

Dear Parent and/or Guardian,

Please use the guidance document below to help your child complete their work each day. Please note that social studies and science are integrated into the literacy selections.

Thank you!

Guidance Document, 5th Grade

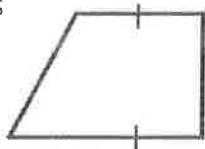
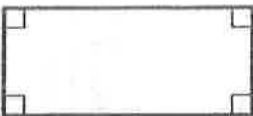
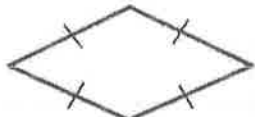
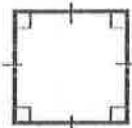
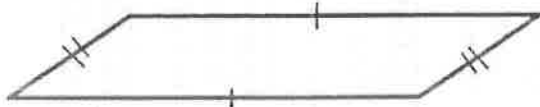
	Day 1	Day 2	Day 3	Day 4	Day 5
Literacy integrated with science and social studies	Science integration: What is a volcanologist?	Social studies integration: South Korea	Science integration: Climate change in Alaska	Social studies integration: Grizzly bears and Yellowstone Park	Science integration: Endangered species: The Okapi
Mathematics	Classifying Quadrilaterals, pages 41-42	Classifying Triangles, pages 43-44	Egg Cartons Fractions, pages 77-78	Division and Fraction Story Problems, pages 79-80	Story Problems with Graph, pages 87-88
	Day 6	Day 7	Day 8	Day 9	Day 10
Literacy integrated with science and social studies	Social studies integration: Women's History Month	Science integration: Is YOLO a good idea?	Social studies integration: How government works	Science integration: Humans and wildfire	Social studies integration: The President's job
Mathematics	Prime Factorization, pages 89-90	Story Problems, pages 92-93	Equivalent Fractions, pages 105-106	Adding Fractions, pages 107-108	Subtracting Fractions, pages 109-110

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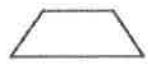

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Classifying Quadrilaterals

A *quadrilateral* is any polygon that has 4 sides. There are many kinds of quadrilaterals, including:

<p>Trapezoid: a quadrilateral with exactly 1 pair of parallel sides</p> 	<p>Rectangle: a quadrilateral with 2 pairs of parallel sides and 4 right angles</p> 
<p>Rhombus: a quadrilateral with 4 sides that are all the same length</p> 	<p>Square: a quadrilateral with 4 right angles and 4 sides that are all the same length</p> 
<p>Parallelogram: a quadrilateral with 2 pairs of parallel sides</p> 	

1 Look carefully at the figures below. Decide how many right angles, pairs of congruent sides, and pairs of parallel sides each has. Then circle the word or words that say what kind of figure it is. You might circle more than one word for some figures.

Figure	Right Angles?	Pairs of Congruent Sides?	Pairs of Parallel Sides?	Circle the word(s) that describe(s) the figure.
<p>a</p> 				trapezoid rectangle rhombus square parallelogram
<p>b</p> 				trapezoid rectangle rhombus square parallelogram
<p>c</p> 				trapezoid rectangle rhombus square parallelogram

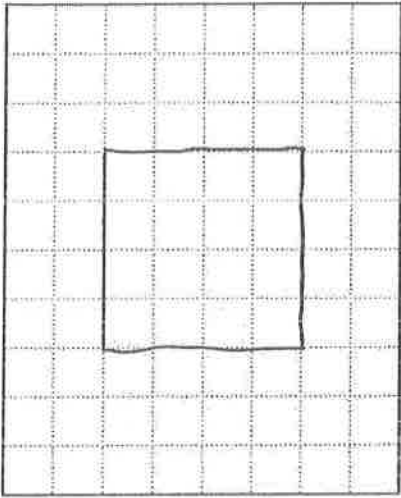
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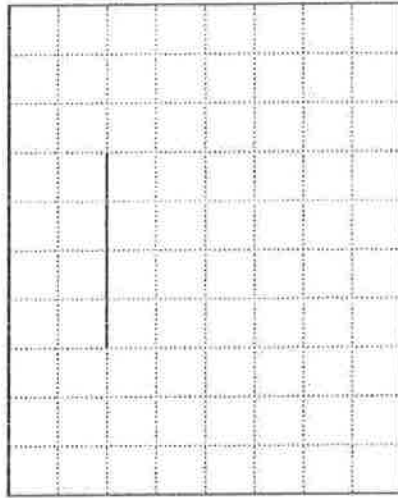
Drawing Quadrilaterals

1 Start with the same line each time to draw the different shapes named below.

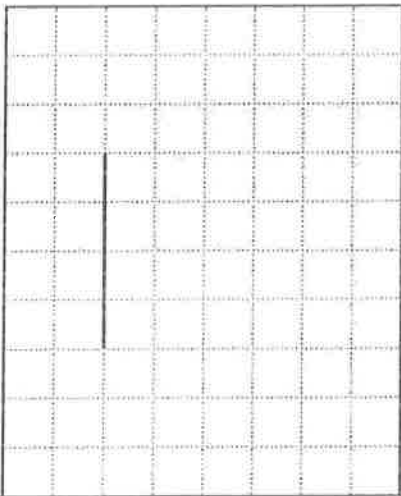
ex Square



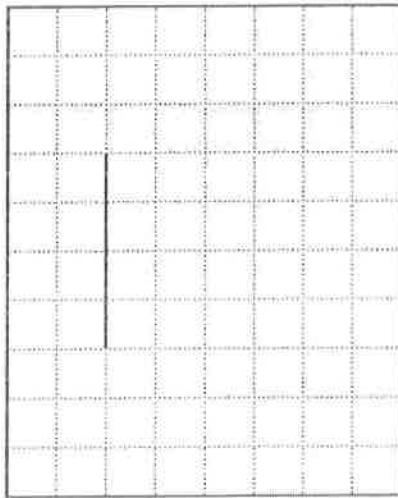
a Parallelogram that is not a rhombus or rectangle



b Trapezoid



c Rectangle that is not a square



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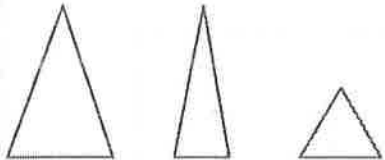
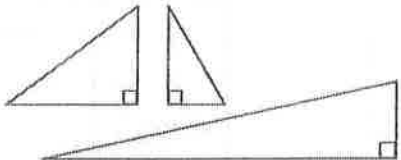
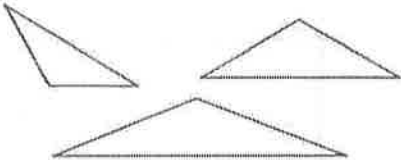
2 Which of your shapes above has the largest area? How can you tell?

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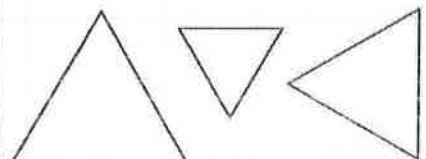
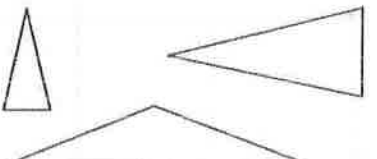
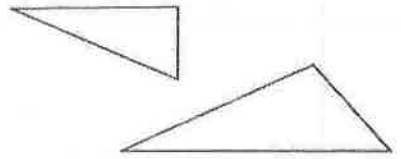
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Classifying Triangles


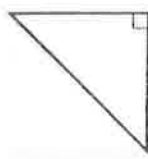
You can group triangles by the size of their angles.

<p style="text-align: center;">Acute triangles</p> <p style="text-align: center;">All 3 angles are acute.</p> 	<p style="text-align: center;">Right triangles</p> <p style="text-align: center;">1 angle is a right angle.</p> 	<p style="text-align: center;">Obtuse triangles</p> <p style="text-align: center;">1 angle is an obtuse angle.</p> 
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You can also group triangles by the lengths of their sides.

<p style="text-align: center;">Equilateral triangles</p> <p style="text-align: center;">All 3 sides are the same length.</p> 	<p style="text-align: center;">Isosceles triangles</p> <p style="text-align: center;">2 sides are the same length.</p> 	<p style="text-align: center;">Scalene triangles</p> <p style="text-align: center;">No sides are the same length.</p> 
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1 Look carefully at the triangles below and fill in the chart.

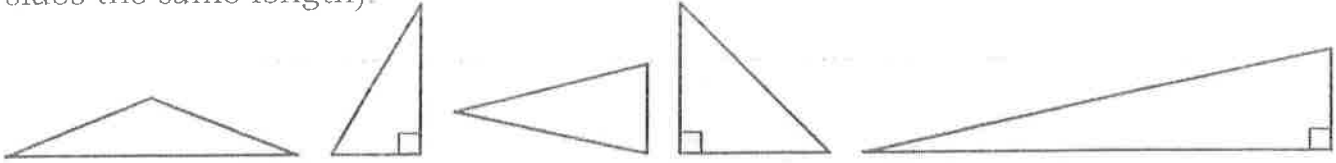
Triangle	Acute Angles?	Right Angles?	Obtuse Angles?	Congruent Sides?	What Kind? (circle as many as apply)
a 					<div style="display: flex; justify-content: space-between;"> acute equilateral </div> <div style="display: flex; justify-content: space-between;"> right isosceles </div> <div style="display: flex; justify-content: space-between;"> obtuse scalene </div>
b 					<div style="display: flex; justify-content: space-between;"> acute equilateral </div> <div style="display: flex; justify-content: space-between;"> right isosceles </div> <div style="display: flex; justify-content: space-between;"> obtuse scalene </div>

