show and explain two different ways to find the area of the shape below.

Tell how you know that both ways work.

One Way

Another Way

#### Did you ...

- · show the two ways to find the area?
- explain how to find the area using each way?
- · tell why both ways work?

### Municipal Control

Write the area of each shape in square units.

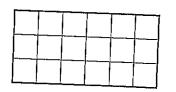
square units



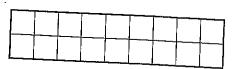
2 \_\_\_\_\_square units



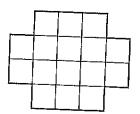
3 \_\_\_\_\_square units



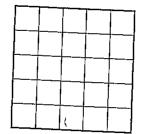
4 \_\_\_\_\_square units



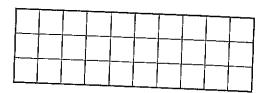
square units



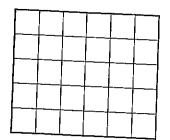
6 \_\_\_\_\_square units



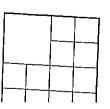
**Z** \_\_\_\_\_square units

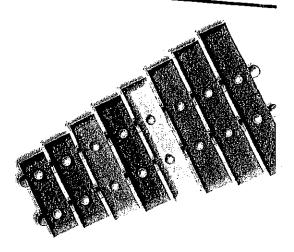


8 \_\_\_\_\_square units



Brett says this shape has an area of 13 square units. What could you tell Brett about his answer? Explain.





Capital X Practice:

Lowercase a practice:

# MEET SIR ISAAC NEWTON

You've probably heard the saying, "What goes up, must come down." A man named Sir Isaac Newton is responsible for this saying. Newton explained how gravity works and also discovered Newton's Laws of Motion. When Isaac was young, his father passed away and his mother took him to live on his grandparents' farm. He spent much of his time alone. It gave him time to think, and a lot of thinking he did!

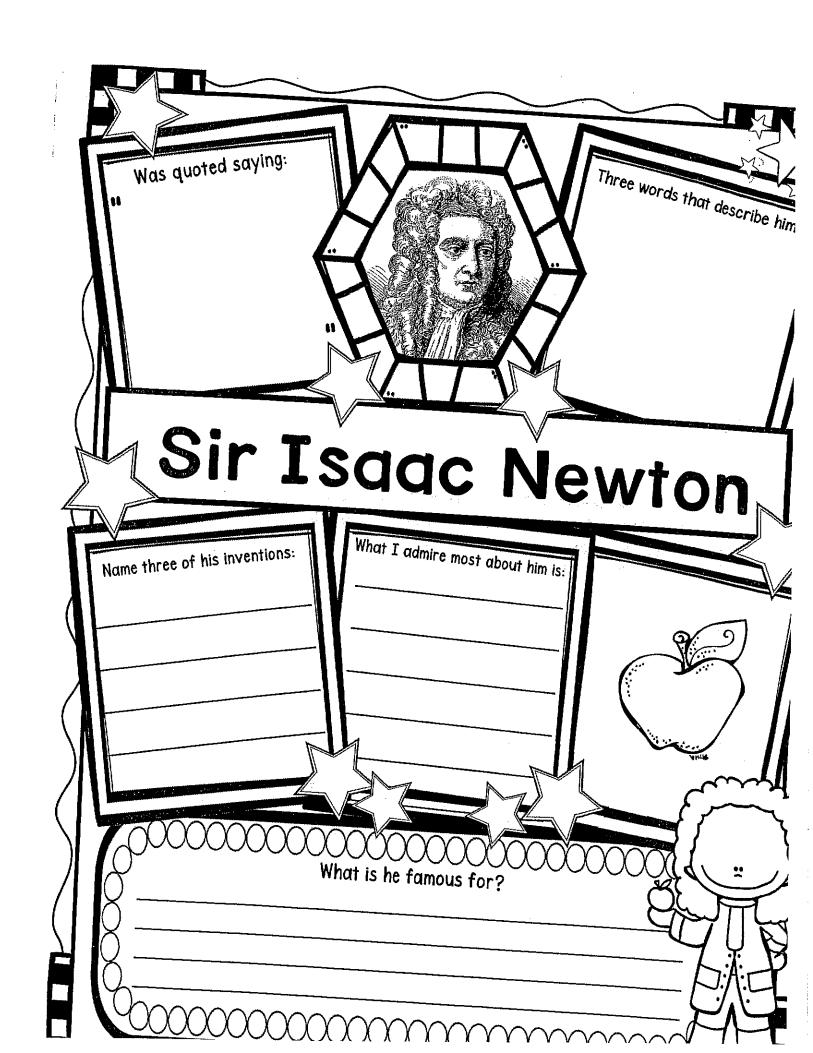
One day on the farm, Isaac saw an apple fall from a tree. It was this action that put many questions into his head.

He worked hard in college and became a college professor. He spent years working on his gravity and Laws of Motion theories.

In 1687, Isaac Newton wrote a book all about his theories. One of his closest friends listened to his ideas and urged him to tell everyone else. He even gave him money to get the book published. After it was published, it was named one of the most important pieces of work ever written in the history of science.

Today, Isaac Newton is considered one of the greatest scientists in history. He helped us understand everything we need to know





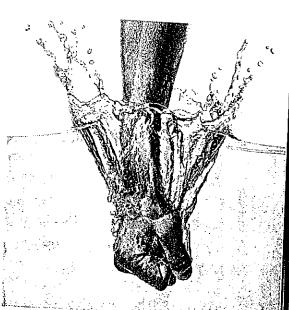
	Three facts I learned about him:	\$\frac{1}{2}
2.		
		· · · · · · · · · · · · · · · · · · ·
2		
3.		
Explain how or the wo	ne of his discoveries made One thing I	would ask him today is:
		,
Exp	plain one obstacle he overcame to ach	ieve success:

# FORCE

A force is a push or a pull that can make an object move. You use pushing and pulling motions all the time! You are using force when you write your name, open a door, tie your shoes, and even take a sip of your milk. Sometimes, force can change the speed and direction of an object. Scientists consider speed as how fast or slow an object is moving.