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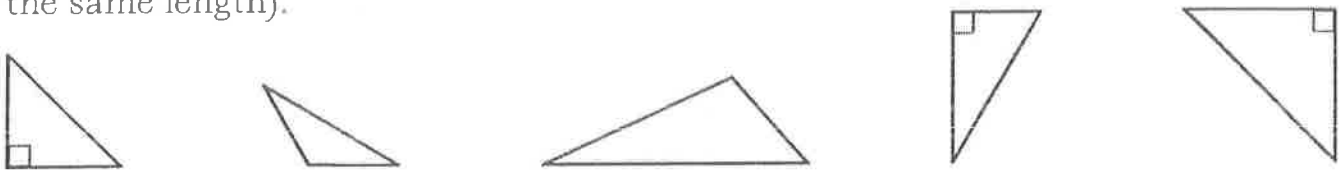
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Identifying & Drawing Triangles

1 Circle the *right triangle* (one right angle) that is also an *isosceles triangle* (two sides the same length).

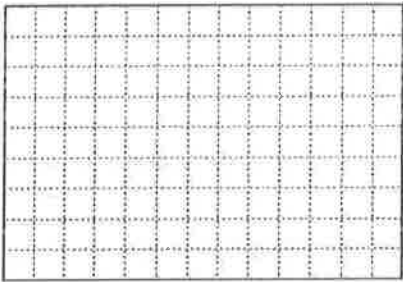


2 Circle the *right triangle* (one right angle) that is also a *scalene triangle* (no sides the same length).

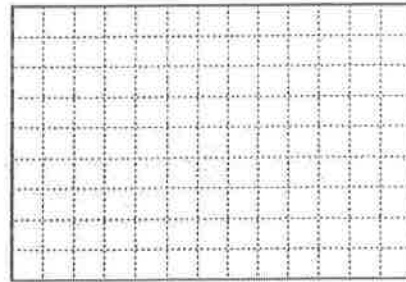


3 Draw the triangles described below.

a An obtuse isosceles triangle

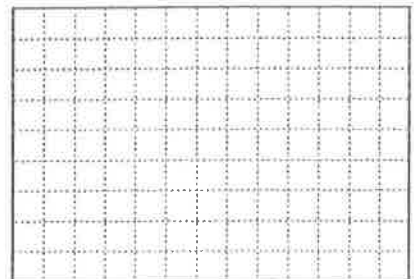


b An acute isosceles triangle



CHALLENGE

4 Lawrence said he drew a right obtuse triangle. Rosa said that was impossible. Explain why Rosa is correct.

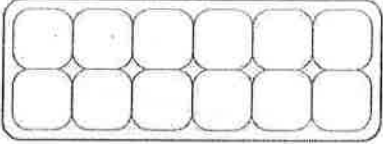
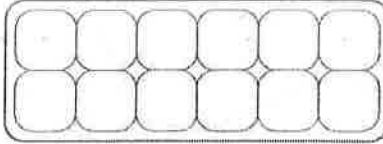
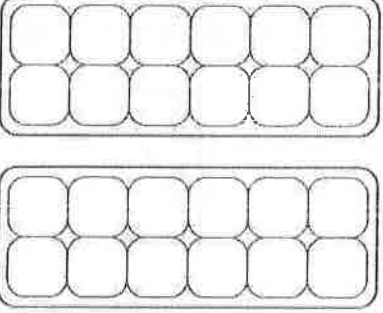
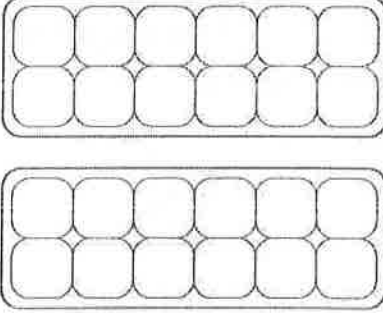


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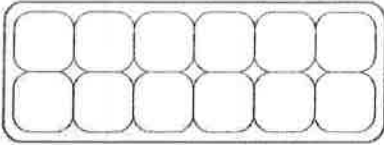
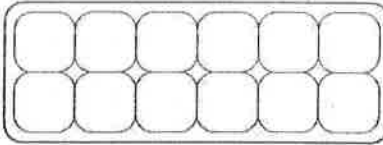
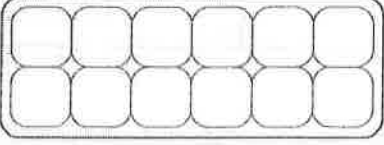
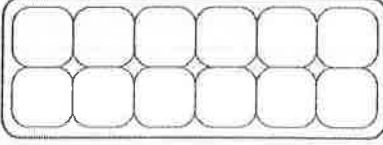
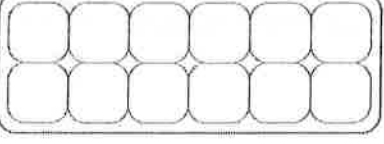
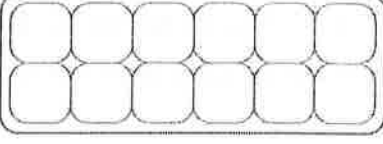
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Egg Carton Fractions

1 Show the fractions on the egg cartons. Each carton represents 1 whole.

a $\frac{1}{2}$ 	b $\frac{3}{4}$ 
c $1\frac{2}{3}$ 	d $\frac{9}{6}$ 

2 Add the fractions below. If the sum is greater than 1, write it as a mixed number.

a $\frac{5}{6} + \frac{1}{2} =$		
b $\frac{2}{3} + \frac{3}{6} =$		
c $\frac{13}{12} + \frac{3}{4} =$		

3 Use a $<$, $>$, or $=$ sign to complete each number sentence.

a $\frac{6}{10} + \frac{11}{10}$ 1

b $\frac{11}{10} + \frac{7}{6}$ 2

c $\frac{1}{12} + \frac{3}{14}$ 1

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Fraction Story Problems

1 Marsha walked $1\frac{1}{2}$ miles to school yesterday morning. After school, she walked $\frac{3}{4}$ of a mile to her aunt's house. How many miles did she walk altogether yesterday? Show all your work.



2 Francisco and his mom got some fruit at the fruit stand yesterday. They bought $2\frac{1}{2}$ pounds of peaches, $\frac{7}{8}$ of a pound of raspberries, and $1\frac{1}{4}$ pounds of apricots. How many pounds of fruit did they buy altogether? Show all your work.

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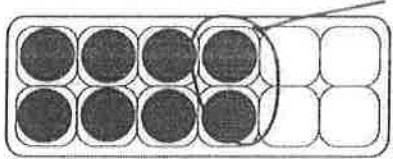
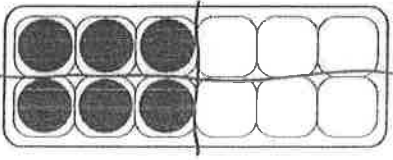
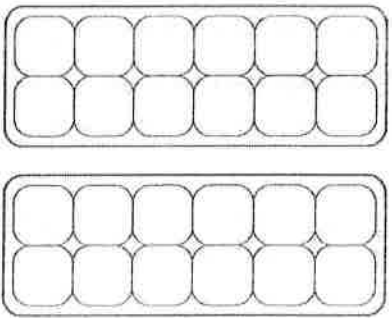
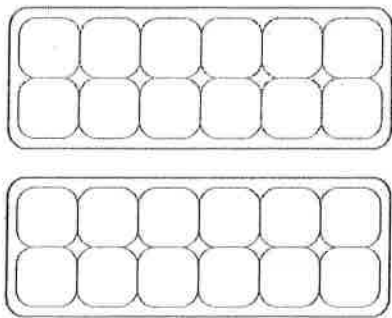
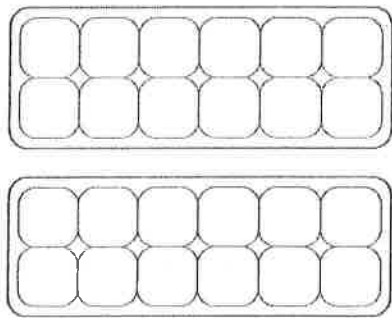
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Division & Fraction Practice

1 Use multiplication menus to help complete each division problem.

<p>ex $307 \div 19 = \underline{16 \text{ r}3}$</p> <p> $19 \times 10 = 190$ $19 \times 5 = 95$ $19 \times 2 = 38$ </p> <div style="display: flex; align-items: center; margin-left: 100px;"> <div style="margin-right: 10px;"> $\left. \begin{array}{c} 1 \\ 5 \\ 10 \end{array} \right\} 16 \text{ r}3$ </div> <div style="margin-left: 20px;"> $\begin{array}{r} 19 \overline{)307} \\ \underline{-190} \\ 117 \\ \underline{-95} \\ 22 \\ \underline{-19} \\ 3 \end{array}$ </div> </div>	<p>a $226 \div 13 = \underline{\hspace{2cm}}$</p>	<p>b $360 \div 16 = \underline{\hspace{2cm}}$</p>
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2 Find the difference between each pair of fractions below.

<p>ex $\frac{8}{12} - \frac{2}{4} = \frac{2}{12}$ or $\frac{1}{6}$ the difference</p> <div style="display: flex; align-items: center; margin-bottom: 10px;"> <div style="margin-right: 10px;">$\frac{8}{12}$</div>  </div> <div style="display: flex; align-items: center;"> <div style="margin-right: 10px;">$\frac{2}{4}$</div>  </div>	<p>a $\frac{11}{12} - \frac{1}{4} =$</p> <div style="margin-top: 20px;">  </div>
<p>b $\frac{5}{6} - \frac{1}{3} =$</p> <div style="margin-top: 20px;">  </div>	<p>c $\frac{3}{4} - \frac{1}{6} =$</p> <div style="margin-top: 20px;">  </div>

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More Fraction Story Problems

1 Yesterday Carson threw away $1\frac{1}{3}$ pounds of paper packaging. He threw away $\frac{3}{4}$ of a pound of plastic packaging. Altogether, how many pounds of packaging did Carson throw away yesterday? Show all your work.

2 Carmen ran $1\frac{3}{8}$ miles yesterday. Her sister Lola ran $2\frac{1}{4}$ miles yesterday. How much farther did Lola run than Carmen? Show all your work.