The bigger the force, the more movement it can produce. Sometimes forces add together to make an even bigger force. Certain forces that you use can affect speed and how objects move. For example, if you are helping your parents do laundry, you are using force. You have to pick up the laundry basket filled with clothes and move it out of your laundry room. If the basket is light, you do not need to use a lot of force to move it. You can probably walk quickly with the basket of clothes too. However, if the basket is heavy, you have to change the way you move it. You may choose to walk slower because you have to focus all of your energy on holding the heavy basket while you move, or you may choose to put the basket down and push it where it needs to go. This will still take longer because it is heavy. You have to use more force whenever an object is heavier. This may affect your speed as well.

Simple machines help make work easier. They can also help you use less force so that you can get objects where they need to go quicker! Just imagine if you had a wagon in your laundry room, you could place all the clothing inside it. This way you do not have to carry anything! You can get the clothes to the laundry room at a quicker speed because you placed them in something that has wheels. When an object has wheels, it can move quickly forward or backward. That object is doing all of the work for you. All you have to do is pull a handle and you can get your chores done quickly, without using a lot of force.



How does force affect the speed and direction of an object?

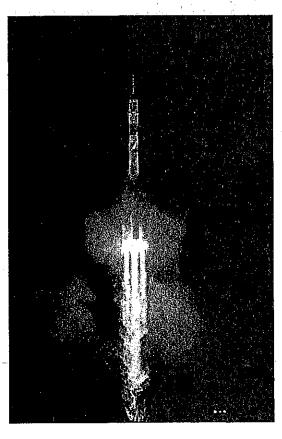
# FORCE ON AN OBJECT

Here is an experiment you can do at school or home to find out how force affects an object. Grab your favorite ball. Roll it slowly in front of you. Run up behind it while it is moving, and push it as hard as you can. Did you notice that the ball moved at a faster speed? It may even have changed direction after you did that! That's because powerful forces can change speed or direction of an object very quickly.

There is no more powerful a force than wind! Wind is the ultimate force. You may have noticed how strong the wind can be if you have ever flown a kite. The kite feels like it is tugging on YOU, but that is really the WIND pulling and pushing on the kite.



When an object is very heavy, a lot of force has to be used in order to increase its speed or change its location. Just imagine how hard it must be for a space shuttle to lift off. It's only able to lift off because of the thrust created by a huge blast of burning fuel. The fire from the burning fuel produces gas which pushes down while the rocket shoots up into the air.



Give a another example of a powerful force moving an object:



# NEWTON'S LAWS



Sir Isaac Newton was a brilliant scientist! He helped us understand everything we need to know about gravity and physics on our planet! He discovered the "laws of motion" that explain how everything moves.

## First Law of Motion

An object at rest will remain at rest unless acted on by a stronger force. An object in motion continues in motion with the same speed and in the same direction unless acted upon by a stronger force. Without force an object will either stay still or keep moving in the same direction or speed as it was before a force was applied. For example, a ball stays still until is moved by a force such as you kicking it or the wind blowing it. The force moves it forward. The ball keeps moving until other forces such as gravity and friction make the ball slow down, change direction, or stop. This law is often called "The Law of Inertia". Inertia means the tendency of an object to stay at rest or constantly keep moving in the direction of the force.

## Second Law of Motion

The greater the mass of the object, the greater the amount of force needed to move the object. So, heavier objects require more force to move the same distance as lighter objects. Force can slow down, speed up, or even change the direction of an object. If a lot of force is used to move an object, it will move farther and faster than if less forced were used. For example, if your sister knocks over your block tower with great force, the blocks will go flying across the room. But, if your sister just taps lightly on one of the blocks then it might fall down (instead of flying across the room) because she used less force.

# Third Law of Motion

For every action, there is an equal and opposite reaction. Therefore, whenever an object pushes another object it gets pushed back in the opposite direction equally hard. For instance, when you jump up into the air, the force of gravity is pushing down on you. The force of lift works against the force of gravity to push an airplane

How do you think Isaac Newton figured out these "Laws of Motion"?

# Force Give three examples that prove Newton's Laws of Motion: Write your own definition of force: Name things that can affect force: Explain two interesting facts I learned about force:

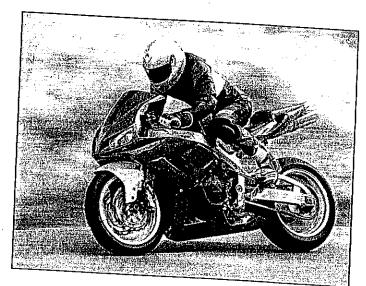
# SPEED AND ACCELERATION

Speed is the rate at which a moving object travels. The average speed is the distance traveled divided by the time it takes to travel that distance.

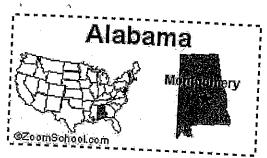
When you get into a car and it starts to move, you can feel that it is going faster and faster. You feel pressed back into your seat. When it reaches and stays at a certain speed, you no longer feel pressed back. You only feel pressed back when the called positive acceleration is any change in speed. When something speeds up, it is acceleration, or deceleration.

People are captivated by speed! Think about a rollercoaster. Many people love to ride on rollercoasters because it is thrilling to feel the acceleration. Many machines from motorcycles to race cars and speedboats are constructed to accelerate quickly. People from all over the world compete in races at the Olympics games to see who is the fastest runner.

What's the fastest thing of all? If you answered the speed of light, you are correct. While the speed of sound travels very fast, the speed of light is unbelievably fast! It travels at 186,000 miles per second. Since the Sun is so far away from us, it takes about seven minutes for light from the Sun to reach the Earth.

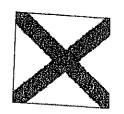


Explain the difference between speed and acceleration:



# Alabama

Facts, Map and State Symbols



Alabama was the 22<sup>nd</sup> state in the <u>USA</u>; it became a state on December 14, 1819.