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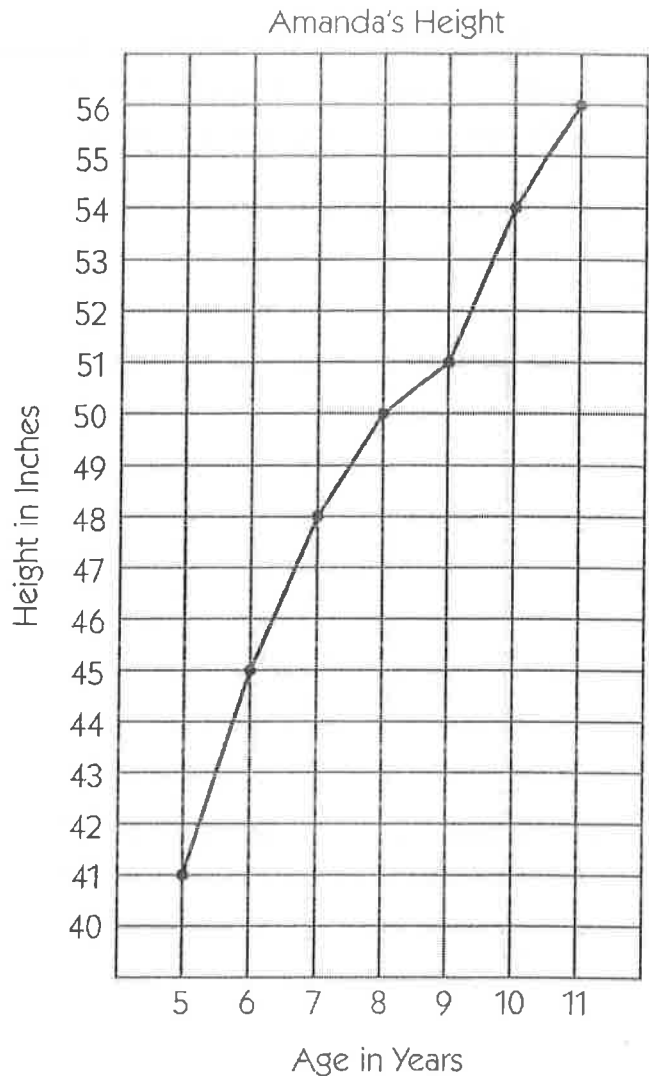
Amanda's Height Graph

Amanda's grandmother has been measuring Amanda's height every year on her birthday since she turned 5. The results are shown on the line graph at right.

1 Has Amanda been getting taller or shorter? How do you know?

2 Between what two ages did Amanda grow the least?

3 Did Amanda grow the same amount each year? How do you know?



4 At about what age do you think Amanda will be at least five feet tall? Use evidence from the graph to explain your answer.

5 How do you think the graph would look different if it went from age 5 to age 25?

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Kurt's Height Graph

Amanda has a baby brother named Kurt. Her grandma also keeps track of Kurt's height, but she measures him every six months. The measurements are shown on the table below.

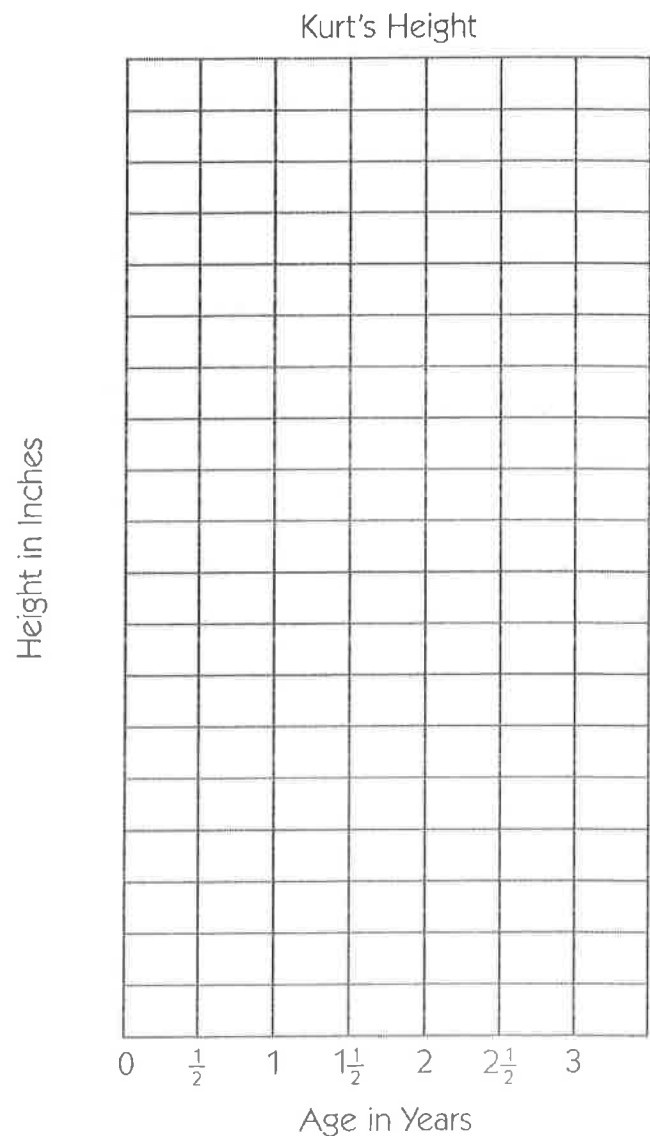
Age	birth (0)	$\frac{1}{2}$	1	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Height (in inches)	20	25	30	32	34	36	37

1 Use this checklist to help create a line graph with the data in the table.

- a** Number the y -axis.
- b** Plot the 7 data points.
- c** Connect the data points.

2 What do you notice about the way Kurt has grown in his first three years? Write at least 3 different observations.

3 Describe Kurt's growth to someone who has not seen this graph. Don't use numbers in your description.



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Prime Factorization Review

1 Show the prime factorization for each number. Then use the prime factors to help determine *all* the factors of that number.

Number	Prime Factorization	All the Factors (Think of factor pairs:)
ex 105	<pre> 105 / \ 5 21 / \ 3 7 </pre>	1, 105 3, 35 5, 21 7, 15
a 24		
b 48		
c 78		

2 What factors do 24, 48, and 78 have in common?

3 What is the *greatest* factor that 24, 48, and 78 have in common?

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Which Bag of Candy?

1 Whitney's 9 cousins are coming to visit and she wants to make them each a little gift bag. She wants to put an equal number of little candies in each bag, eat 3 candies herself, and have none leftover. Which bag of candies should she buy? Show all your work. Hint: *Can you remember a divisibility rule to help?*

Candy	Number of Candies per Bag
Lemon Sours	147
Strawberry Kisses	216
Pineapple Sweets	193

2 How many candies will each cousin get? Show all your work.



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The Frozen Yogurt Problem

1 The fourth and fifth graders are hosting a special night for their parents at school, and they want to serve frozen yogurt. Altogether there will be 95 students, 5 teachers, and 1 principal. Six students are not coming. Fifty-two students will bring 2 parents, and 43 students will bring 1 parent with them. Each tub of frozen yogurt serves 14 people. How many tubs of frozen yogurt will they need to have enough for everyone?

- a** Restate the question in your own words:
- b** Underline the information in the problem you *do* need to solve the problem.
- c** Cross out the information in the problem you *don't* need to solve the problem.
- d** Solve the problem. Show all your work.
- e** Does your answer make sense? Explain how you can tell.

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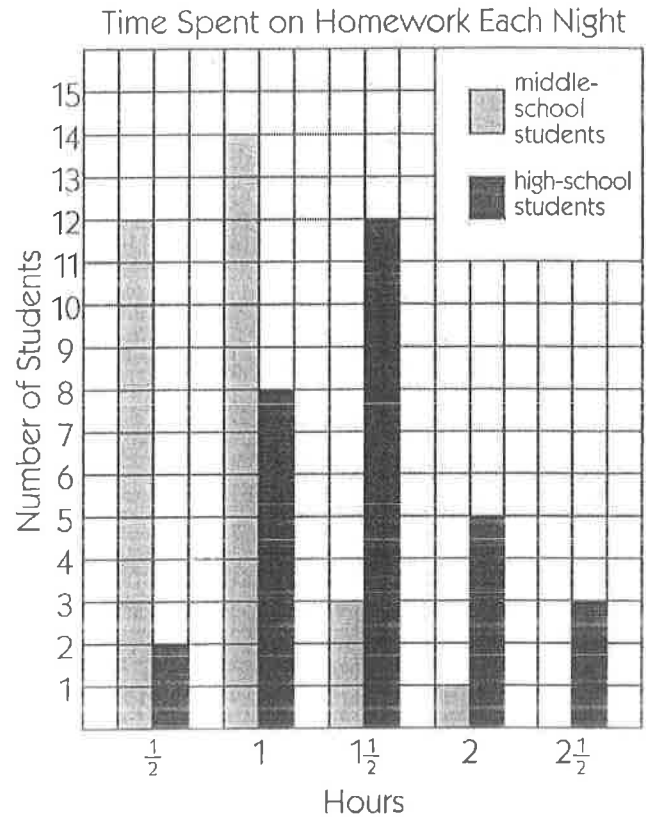
The Homework Survey

A group of teachers polled 30 middle-school and 30 high-school students to see how much time they were spending on homework each night.

1 How many middle-school students said they spent 1 hour on homework each night?

2 How many high-school students said they spent two and a half hours on homework each night?

3 How many high-school students said they spent 1 and a half hours on homework each night?



4 Overall, who spends more time on homework each night, middle-school or high-school students? Explain your answer using information from the graph above.



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5 Is it easier to estimate how much time *any* middle-school student spends on homework each night or to estimate how much time *any* high-school student spends on homework each night? Explain your answer using information from the graph above.