State Abbreviation - AL

State Capital - Montgomery

Largest City - Birmingham

Area - 52,423 square miles [Alabama is the 30th biggest state in the USA]

Population - 4,833,722 (as of 2013) [Alabama is ]

the 23rd most populous state in the USA]

Name for Residents - Alabamans

Major Industries - agriculture (cotton, corn, peanuts, soybeans, poultry, and livestock), hydroelectric power, mining (coal, limestone,

iron ore), steel-making

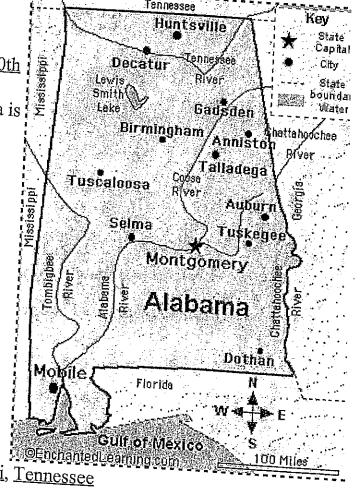
Major Rivers - Tombigbee River, Alabama River, Tennessee River, Chattahoochee River Major Lakes -Guntersville Lake, Wilson Lake, Martin Lake, West Point Lake, Lewis Smith Lake

Highest Point - Cheaha Mountain - 2407 feet, (734 m) above sea level

**Number of Counties - 67** 

Bordering States - Florida, Georgia, Mississippi, Tennessee

Bordering Body of Water - Gulf of Mexico



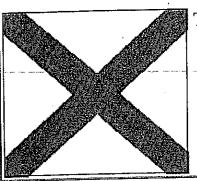
Origin of the Name Alabama - Alabama means "tribal town" in the language of the local

State Nickname - Heart of Dixie, "Yellowhammer State"

State Motto - "Audemus jura nostra defendere" - We Dare Defend Our Rights

Dinosaur Fossils Found in Alabama - Lophorhothon, Nodosaurus

#### State Flag



The official state flag of Alabama is called the "crimson cross of St. Andrew's," a red cross on a white background. This flag was adopted in 1895, and was patterned from the Confederate Battle Flag. This flag can be any type of rectangle (even a square) but the crimson bars must be six inches wide.

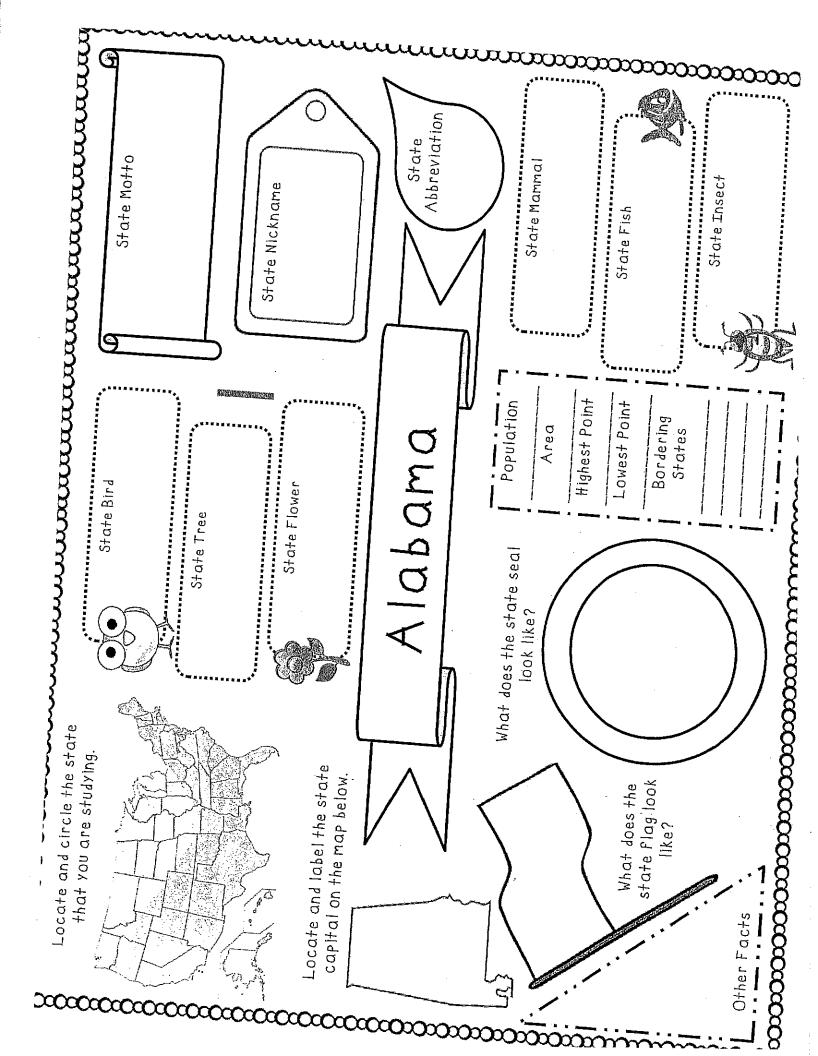
A	animal Symbol	5:				ansaure to manufactures and the second secon
	State Bird	State Game Bird	State Horse	State Insect		Butterfly and
ermed Manual and All Control of the	Yellowhammer	Wild Turkey (Meleagris gallopavo)	Racking horse	Monarch butterfly (Danaus plexippus)	E	astern Tiger
	State	State	State	State Sho	ell	State Fossil
-		Freshwater Fish	Amphibian			
	(Fighting) Tarpon	Largemouth bass	Red Hills salamander	Caphella jui johnstone		Basilosaurus cetoides An extinct whale

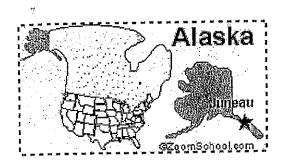
Plant Symbols:

State Flower	State Wildflower	State Tree	State Nut
Camellia (Camellia japonica )	Oak-leaf hydrangea	Southern longleaf pine ( <i>Pinus palustris</i> )	Pecan

Earth Symbols:

State Rock	State Gemstone	State Mineral	State Soil
Marble	Star Blue Quartz	Hematite (Red iron ore)	Bama soil series





#### Alaska

Facts, Map and State Symbols



Alaska was the 49<sup>th</sup> state in the <u>USA</u>; it became a state on January 3, 1959.