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Finding Equivalent Fractions

1 Write two fractions that are equal to the fraction shown.

ex $\frac{3}{9} = \frac{1}{3}$ and $\frac{3}{9} = \frac{6}{18}$	a $\frac{9}{15} =$ and $\frac{9}{15} =$
b $\frac{4}{6} =$ and $\frac{4}{6} =$	c $\frac{15}{18} =$ and $\frac{15}{18} =$

2 Circle the fractions that are equal to the fraction shown. Use the space at right as a work space to do calculations if needed.

Fraction	Circle the fractions that are equal to the other fraction.
ex $\frac{1}{2}$	$\frac{4}{8}$ $\frac{3}{5}$ $\frac{2}{4}$ $\frac{7}{14}$ $\frac{5}{6}$
a $\frac{4}{12}$	$\frac{1}{3}$ $\frac{2}{10}$ $\frac{8}{24}$ $\frac{6}{14}$ $\frac{12}{36}$
b $\frac{3}{4}$	$\frac{6}{7}$ $\frac{6}{8}$ $\frac{9}{12}$ $\frac{15}{20}$ $\frac{30}{40}$
c $\frac{3}{15}$	$\frac{6}{30}$ $\frac{5}{17}$ $\frac{1}{3}$ $\frac{1}{5}$ $\frac{9}{45}$

3 If you are given one fraction, what can you do to write other fractions that are equal to that fraction?

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Rewriting & Comparing More Fractions

1 Find the least common multiple of each pair of numbers.

<p>ex The least common multiple of 8 and 28 is <u>56</u>.</p> <p>multiples of 28: 28, <u>56</u></p> <p>multiples of 8: 8, 16, 24, 32, 40, 48, <u>56</u></p>	<p>a The least common multiple of 6 and 7 is _____.</p> <p>multiples of 6:</p> <p>multiples of 7:</p>
<p>b The least common multiple of 9 and 12 is _____.</p> <p>multiples of 9:</p> <p>multiples of 12:</p>	<p>c The least common multiple of 9 and 15 is _____.</p> <p>multiples of 9:</p> <p>multiples of 15:</p>

2 Rewrite each pair of fractions with a common denominator. Then use a $<$, $>$, or $=$ to compare them in two number sentences.

Fractions	Rewritten with Common Denominator	Number Sentences
ex $\frac{6}{8}$ and $\frac{17}{28}$	$\frac{6}{8} \times \frac{7}{7} = \frac{42}{56}$ $\frac{17}{28} \times \frac{2}{2} = \frac{34}{56}$	$\frac{42}{56} > \frac{34}{56}$ so $\frac{6}{8} > \frac{17}{28}$
a $\frac{4}{6}$ and $\frac{5}{7}$	$\frac{4}{6} \times \frac{\quad}{\quad} =$ $\frac{5}{7} \times \frac{\quad}{\quad} =$	so $\frac{4}{6}$ $\frac{5}{7}$
b $\frac{7}{9}$ and $\frac{9}{12}$	$\frac{7}{9} \times \frac{\quad}{\quad} =$ $\frac{9}{12} \times \frac{\quad}{\quad} =$	so $\frac{7}{9}$ $\frac{9}{12}$
c $\frac{8}{9}$ and $\frac{13}{15}$	$\frac{8}{9} \times \frac{\quad}{\quad} =$ $\frac{13}{15} \times \frac{\quad}{\quad} =$	so $\frac{8}{9}$ $\frac{13}{15}$

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Adding Fractions

1 Each bar below is divided into 12 equal pieces. Show each fraction on a fraction bar.

ex $\frac{1}{3}$		a $\frac{2}{3}$	
b $\frac{1}{4}$		c $\frac{3}{4}$	
d $\frac{1}{2}$		e $\frac{5}{6}$	

2 Rewrite each pair of fractions so that they have the same denominator. Then use the fraction bar pictures to show their sum. Write an equation to show both fractions and their sum.

Fractions to Add	Rewrite with Common Denominator	Picture and Equation
ex $\frac{2}{3} + \frac{1}{2}$	$\frac{2}{3} + \frac{1}{2} = \frac{4}{6} + \frac{3}{6}$	 $\frac{4}{6} + \frac{3}{6} = \frac{7}{6}$ or $1\frac{1}{6}$
a $\frac{2}{3} + \frac{3}{4}$	$\frac{2}{3} + \frac{3}{4} =$	
b $\frac{1}{3} + \frac{5}{6}$	$\frac{1}{3} + \frac{5}{6} =$	
c $\frac{7}{12} + \frac{3}{4}$	$\frac{7}{12} + \frac{3}{4} =$	

NAME _____

DATE _____

Adding Fractions & Mixed Numbers

1 Rewrite each fraction in simplest form by dividing the numerator and denominator by the greatest common factor. A fraction is in its simplest form when its numerator and denominator have no common factor other than 1. You do not have to show your work if you can do it in your head.

ex $\frac{9 \div 3}{15 \div 3} = \frac{3}{5}$	a $\frac{4 \div \quad}{6 \div \quad} = \frac{\quad}{\quad}$	b $\frac{12 \div \quad}{15 \div \quad} = \frac{\quad}{\quad}$
c $\frac{12 \div \quad}{18 \div \quad} = \frac{\quad}{\quad}$	d $\frac{8 \div \quad}{12 \div \quad} = \frac{\quad}{\quad}$	e $\frac{4 \div \quad}{12 \div \quad} = \frac{\quad}{\quad}$

2 Rewrite each pair of fractions so they have the same denominator. Then find their sum. Sometimes, you will need to find the least common multiple. Sometimes you might be able to reduce each fraction to its simplest form to find a common denominator.

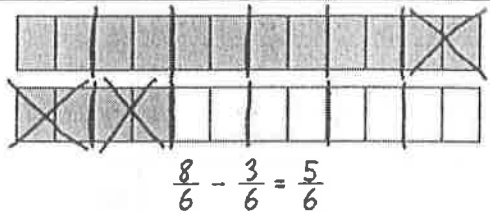
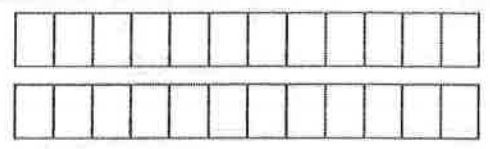
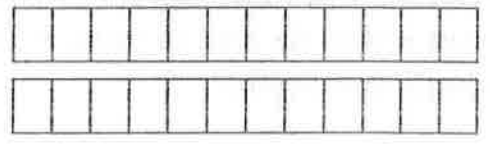
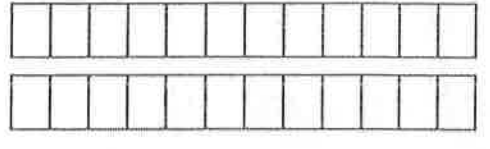
ex a $\frac{5}{8} + \frac{7}{12}$ ↓ ↓ $\frac{15}{24} + \frac{14}{24} = \frac{29}{24}$ and $\frac{29}{24} = 1\frac{5}{24}$	ex b $\frac{2}{6} + \frac{8}{12}$ ↓ ↓ $\frac{1}{3} + \frac{2}{3} = \frac{3}{3}$ and $\frac{3}{3} = 1$
a $\frac{3}{4} + \frac{2}{8}$	b $\frac{6}{8} + \frac{9}{12}$
c $3\frac{6}{12} + 4\frac{1}{2}$	d $1\frac{5}{8} + 2\frac{3}{4}$

NAME _____

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Fraction Subtraction

1 Rewrite each pair of fractions so they have the same denominator. Then use the fraction bar pictures to show their difference. Write an equation to show both fractions and their difference.

Fractions	Rewrite with Common Denominator	Picture and Equation
ex $\frac{4}{3} - \frac{1}{2}$	$\frac{4}{3} - \frac{1}{2} = \frac{8}{6} - \frac{3}{6}$	 $\frac{8}{6} - \frac{3}{6} = \frac{5}{6}$
a $\frac{3}{4} - \frac{2}{3}$	$\frac{3}{4} - \frac{2}{3} =$	
b $\frac{5}{6} - \frac{1}{3}$	$\frac{5}{6} - \frac{1}{3} =$	
c $\frac{15}{12} - \frac{3}{4}$	$\frac{15}{12} - \frac{3}{4} =$	



CHALLENGE

2 Add each pair of numbers.

a $\frac{4}{12} + \frac{7}{15} =$

b $463\frac{7}{12} + 129\frac{13}{36} =$

NAME _____

DATE _____

More Fraction Subtraction

1 Rewrite each improper fraction as a mixed number.

ex $\frac{16}{12} = 1\frac{4}{12}$ a $\frac{12}{8} =$ b $\frac{15}{6} =$ c $\frac{17}{8} =$ d $\frac{14}{3} =$

2 Rewrite each mixed number as an improper fraction.

ex $1\frac{2}{8} = \frac{10}{8}$ a $1\frac{5}{12} =$ b $2\frac{5}{6} =$ c $3\frac{1}{4} =$ d $4\frac{2}{3} =$

3 Rewrite each pair of fractions so that they have the same denominator. Then find the difference. Sometimes, you will need to find the least common multiple. Sometimes you might be able to reduce each fraction to its simplest form to find a common denominator.

<p>ex a</p> $\begin{array}{r} \frac{5}{8} - \frac{7}{12} \\ \downarrow \quad \downarrow \\ \frac{15}{24} - \frac{14}{24} = \frac{1}{24} \end{array}$	<p>ex b</p> $\begin{array}{r} \frac{8}{6} - \frac{8}{12} \\ \downarrow \quad \downarrow \\ \frac{4}{3} - \frac{2}{3} = \frac{2}{3} \end{array}$
<p>a</p> $\frac{7}{4} - \frac{4}{8}$	<p>b</p> $\frac{15}{12} - \frac{3}{8}$
<p>c</p> $2\frac{3}{8} - 1\frac{1}{3}$	<p>d</p> $3\frac{5}{8} - 1\frac{3}{4}$

Dream Jobs: Volcanologist

By NASA.gov, adapted by Newsela staff on 11.30.16

Word Count **809**

Level **860L**



NASA volcanologist Ashley Davies observing a volcano up close. Courtesy of NASA

Ashley Davies grew up in London, England. He works for the National Aeronautical and Space Administration (NASA) in California. He is a volcanologist.