State Abbreviation - AK

State Capital - Juneau

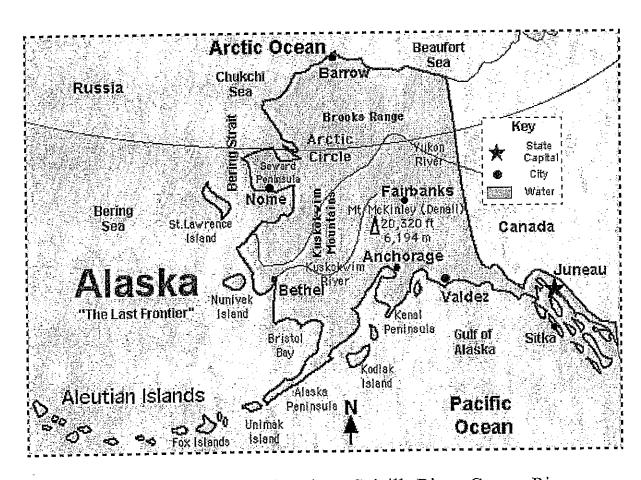
Largest City - Anchorage

Area - 656,425 square miles [Alaska is the biggest state in the USA]

Population - 735,132 (as of 2013) [Alaska is the 47th most populous state in the USA]

Name for Residents - Alaskans

Major Industry - oil (petroleum)



Major Rivers - Yukon River, Kuskokwim River, Colville River, Copper River
Major Lakes - Iliamna Lake, Aleknagik Lake, Becharof Lake, Clark Lake, Minchumina
Lake

point in the USA.

Number of Boroughs (Counties) - 27

Bordering US States - none

**Bordering Country - Canada** 

Bordering Body of Water - Arctic Ocean, Pacific Ocean, Beaufort Sea, Bering Sea, Gulf o

Origin of the Name Alaska - The word Alaska is from the Aleut Indian word "alaxsxaq" o "agunalaksh" that mean the mainland or shore.

State Nickname - The Last Frontier

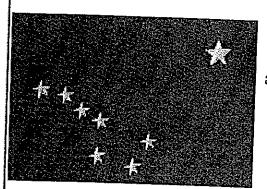
State Motto - "North To The Future"

State Song - Alaska's Flag

Dinosaur Fossils Found in Alaska - Albertosaurus, Ankylosaur (unknown genus), Edmontosaurus, Pachycephalosaurus, Pachyrhinosaurus, Saurornitholestes, Thescelosaurus,

### Alaska State Symbols and Emblems:

#### State Flag



The official state flag of Alaska was officially adopted in 1959. The golden stars represent the Big Dipper (an asterism in the constellation Ursa Major, the Big Bear) and the North Star, also called Polaris (representing Alaska's northern location). This beautiful flag was chosen from a flag-designing contest. It was designed in 1926 by a 13year-old Native American boy named Bennie Benson. Bennie was from the village of Chignik; he won a 1,000-

dollar scholarship and a watch for winning the contest.

#### **Animal Symbols:**

State Bird Willow	State Land Mammal	State Marine Mammal	State Fish	State Insect	State Fossil
ptarmigan (Lagopus lagopus)	Moose (Alces alces)	Bowhead whale (Balaena mysticetus)	King salmon (Onchorhynchus tshawytscha)	Four spot skimmer dragonfly	Woolly Mammoth (Mammuthus primigenius)

#### Plant Symbols:



Sitka spruce (Picea sitchenensis)

**Earth Symbols:** 

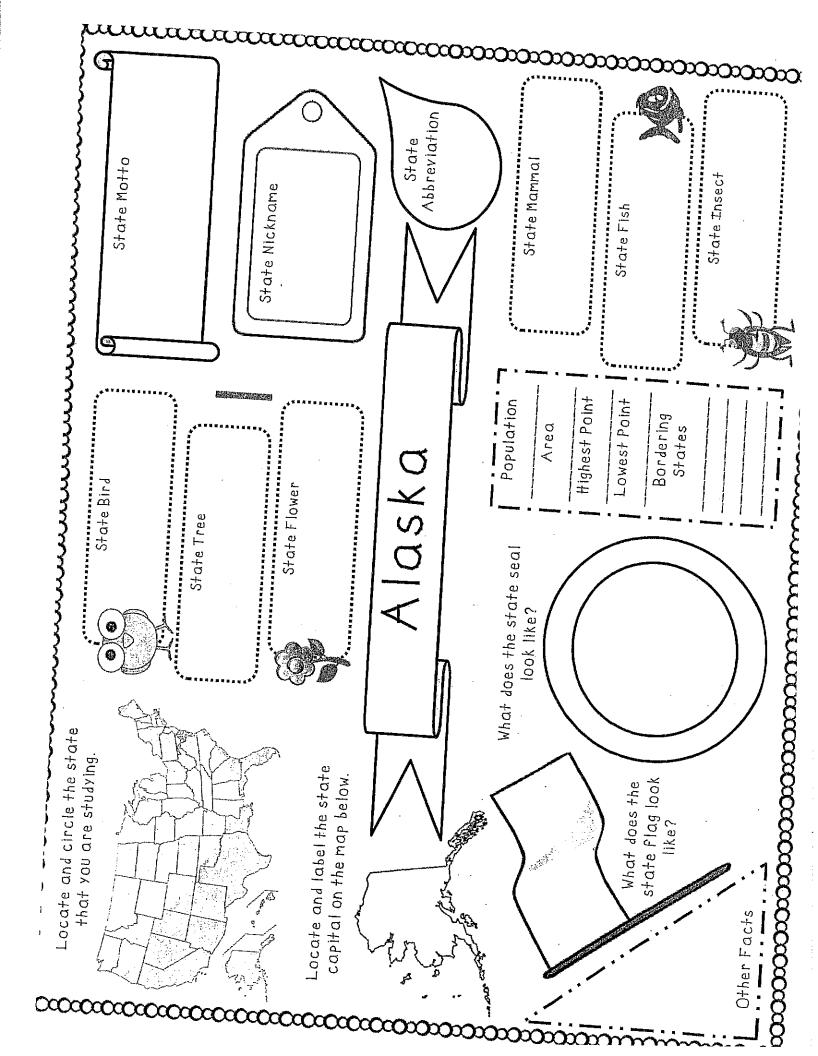
State Mineral	State Gem	State Soil
Gold	Jade	Estelle (unofficial)

Miscellaneous Symbol:

State Sport

Dog mushing

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#### Arizona

Facts, Map and State Symbols



Arizona was the 48th state in the USA; it became a state on February 14, 1912.

State Abbreviation - AZ
State Capital - Phoenix
Largest City - Phoenix
Area - 114,006 square miles [Arizona is the 6th biggest state in the USA]
Population - 6,626,624 (as of 2013) [Arizona is the 15th most populous state in the USA]
Name for Residents - Arizonans
Major Industries - mining (copper, molybdenum, gold, and silver), manufacturing, and tourism

Major Rivers - Colorado River, Little Colorado River, Gila River, Bill Williams River Major Lakes - Lake Mead, Lake Havasu, Lake Mohave, Theodore Roosevelt Lake, San Carlos Lake, Lake Powell Highest Point - Humphreys Peak - 12,633 feet (3,581 m) above sea level

**Number of Counties - 15** 

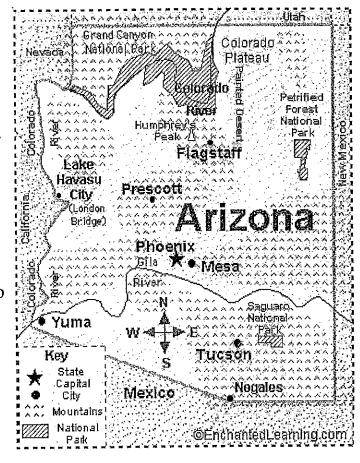
Bordering States - California, Colorado, Nevada, New Mexico, Utah Bordering Country - Mexico

Origin of the Name Arizona - The word Arizona comes from one of the following (its origin is not certain): the Aztec Indian word "arizuma," that means "silver-bearing," from the Tohono O'odham Indian word "Aleh-zone" which means "small spring," or the Pima Indian word "Ali shonak" which also means "small spring."

State Nickname - Grand Canyon State

State Motto - "Ditat Deus," God Enriches

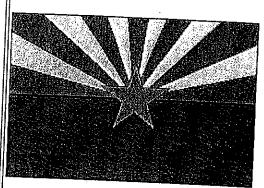
State Song - Arizona March Song



Revueltosaurus, Rioarribasaurus, Scutellosaurus, Segisaurus, Sonorasaurus, Syntarsus

# Arizona State Symbols and Emblems:

#### State Flag



The official state flag of Arizona was officially adopted or February 17, 1917. It was designed by Colonel Charles W Harris (adjutant general and chief administrative officer of Arizona) and was first sewn by Nan D. Hayden.

The 13 yellow and red rays represent both the Sun's rays and the original 13 colonies of the United States of

America. The colors red and yellow are used because they were the colors of the flag of the Spanish conquistadors led by Francisco Vasquez de Coronado, who entered Arizona in 1540 (looking for the legendary Seven Cities of Cibola). The copper-colored star in the middle represents copper mining, since Arizona produces more copper than any other state in the USA.

Arizona was the 48th state in the USA; it was admitted in 1912 (it had been part of Mexico before the Mexican War).

#### **Animal Symbols:**

State Bird	State	Mammal		State Reptile
Cactus wren	The state of the s	ngtail		Arizona Ridgenose Rattlesnake
State Amphil		State F	ish	State Insect
Arizona Tree Frog		Arizona t	rout	Two-tailed Swallowtail
and G				Papilio multicaudatus

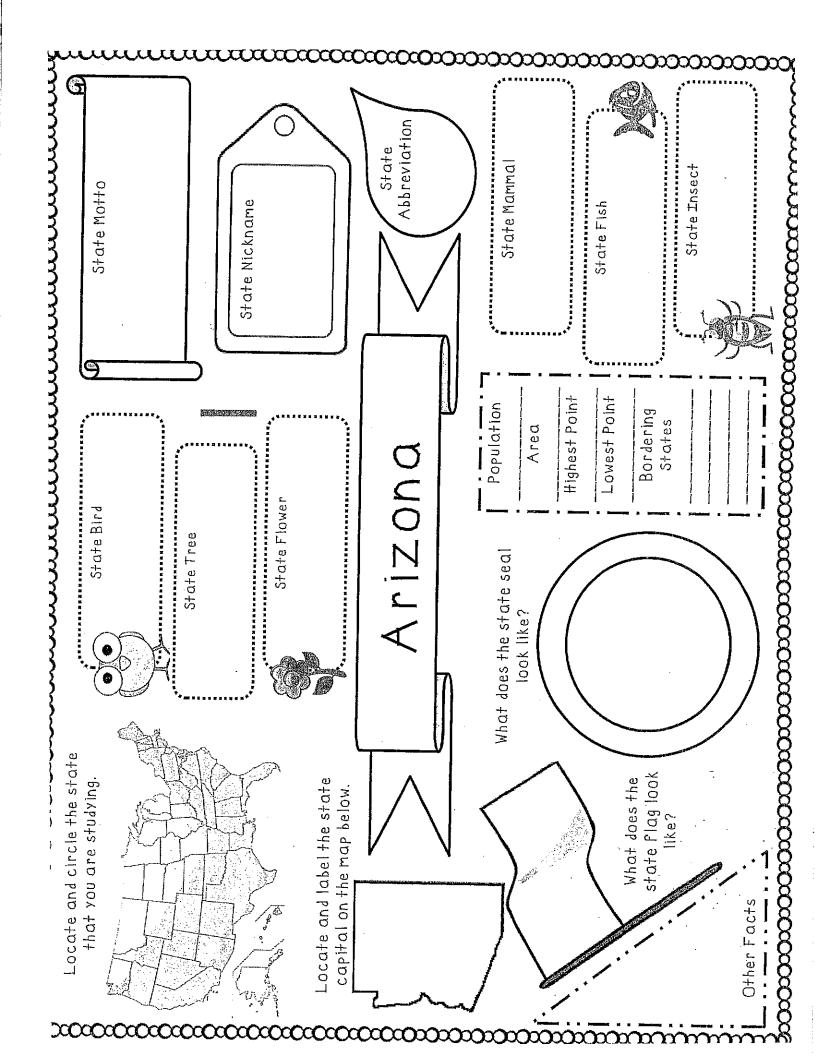
#### Plant Symbols:

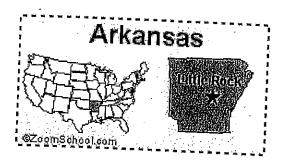
	·
State Flower	State Tree
Saguaro Cactus Blossom	
Forth Cymbol.	Palo Verde

#### Earth Symbols:

	State Fossil	State Gemstone	
	Petrified wood	Turquoise	State Soil
			Arizona Casa - Grande (unofficial).
Ţ	Aiscellancous Com-L. 1		

#### Miscellaneous Symbols:





## Arkansas

Facts, Map and State Symbols



Arkansas was the 25<sup>th</sup> state in the <u>USA</u>; it became a state on June 15, 1836.

State Abbreviation - AR State Capital - Little Rock Largest City - Little Rock Area - 53,182 square miles [Arkansas is the 29th biggest state in the USA]

**Population** - 2,959,373 (as of 2013) [Arkansas is the 32nd most populous state in the USA] Name for Residents - Arkansans Major Industries - agriculture (chickens, soybeans, rice, cotton), paper and wood products (including furniture), electronic equipment, mining (aluminum and diamonds)

Presidential Birthplace - William Jefferson Clinton was born in Hope on August 19, 1946 (he was

the 42nd US President, serving from 1993 to 2001).

Missouri ayetteville Jonesboro Fort Smith Conway Magazine Mt River 2,753 ft 839 m Hot Springs ittle Nat | Park Rock lississi Hot-Springs Pine Bluff boundan exarkana Mountains Texas NatiFar El Dorado Water @EnchantedLeaming.com Louisiana

Major Rivers - Arkansas River, Mississippi River

Major Lakes - Lake Ouachita, Bull Shoals Lake

Highest Point - Magazine Mountain - 2,753 feet (839 m) above sea level

Lowest Point - Ouachita River; 55 feet, (17 m) above sea level

**Number of Counties - 75** 

Bordering States - Louisiana, Mississippi, Missouri, Oklahoma, Tennessee, Texas

Origin of the Name Arkansas - Arkansas is from the Quapaw (Sioux) word "acansa," which means "downstream place" or "south wind." State Nickname - The Natural State

State Motto - "Regnat populus" - The people rule

#### Gary Klaff

#### Dinosaur Fossil Found in Arkansas - Arkansaurus

#### Arkansas State Symbols and Emblems:

#### State Flag



The official state flag of Arkansas was chosen in a design contest in 1913; the winner was Miss Willie Kavanaugh Hocker of Wabbaseka. The flag's design was finalized in 1926.

The diamond shapes in the center represent the diamond gemstone, because Arkansas is the only state in the USA where diamonds have been found. Since Arkansas was the

twenty-fifth state to join the Union, there are 25 white stars around the diamond. The three blue stars in the lower part of the center represent Spain, France and the United States, the countries that have ruled Arkansas. The blue star in the upper center represents the Confederacy, of which Arkansas was a member.

Animal Symbols:

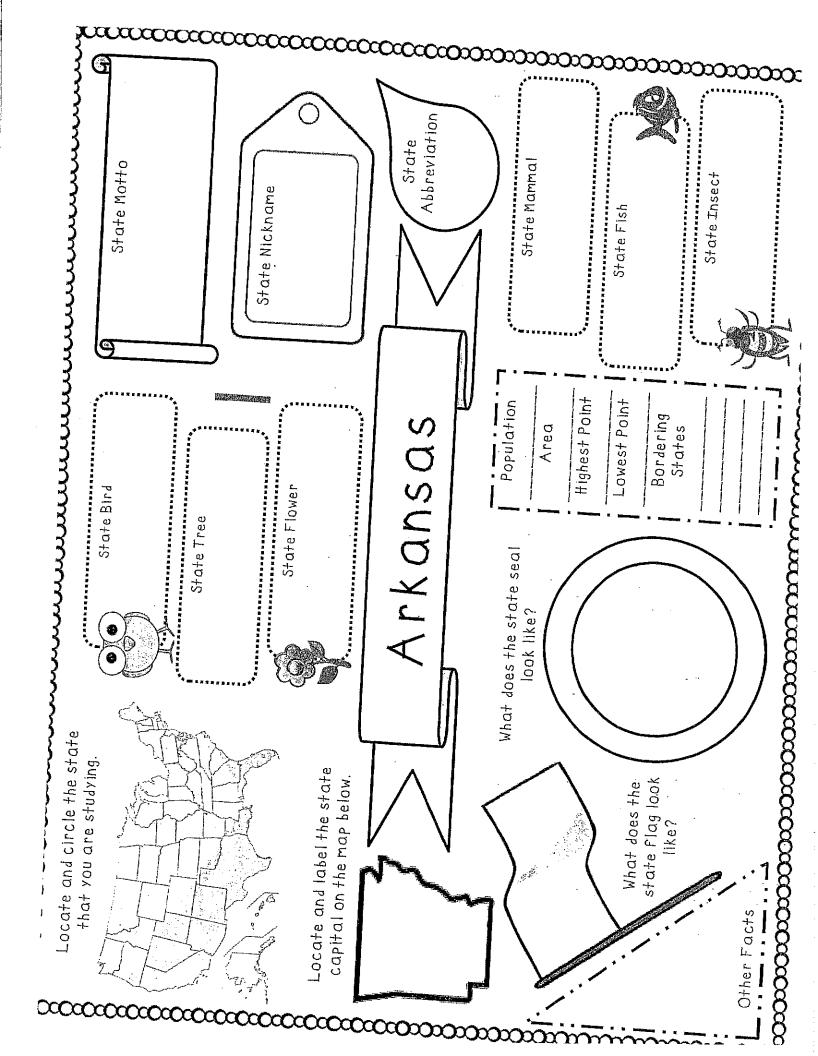
State Bird	State Mammal	State Fish	State Insect
@ZoomSchool.com	©Zoom School.com  White-tailed deer	None	<u>Honeybee</u>
<u>Mockingbird</u>			