What is a volcanologist?

It is a scientist who studies how and why volcanoes erupt, which will blow the top off a mountain. Volcanoes send clouds of ash into the air and rivers of lava, or liquid rock, across the land. This can happen on the Earth or on other planets in our solar system. The ash and lava can be studied and shows the volcanologist what is deep under the ground.

There are two main reasons why studying volcanoes is important. First, volcanoes help to explain how planets and many of the moons in the solar system were made. Second, the ash and the lava can affect the weather, air, water, the internet, transportation, food supplies and the lives of millions of people.

When did you get interested in outer space?

I was a little boy when Neil Armstrong made his "giant leap for mankind" and became the first man to walk on the moon in 1969. I was just crazy about the Apollo program – even at the age of 7, I was the school expert!

How did you end up working in the space program?

In high school, I began studying planets and volcanoes because two important things happened. In 1979, a NASA spacecraft discovered volcanoes on Io, one of the moons of Jupiter. Most people thought moons way out in the solar system were dead ice balls. Some weren't. Some had volcanoes. Then the next year, in 1980, Mount St. Helens, erupted in Washington state and became a volcano. It sent deadly lava across the state and thick ash across the country.

I went to college to learn about geology, the study of the Earth and rocks. My final project was about volcanoes on Earth and Mars. I went on to another university to get a doctorate degree studying volcanoes on Io and how they might erupt. Physics, the study of light, heat, sound and electricity, explained the secrets of volcanoes.

I began working for NASA in 1994. I continued studying volcanoes on Io and wrote a book about them.

Who was your hero?

British Antarctic explorer Sir Ernest Shackleton. He never asked his men to do something that he was not willing to do. Growing up, I was lucky to have some great teachers. In college, a wonderful professor shared his love for astronomy.

Tell us about a favorite moment so far in your career.

In 2009, I was sent to study volcanoes in the hottest parts of Africa where the temperatures climbed to 122 degrees Fahrenheit (50 degrees Celsius). A rare, bubbling lava lake sent blasts of heat and bad-smelling gases into the air. It became part of a television series called "Wonders of the Solar System."

A few years ago, I went to Antarctica to study a lava lake at the top of Mount Erebus. The temperature there was minus 58 degrees Fahrenheit (minus 50 degrees Celsius). This job has taken me to the hottest and coldest places on Earth.

What advice would you give to someone who wants to take the same career path?

Physics and mathematics are a great help. Being interested in astronomy is important. Learning never ends. A lot of my job concerns heat. A volcano on a planet or moon is about losing heat. I am always trying to find out why heat is lost. To do my job you really need a doctorate degree, which is a lot of work, but very rewarding.

What do you do for fun?

My work is really fun, but I try to find other things, too. I read military history, thrillers, mysteries, science fiction. My wife and I love movies and "The Big Bang Theory" is our favorite TV show. It reminds me of some of the people I work with.

If you were talking to a student interested in science and math or engineering, what advice would you give?

Students interested in science and math could go to college to be a volcanologist. It will be a lot of work, and it could take seven or eight years.

Today, NASA is sending spacecrafts to Jupiter, Io and other places in our solar system. There are many jobs in computers, jet engines and building spacecrafts. Students should work hard in school and find the science or math subject they enjoy. Being part of NASA is a wonderful goal.

Editor's Note: On August 5, 2011, the Juno spacecraft began a five-year NASA mission to Jupiter to study the planet and its 63 moons. It arrived on July 4, 2016. One of the moons it will study is Io. Ashley Davies and everyone at NASA will be discovering much new information.

Quiz

- 1 Read the section "How did you end up working in the space program?"
Which paragraph suggests that becoming a volcanologist is a lot of work?

- 2 Based on information in the article, which of these statements is TRUE?
(A) Volcanologists travel to outer space to do their research.
(B) Volcanologists only need to take science classes to learn about volcanoes.
(C) Volcanologists study how the moon works.
(D) Volcanologists work closely with astronauts and space scientists.

- 3 Fill in the blank in this sentence.
Overall, the article is organized around
(A) a person and a career.
(B) a career and an event.
(C) an event and a field of science.
(D) a person and a discovery.

- 4 How does the last section of the article contribute to the development of the MAIN idea of the entire article?
(A) It introduces some of the most famous volcanologists.
(B) It describes the role NASA plays in the study of volcanoes.
(C) It explains how to become a volcanologist.
(D) It summarizes why being a volcanologist is fun.

Countries Of The World: South Korea

By National Geographic Kids, adapted by Newsela staff on 02.01.18

Word Count 740

Level 800L



Image 1: Seoul is the capital of South Korea. It is also the country's most populated city. Seoul hosted the 1988 Olympic Games. Photo from: Getty Images/Alex Barlow

Korea occupies a 750-mile-long peninsula. Located in Asia's far east, it sticks out between the Yellow Sea and the Sea of Japan. Today, the country is split into South and North Korea. South Korea occupies about one half of the Korean Peninsula.

South Korea has many mountains. They are small compared with others around the world. Most summits do not rise above 3,300 feet. Over millions of years, these peaks have been worn down by rain and wind. The Korean Peninsula is surrounded by about 3,000 islands, most formed by volcanic activity.

Evergreen jungles grow on South Korea's Jeju Island. They also form a narrow strip in the south of the country. These tropical forests are the result of high humidity and heavy rainfall.

Nature

South Korea is a small country with many people, creating a big demand for space. As a result, many of the country's natural habitats have been squeezed into small areas. There are 21 national

parks. However, the only areas of true wilderness left are the mountain forests.

Tigers once roamed Korea. Most were wiped out by hunters who wanted tiger bones to make traditional medicines. Today, there may be none left. A few tigers may still live in the dangerous Demilitarized Zone. This zone is an unpopulated territory between North and South Korea.

People And Culture

South Korea is a densely populated. There are 1,294 citizens for every square mile of land. Koreans' lives are heavily influenced by Confucianism. This Chinese philosophy teaches respect and morality.

Government And Economy

The official name of South Korea is the Republic of Korea (ROK). The ROK government is headed by a president, who is elected to a five-year term. The National Assembly is the legislative, or lawmaking, body of the government. Its 300 members serve four-year terms.

South Korea has one of the strongest economies in Asia. Most of its wealth comes from manufacturing and service industries, like banking. It exports cars, computers, and other electronic items.

History

People have been living in Korea for at least 10,000 years. Archaeologists believe the ancestors of today's Koreans came from Mongolia and Siberia.

Korea's first kingdom was Gojoseon, or Old Chosun, which ruled parts of China for more than 22 centuries. In 108 B.C. this kingdom was overthrown by Chinese armies. Three new kingdoms emerged: Koguryo, Paekche, and Silla. Almost 800 years later, in the 660s, the Silla won control of the country. They had help from Chinese troops.

By the year 901 Korea had once again broken into three kingdoms. In 936, a powerful noble named Wang Geon unified the country under the name Koryo. This kingdom lasted until 1392, when the Yi family seized the throne. The Yis began the Choson dynasty, which ruled until 1910.

The first Europeans to reach Korea were sailors on a Dutch merchant ship. It ran aground on Jeju Island in 1656. The sailors were not permitted to leave Korea, but after 13 years one man escaped and returned home. His tales inspired European traders to go to Korea. However, their ships were banned from Korean ports until the 1800s.

South Korea



★ NATIONAL CAPITAL:
Seoul

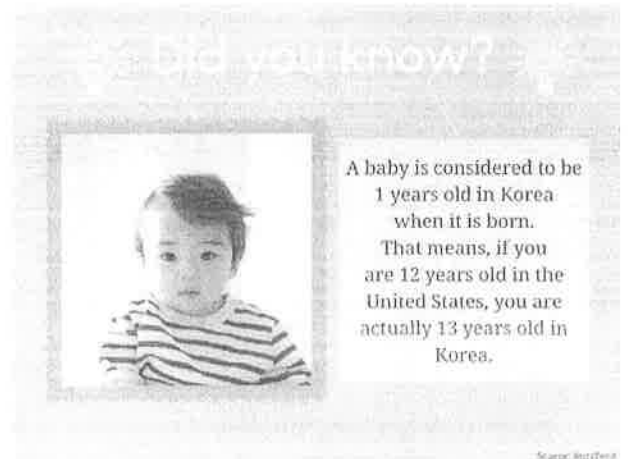
NATIONAL FLAG



NATIONAL ANIMAL:
Siberian Tiger



Source: WorldAtlas



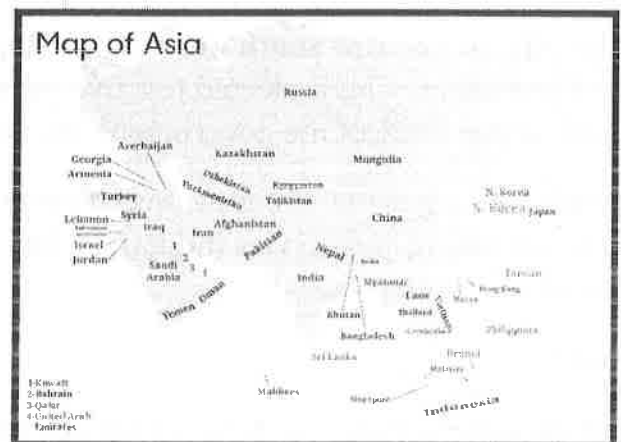
In 1894, Japan and China sent soldiers to stop an uprising in Korea. Afterward, Japan and Russia fought for control of Korea and part of China. Japan won that conflict in 1910.

About 30 years later, in 1939, World War II began. In this global war, Japan, Germany and Italy, known as the Axis powers, fought against the Allies. The Allies included the United States, United Kingdom, China and the Soviet Union. They defeated the Axis powers in 1945.

After Japan was defeated, its territories, including Korea, were taken over by the Allies. U.S. troops stayed in the South. Soldiers from the Soviet Union, a group of nations led by Russia, occupied the north.

Supported by China and the Soviets, North Korean forces invaded the south in 1950. Their intent was to unify the country under communist rule. Communism is a political system that controls all business and limits personal freedom.

Forces from the United States and other countries defended South Korea. The invasion sparked the Korean War. The war raged until 1953. More than 2.5 million Koreans, Americans, Chinese, and others died. The war never officially ended, and the Korea remains divided to this day.



Quiz

1

Read the section "History."

Select the sentence that shows the result of the Korean War.

- (A) Almost 800 years later, in the 660s, the Silla won control of the country.
- (B) In this global war, Japan, Germany and Italy, known as the Axis powers, fought against the Allies.
- (C) Supported by China and the Soviets, North Korean forces invaded the south in 1950.
- (D) The war never officially ended, and Korea remains divided to this day.

2

Read the section "Nature."

Which sentence from the section shows WHY South Korea has only a few natural habitats left?

- (A) South Korea is a small country with many people, creating a big demand for space.
- (B) However, the only areas of true wilderness left are the mountain forests.
- (C) Most were wiped out by hunters who wanted tiger bones to make traditional medicines.
- (D) This zone is an unpopulated territory between North and South Korea.

3

Use the four images and information from the article to select the TRUE statement.

- (A) Currency in South Korea is worth the same as currency in the United States.
- (B) People in South Korea think of age the same way that people in the United States do.
- (C) Seoul is an important city in South Korea that is located near the northern part of the country.
- (D) South Korea is one part of a big island that includes the country of North Korea.

4

Examine Map 1 and read the selection below.

Korea occupies a 750-mile-long peninsula. Located in Asia's far east, it sticks out between the Yellow Sea and the Sea of Japan. Today, the country is split into South and North Korea. South Korea occupies about one half of the Korean Peninsula.

How does the image support the information in the selection above?

- (A) It shows that Siberian tigers are only found in South Korea.
- (B) It shows how life in South Korea is different from North Korea.
- (C) It shows where the seas and mountains of Korea are located.
- (D) It shows that South Korea is the bottom half of a peninsula.

Climate change in Alaska

By U.S. Environmental Protection Agency, adapted by Newsela staff on 04.04.17

Word Count 845

Level 820L



Climate change affects the habitat of many animals, such as polar bears, in Alaska. Photo by: Susanne Miller/USFWS

Overview

Alaska is the largest state in the United States. It makes up about 20 percent of the total area of the country, more than twice the size of Texas. Alaska has lands inside the Arctic Circle. It has many different types of ecosystems, from expansive forests to icy glaciers.



Over the past 60 years, the average temperature across Alaska has increased by about 3 degrees Fahrenheit. That is more than twice the warming seen in the rest of the United States. Temperatures in the winter have increased by an average of 6 degrees. This has led to changes in ecosystems. Average temperatures in Alaska are projected to continue rising. Rain and snow in Alaska are also expected to increase. Still, the state is likely to become drier due to greater evaporation. Rising temperatures may provide some benefits in Alaska, but climate change is also hurting many people, animals and ecosystems.

Permafrost

Permafrost is frozen ground located a few feet below the soil surface in cold regions. Most of Alaska's surface lies above permafrost. Permafrost typically remains frozen year-round. As air temperatures rise, though, permafrost is thawing in many areas. As it thaws, the soil above can sink, damaging roads and buildings.

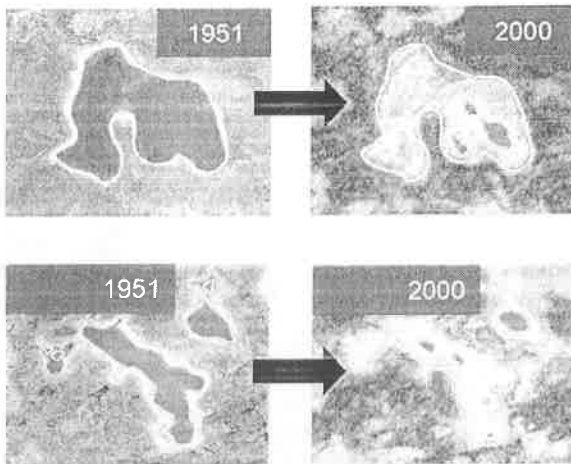
Transportation And Infrastructure Impacts

Melting permafrost can cause a lot of damage. It is expensive to fix. Many of Alaska's highways are built in permafrost areas. They are in danger of becoming uneven if the permafrost thaws.

Ecosystem

Lakes in Alaska are changing size. Millions of birds travel to these wetlands to breed when it's warm.

Alaska natives hunt and fish for food there, too.

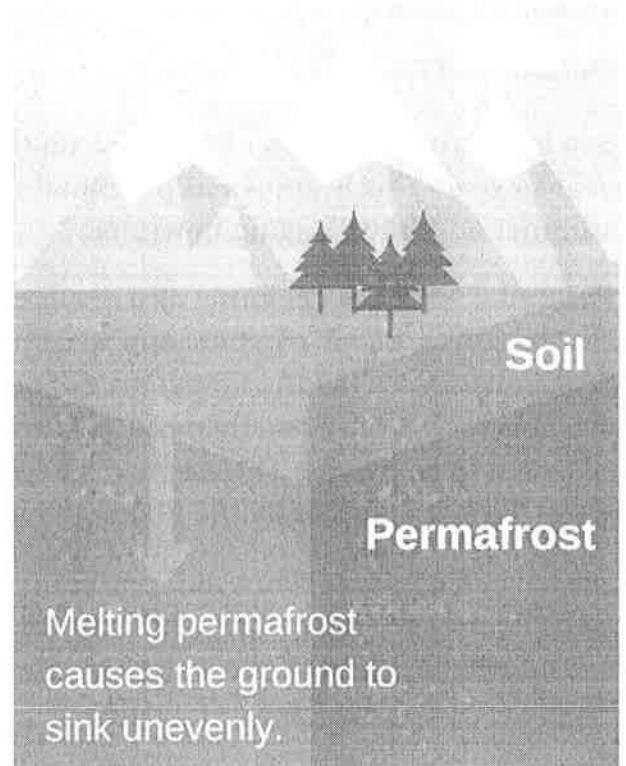


Lakes get smaller for a few reasons. Warmer temperatures increase evaporation. The water moves from the lakes into the air. Also, when permafrost thaws, the lakes can drain more easily. More plants grow, which means more dead plants build up on lake bottoms. Many lakes will continue to shrink due to climate change.

Some lakes are growing, though. The edges of the lake can fall in. This makes the lake bigger.

As the climate warms, shrubs are expanding into the tundra, replacing other plants eaten by caribou, a large type of reindeer. The caribou go hungry and die. Bears, wolves and even some people in Alaska depend on caribou for food.

Higher temperatures and drier conditions increase the risks of wildfire. Large wildfires have consumed more forest in Alaska than ever before. Fires change the forest. Conditions improve for moose and some plants. However, the plants caribou need disappear. Warmer temperatures are



also expected to worsen insect damage to forests. That increases the amount of dead trees that catch fire easily.

Oceans And Coasts

Sea ice is frozen seawater that floats on the surface of the ocean. Some sea ice does not melt from year to year. This is known as perennial sea ice. Other sea ice is seasonal. It melts during the summer and freezes again in winter.

Perennial sea ice is declining as a result of warmer temperatures, ocean currents and wind patterns. September 2012 had the lowest area of ocean covered by ice ever. There is usually twice as much. It is expected to get worse. The Arctic might not have any ice in the late summer by the 2030s.

Sea ice along the shoreline and permafrost in coastal areas help to protect people who live there. Without the ice and permafrost, the water wears away the land. People are less protected as a result.

Alaska's Natives

Alaska is home to 229 native tribes. Alaska native peoples depend on fishing and hunting animals. The animal populations they depend on for food are declining. Arctic plants and animals are also at higher risk for diseases. This means less food and challenges for human health.

Rough weather is also increasing flooding and wearing away land. Entire villages are having to relocate to higher ground. This is both expensive and difficult.



Quiz

- 1 Which of the following sentences from the article BEST supports the conclusion that the effects of climate change in Alaska have been negative?
- (A) Over the past 60 years, the average temperature across Alaska has increased by about 3 degrees Fahrenheit.
 - (B) Large wildfires have consumed more forest in Alaska than ever before.
 - (C) The Arctic might not have any ice in the late summer by the 2030s.
 - (D) Warmer temperatures are also expected to worsen insect damage to forests.
- 2 Based on the article, which of the following statements is TRUE?
- (A) Melting permafrost is harming caribou populations in Alaska.
 - (B) Climate change might cause health concerns for people in Alaska.
 - (C) Alaska's bird and fish populations will shrink as sea ice continues to melt.
 - (D) Wildfires across Alaska are forcing villages to move to different areas.
- 3 Look at the four images of the ponds from 1951 and 2000. Use the images and the information in the article to select the TRUE statement below.
- (A) Both of the pond areas shrunk at the same rate.
 - (B) Both of the pond areas shrunk due to thawing permafrost.
 - (C) The two shrinking pond areas are evidence of the effects of climate change.
 - (D) The two shrinking pond areas are rare examples of the effects of climate change.
- 4 Look at the chart titled "March and September Monthly Average Arctic Sea Ice Extent, 1979-2015." Which selection from the section "Oceans And Coasts" contains information found in the chart?
- (A) It melts during the summer and freezes again in winter.
 - (B) September 2012 had the lowest area of ocean covered by ice ever.
 - (C) There is usually twice as much. It is expected to get worse.
 - (D) The Arctic might not have any ice in the late summer by the 2030s.