Plant Symbols:

State Flower	State Tree	State Fruit and Blossom
Apple blossom	Pine Tree	South Arkansas vine ripe pink tomato

Earth Symbols:

Tal in Dymoois.			
State Gem	State Rock	State Mineral	State Soil
Diamond	Quartz crystal	Bauxite	Stuttgart (unofficial)





#### California

Facts, Map and State Symbols

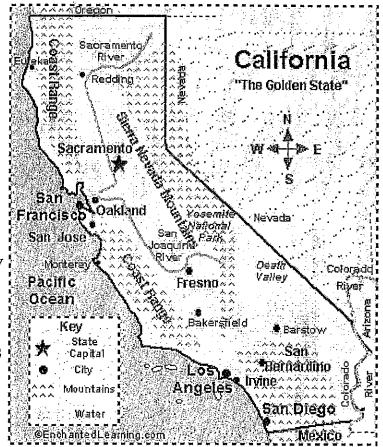


California was the 31<sup>st</sup> state in the <u>USA</u>; it was admitted on September 9, 1850.

State Abbreviation - CA
State Capital - Sacramento
Other Notable Cities - Los Angeles, San
Diego, San Francisco
Area - 163,707 square miles [California is
the 3rd biggest state in the USA - only
Alaska and Texas are bigger]
Population - 38,332,521 (as of 2013)
[California is the most populous state in the
USA]

Name for Residents - Californians
Major Industries - agriculture (many, many
products), oil, mining, electronics, movie
making/entertainment, and tourism

Presidential Birthplace - Richard Milhous Nixon was born in Yorba Linda on January 9, 1913 (he was the 37th US President, serving from 1969 to 1974).



Main Rivers - Sacramento River, Colorado River, San Joaquin River Highest Point - Mt. Whitney, 14,495 feet (4,418 m) above sea level Lowest Point - Death Valley, 282 feet (86 m) below sea level [this is the lowest point in the Western Hemisphere] Number of Counties - 58

Bordering States - Oregon, Nevada, Arizona

Bordering Country - Mexico

Bordering Body of Water - Pacific Ocean

Origin of the Name California - The name California comes from a mythical Spanish island ruled by a queen called Califia that was featured in a Spanish romance ("Las Sergas de Esplandian") written by Garcia Ordonez de Montalvo in 1510. The Spanish explorers originally thought that California was an island.



State Nickname - The Golden State

State Motto - Eureka (I have found it)

State Song - "I Love You, California"

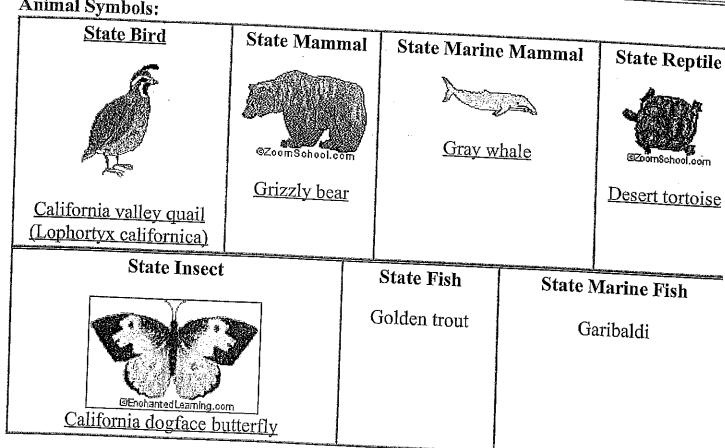
# California State Symbols and Emblems:



#### State Flag

The official state flag of California, called the Bear Flag, was first used on June 14, 1846, but was not officially adopted until 1911. It was designed by William Todd. The flag pictures a grizzly bear and a star. The first Californian flag was quickly made by a group of American settlers wh had just captured the town of Sonoma (from Mexico) and needed a flag to replace the Mexican banner.

#### Animal Symbols:



#### Plant Symbols:

**State Flower** State Tree



Poppy (Eschscholzia californica)

Redwood - Coast redwood (Sequoia sempervirens) and Giant redwood (S. gigantea)

The redwood is the tallest tree, growing up to 370 feet (113 m) tall and living for over a thousand years. One redwood in California is 2,200 years old. The roots of this giant conifer are shallow, but spread sideways up to 250 feet (75 meters) from the trunk. The bark is deeply-furrowed, fibrous, thick [up to about 1 foot (30.5 cm) thick] and lacks resin. There are many species of redwood.