Once endangered, grizzly bears prove to be a new threat to ranchers

By Washington Post, adapted by Newsela staff on 11.30.17

Word Count **828**

Level **840L**



Image 1. A grizzly bear grazes in Yellowstone National Park in Wyoming. Photo by: Jim Peaco/NPS

Dean Peterson is a rancher. His father, grandfather and great-grandfather were also ranchers. Because of this, Peterson is used to challenges. On his spacious land in the Big Hole Valley in Wisdom, Montana, summer wildfires can sweep down the mountains. Tough winters can threaten his herd of more than 1,000 cattle.

Now, he sees a new risk with grizzly bears. Settlers had almost killed off the big animals by the time Peterson's great-grandfather arrived here in the late 1800s.

A year ago, though, a trail camera took a photo of a grizzly crossing a stream. It was the first confirmed sighting in the valley in 100 years. In May, Peterson was surprised to see one cross a



road near his property.

"It will happen," the rancher says of the rising presence of grizzlies. "It will be more difficult to run cattle" for him and his neighbors, he said.

Once Endangered In 1975

In 1975, grizzlies were listed as endangered. That meant the entire population was close to extinction. Since then the number of grizzlies in the Yellowstone National Park ecosystem has greatly increased.

The bears are coming to southwestern Montana. Yellowstone is to the south. To the north, grizzlies in the Glacier National Park region also are spreading out.

The bears are moving so far that the two populations might connect. If the populations do mix, it could help the bears' chances of survival.

However, as grizzlies fan out from the parks, they are encountering more people. They also find food in the form of trash and farm animals.

A Risk To Humans?

While their presence increases the risk to humans, bears are much more likely to get hurt than humans when the two species meet. At least 58 bears died in 2016, and 51 had died as of mid-November this year. Many were killed by people who hit them by accident with cars or crossed paths with them while hunting. Some were shot for harming animals or property.

Americans have spent 40 years and millions of dollars to save grizzlies from the edge of extinction. Now, experts question whether people can live alongside them.



Steve Primm is a conservationist who works with Peterson and other ranchers in the Big Hole Valley. He noted the bears are big and can be dangerous. Primm tries to get ranchers to see ways to live alongside bears.

The Yellowstone grizzly population dropped as low as 136 in the 1970s, government numbers say. The population has since come up to about 700 to 1,000. This caused the government to remove the grizzlies from the endangered species list.

Lawsuits are now looking to overturn the government's action and keep the grizzlies protected.

Males Spreading Out

Frank van Manen is a government scientist who leads a grizzly study team. He said the Yellowstone ecosystem has reached its limit, forcing male grizzlies to seek more space. Their moving away is creating challenges.

Taking the bears off the endangered list also opens up the possibility of hunting grizzlies in the three states that Yellowstone occupies. These include Montana, Wyoming and Idaho. While

scientists say limited hunting would not hurt the general population, opponents do not agree.

Some people worry about the bears on the



ecosystem's edges in Montana. They are the ones that could meet up with bears to the north.

A project in the Blackfoot River Valley in Montana has ways of reducing bear problems. It has used electric fencing, dead animal removal and range riders. The riders sweep the land checking for bears.

Feasts For Bears

Peterson's ranch is in Beaverhead County. The area is not used to bears. The county has a dump that could be a feast for bears. Bear-resistant garbage cans are not common.

The county has many cattle on ranches and in forests. Dead animals are often left to rot or are buried. Either way, they can attract grizzlies.

Primm knows bears that find food will come back for more.

Primm says that about half the area's ranchers will listen to ways to handle bears. He suggests guard dogs, electric fences and other plans.

○ Current range Historical range



Quiz

- 1 Read the section "Feasts For Bears."
Select the paragraph from the section that offers a solution to help deal with bears.

- 2 Read the paragraph from the section "Males Spreading Out."

Frank van Manen is a government scientist who leads a grizzly study team. He said the Yellowstone ecosystem has reached its limit, forcing male grizzlies to seek more space. Their moving away is creating challenges.

Which of the following is the MOST accurate explanation of this paragraph?

- (A) Scientists have now begun a research project about the grizzly bears in Yellowstone.
- (B) There are too many male grizzly bears in Yellowstone Park and they are beginning to expand.
- (C) Damage to the environment in Yellowstone Park is forcing male grizzly bears to travel to new places to survive.
- (D) There is not enough food in Yellowstone Park for grizzly bears and this is forcing the bears to steal from humans.

- 3 Examine the image in the section "Males Spreading Out" and read the selection below.

Some people worry about the bears on the ecosystem's edges in Montana. They are the ones that could meet up with bears to the north.

How does the image support the information in this selection?

- (A) by describing the different causes behind bear migration in Yellowstone and Montana
- (B) by highlighting areas where grizzly bears are no longer protected as an endangered species
- (C) by showing how bears migrate throughout the United States in search of their food sources
- (D) by comparing the ranges of the bear populations in Yellowstone and upper Montana and Idaho

- 4 Use the six images and information from the article to select the TRUE statement below.

- (A) All grizzly bears are protected under the Endangered Species Act.
- (B) Grizzly bears outside of Yellowstone Park and Alaska are protected as an endangered species.
- (C) The majority of grizzly bears are afraid of people and stay far away from them.
- (D) Grizzly bears in Yellowstone Park have expanded their territory across most of Idaho.

Endangered Species: The okapi

By Gale, Cengage, adapted by Newsela staff on 01.29.18

Word Count 611

Level 800L



Image 1: Okapi are unique. Although they are part of the giraffe family, they look a bit like deer and zebras, too. Photo from Wikimedia.

The okapi is the only other member of the giraffe family. It looks somewhat like a cross between a giraffe, a deer and a zebra. Its forehead, long neck and body are chocolate brown. Its upper legs have horizontal white and black stripes like a zebra. The lower legs are white with a black band near the hoof. The okapi has large ears and gray cheeks. Like a giraffe, it has a tongue that is long and black. Its tongue is designed for grasping or holding. The okapi uses its tongue to strip leaves from trees. Male okapis have short horns covered in hair. The okapi's body is about 6.5 feet long, and the animal stands around 5.25 feet at the shoulder. It weighs between 460 and 550 pounds.

Okapis live in forests of tall trees. They eat more than 100 species of plants, munching on leaves, grass, fruit and fungi. To get minerals, they eat river clay and charcoal from burned trees. Okapis are solitary, which means they spend most of their time alone. The animals come together only to mate. After a pregnancy period of about 15 months, the female gives birth to a single baby called a calf. It grows to its full size in three years. In captivity, okapis can live for 33 years.

Habitat And Population

Okapis live only in the rain forest of the Democratic Republic of the Congo, or DRC. This is a country in central Africa. Scientists do not know the total population size but estimate that 35,000 to 50,000 okapis remain. Some scientists believe the real number is much lower, though.

History And Conservation

For hundreds of years, native African peoples told stories of a shy creature living in the rainforest. They said that its patterned coat made it almost impossible to find in the leafy forests. European explorers were curious about the secretive creature. They called it the African unicorn. Early in the 1900s, the British explorer Harry Johnston obtained skin and skulls of the animal. He sent them to England. Scientists there identified the animal as a member of the giraffe family.

The okapi has been a protected animal in DRC since 1933 and appears on the country's money. But from 1995 to 2013, its population decreased by more than half. Deforestation and human settlement are the greatest threats to the okapi. Since 1996, the DRC has suffered through two civil wars that killed millions of people. The country is still unstable and very poor. Groups of armed soldiers have settled in protected rainforests where okapis live. The soldiers farm and log illegally and hunt the okapi and other animals for food. In 2012, soldiers opened fire on the headquarters of the Okapi Wildlife Reserve. They killed six people and 14 okapis.

Both African and international conservation groups are planning ways to protect the okapi. The International Union for Conservation of Nature and Natural Resources (IUCN) listed the species as endangered in 2013. That means the animal is in danger of dying out. The IUCN formed a group to help save the animal. Its most important goal is protecting the okapi within the Okapi Wildlife Reserve and another large national park in the DRC. Government workers patrol the wildlife reserve. Meanwhile, volunteers educate people living nearby about forest conservation. Conservationists are people who work to protect nature. They believe that raising awareness about okapis is essential for the animals' survival.



Quiz

1 One MAIN idea of the article is that okapis are animals that look like a cross between a giraffe, a zebra and a deer.

What is another MAIN idea of the article?

- (A) Okapis are only about 6.5 feet long and can weigh up to 550 pounds.
- (B) Okapis have become endangered because of human actions.
- (C) Okapi females give birth to their babies after about 15 months.
- (D) Okapis can live up to 33 years when they are kept in captivity.

2 Read the sentences summarizing the MAIN ideas of the article below.

Okapis are animals that look like a cross between a giraffe, a zebra and a deer. They live in the rain forests of the Democratic Republic of Congo.

Which answer choice would complete the summary?

- (A) Groups are working on ways to protect the okapi from dying out.
- (B) Okapis eat more than 100 different types of leaves, grass, fruit and fungi.
- (C) Groups of armed soldiers began to live in the rain forests of the okapi.
- (D) Okapis prefer to spend most of their lives by themselves.

3 Use the three images and information from the article to select the TRUE statement.

- (A) Okapis are found throughout most of Africa and throughout many countries around the world.
- (B) Okapis are animals that mostly eat grass and leaves, but sometimes they eat other animals.
- (C) Okapis can live in many different types of habitats, but they mostly live in drier habitats.
- (D) Okapis can make one ear turn toward the front and the other ear turn toward the back.

4 Examine Image 1 and read the selection below.

Okapis live in forests of tall trees. They eat more than 100 species of plants, munching on leaves, grass, fruit and fungi. To get minerals, they eat river clay and charcoal from burned trees. Okapis are solitary, which means they spend most of their time alone. The animals come together only to mate. After a pregnancy period of about 15 months, the female gives birth to a single baby called a calf. It grows to its full size in three years. In captivity, okapis can live for 33 years.