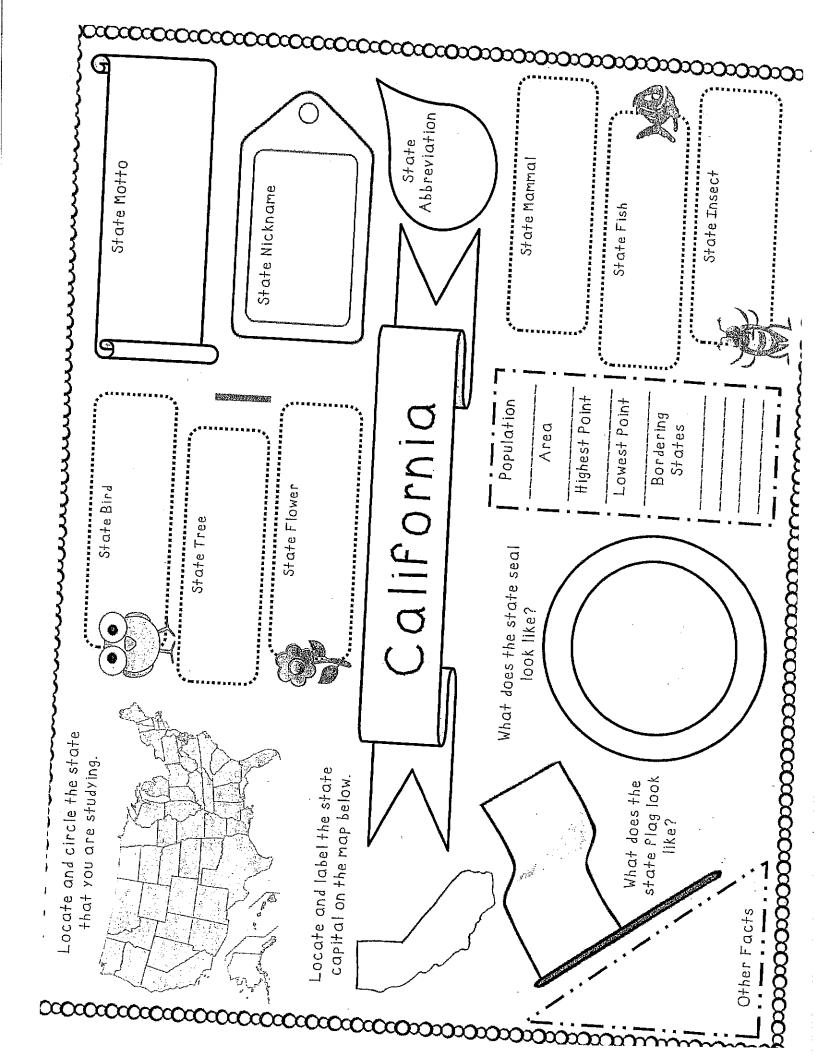
Grass

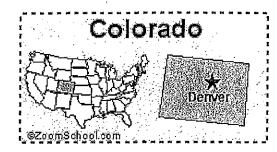
Purple Needlegrass (Nassella pulchra)

Forth Symbols

Earth Symbols.			
State Fossil	State Rock	State Mineral	State Gem
	Serpentinite	Gold	Benitoite
Smilodon fatalis (sabertooth tiger)			

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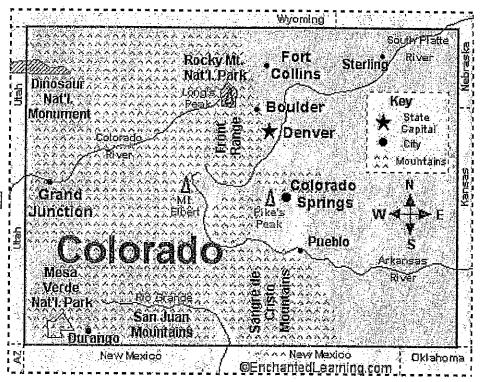
#### Colorado

Facts, Map and State Symbols



Colorado was the 38<sup>th</sup> state in the <u>USA</u>; it became a state on August 1, 1876.

State Abbreviation - CO State Capital - Denver Largest City - Denver Area - 104,100 square miles [Colorado is the 8th biggest state in the USA] **Population - 5,268,367** (as of 2013) [Colorado is the 22nd most populous state in the USA] Name for Residents -Coloradans Major Industries - agriculture (wheat, cattle, sheep), tourism (especially skiers), mining (gold, silver), oil, finance, and manufacturing



Major Rivers - Colorado River, Rio Grande, Arkansas River, South Platte River Major Lakes - Grand Lake, Blue Mesa Reservoir, John Martin Reservoir Highest Point - Mt. Elbert; 14,433 feet (4,399 m) above sea level Number of Counties - 64

Bordering States - Arizona, Kansas, Nebraska, New Mexico, Oklahoma, Utah, Wyoming

Origin of the Name Colorado - The word Colorado is Spanish for the "color red," and refers to the muddy Colorado River

State Nickname - Centennial State, Colorful Colorado

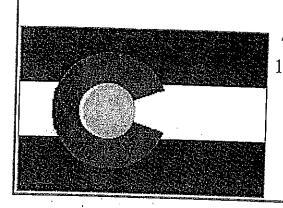
State Motto - "Nil sine Numine" - Nothing Without Providence

State Song - Where the Columbines Grow

Dinosaur Fossils Found in Colorado - Allosaurus, Amphicoelias, Apatosaurus, Brachiosaurus, Camarasaurus, Camptosaurus, Cathetosaurus, Ceratosaurus, Cionodon, Denversaurus, Diplodocus, Dryosaurus, Dystylosaurus, Edmontosaurus. Epanterias.

Stegosaurus, Supersaurus, Torvosaurus, Triceratops, Tyrannosaurus rex, Ultrasauros

## Colorado State Symbols and Emblems:



#### State Flag

The official state flag of Colorado was adopted on June 5 1911. It was designed by Andrew Carlisle Johnson in 191 The white in the flag symbolizes Colorado's snowcappec mountains, the blue symbolizes clear blue skies, the red symbolizes the reddish soil, and the golden yellow represents the Sun. Attached to the flag is a cord of gold and silver, intertwined with gold and silver tassels.

**Animal Symbols:** 

	State	State Animal	State Insect State Fish State		
	<u>Bird</u>		Drate Hisect	State Fish	State Fossil
	Lark bunting	Rocky Mountain Bighorn Sheep	Colorado Hairstreak Butterfly	Greenback Cutthroat Trout	
			-		Stegosaurus A plant-eating dinosaur with
7	Plant Symbols:				

Plant Symbols:

State Flower			
State Flower	State Tree	State Grass	
Rocky Mountain Columbine (White and Lavender)	Colorado Blue Spruce	Blue grama grass	
Earth Symbols:			

	State Gemstone	State Soil
	Aquamarine	Seitz
-	Missollanoons C	

Miscellaneous Symbol.

Miscellaneous Symbol:		
·	State Dance	
	Square dance	