How does the image support the information in the selection above?

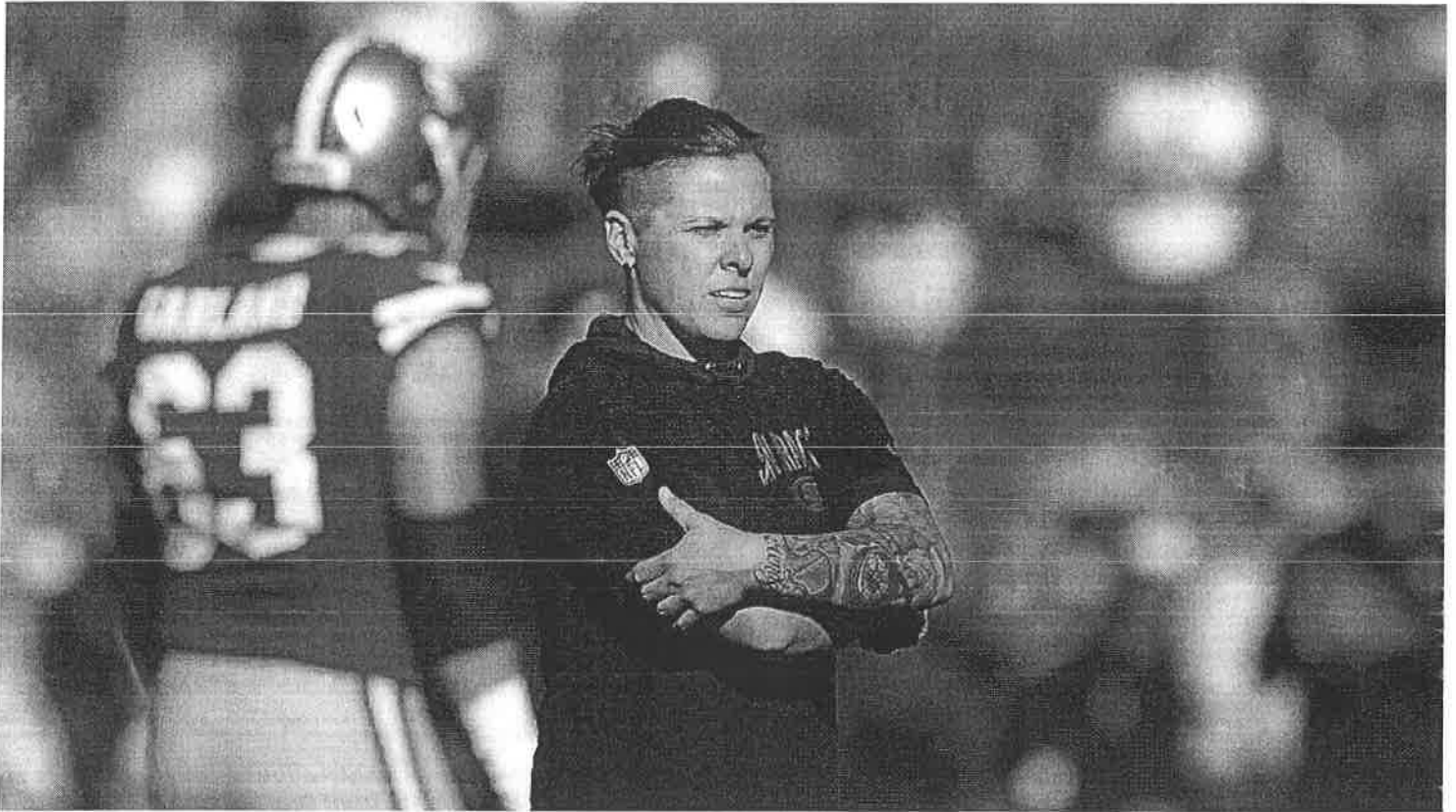
- (A) It shows an okapi that is eating the charcoal of burned trees.
- (B) It shows an okapi in captivity that has lived to be 33 years old.
- (C) It shows an okapi that is alone in a forest of tall trees.
- (D) It shows an okapi that is pregnant and ready to have her calf.

Katie Sowers becomes the first woman to coach in a Super Bowl

By Washington Post, adapted by Newsela staff on 02.03.20

Word Count **906**

Level **830L**



Katie Sowers, an assistant offensive coach with the San Francisco 49ers, looks on during warm-ups before a football game against the Atlanta Falcons at Levi's Stadium in Santa Clara, California, December 15, 2019. Photo: Lachlan Cunningham/Getty Images

In the first preseason game of his first National Football League training camp, Kendrick Bourne dropped two passes. Bourne returned to the San Francisco 49ers sideline feeling unhappy with himself. He sat on the bench and dropped his head.

A coach walked up to him, a low-ranking staffer and a fellow newcomer to the 49ers, who told him, "Live in the moment. Treat it how you've been playing all your life. You're supposed to be here."

The message lifted Bourne and stayed with him, and a couple of plays later, he made his first catch. He finished the game with a strong performance and went on to make the 2017 team. In the three years since he has carved out a role in the San Francisco team's offense. When Bourne looks back, he views the coach's message as a key turning point.

"That was just a big moment in my life," Bourne said. "It was her first year, my first year. She was finding her way, I was finding my way. Her giving me that tip helped me make my way."

It was a common NFL occasion, a coach helping a young player through a test. Yet, it was also very unusual, because the coach that inspired Bourne is a woman.

49ers' Assistant Offensive Coach

That coach's name is Katie Sowers. Today, she is an assistant offensive coach on 49ers head coach Kyle Shanahan's staff. She is one of only three women who have full-time NFL coaching jobs. Her job is to help organize practices, draw plays for the scout team and prep early morning drills. She is living her dream.

And on Sunday, February 2, Sowers became the first woman to coach in the Super Bowl. The 49ers played against the Kansas City Chiefs. The two teams were tied in the first half. Then, the Chiefs were down by 10 points in the fourth quarter. But Kansas City came back to beat the San Francisco 49ers 31-20. It was a dramatic late turnaround in Super Bowl LIV on a beautiful South Florida evening.

Though Sowers' team did not take home the trophy, it was still a big night for her.

"I'm waiting for someone to tell me this is all a joke, and they're going to be like, 'Psych — you're not really there, you're not really a football coach,'" Sowers said. "It's one of those things that, you really start to look around you and take advantage of every single day."

The people she works with don't even care about her being a woman anymore. Sowers is just Coach Katie to them. Wide receiver Emmanuel Sanders called her "one of the coolest coaches" he'd ever been around. Wide receivers coach Wes Welker praised her work ethic.

"It's awesome, it's inspired us," 49ers General Manager John Lynch said. "I think it's really cool for girls to realize they can dream to do this."

A Seemingly Far-Off Dream

Sowers loved football as a kid growing up in Kansas, and later played quarterback in the Women's Football Alliance. She always wanted to work in football, but coaching in the NFL didn't seem like a real possibility. Then in 2014, Sowers saw Becky Hammon coaching for the National Basketball Association's San Antonio Spurs. It hit her that no matter how unlikely it seemed, she could coach in the NFL.

"Football has always been my favorite sport, but I never thought it was possible," she said. Seeing Hammon coach cleared a path for her in her mind. "She's breaking barriers. She's doing something outside of what we see as the norm. And it helped me to think outside," Sowers said.

Hammon's example made Sowers work even harder to reach her dreams. She read every football book she could find, especially Bill Walsh's book on coaching.

"I knew I had a long road ahead of me if I wanted to be an NFL coach," Sowers said. "But I was up for the challenge."

In 2016, she got her first chance, when the Atlanta Falcons invited her to help out during training camp. She worked with the wide receivers coach on organizing practice drills. When the season started, she worked in the coach's office.

"I was nervous, but I was excited," Sowers said. "I knew I belonged, and that's what was most important. If I didn't feel like I belonged, I would have never stepped foot in that room. I knew I was going to face difficulties, but we all do. We all face them. It's part of your path."

At the time, Kyle Shanahan was coaching for the Falcons. When he took a coaching job with the 49ers, Sowers followed. She made herself so helpful with the 49ers, she was hired full-time.

In the seasons since, Sowers has become a key part of the coaching staff: "I just feel like she's on her way to the top," Bourne said.

First But Not Last

Sowers still cannot quite believe she has made it to the Super Bowl. She hopes girls and women saw her and felt what she felt when she saw Hammon coaching the Spurs. One day, she hopes, a woman will coach at the Super Bowl without attracting extra attention. That day hasn't arrived, but Sowers plans to work for it to come.

"You have to have a first for everything to create change," Sowers said, "but I want to make sure I'm not the last."

Quiz

1 Read the article's introduction [paragraphs 1-5].
Which sentence from the section shows that Katie Sowers helps players achieve success?

- (A) Bourne returned to the San Francisco 49ers sideline feeling unhappy with himself.
- (B) A coach walked up to him, a low-ranking staffer and a fellow newcomer to the 49ers, who told him, "Live in the moment."
- (C) He finished the game with a strong performance and went on to make the 2017 team.
- (D) Yet, it was also very unusual, because the coach that inspired Bourne is a woman.

2 Read the section "49ers' Assistant Offensive Coach."

Select the sentence from the section that shows WHY Sowers is unique.

- (A) Her job is to help organize practices, draw plays for the scout team and prep early morning drills.
- (B) This Sunday evening, February 2, she became the first woman ever to coach in the Super Bowl.
- (C) Sowers is just Coach Katie to them.
- (D) Wide receivers coach Wes Welker praised her work ethic.

3 What effect did Becky Hammon have on Katie Sowers?

- (A) She inspired Sowers to pursue her dream.
- (B) She introduced Sowers to Kyle Shanahan.
- (C) She gave Sowers books about football and coaching.
- (D) She helped Sowers get a job with the Spurs.

4 What caused Katie Sowers to get her job with the 49ers?

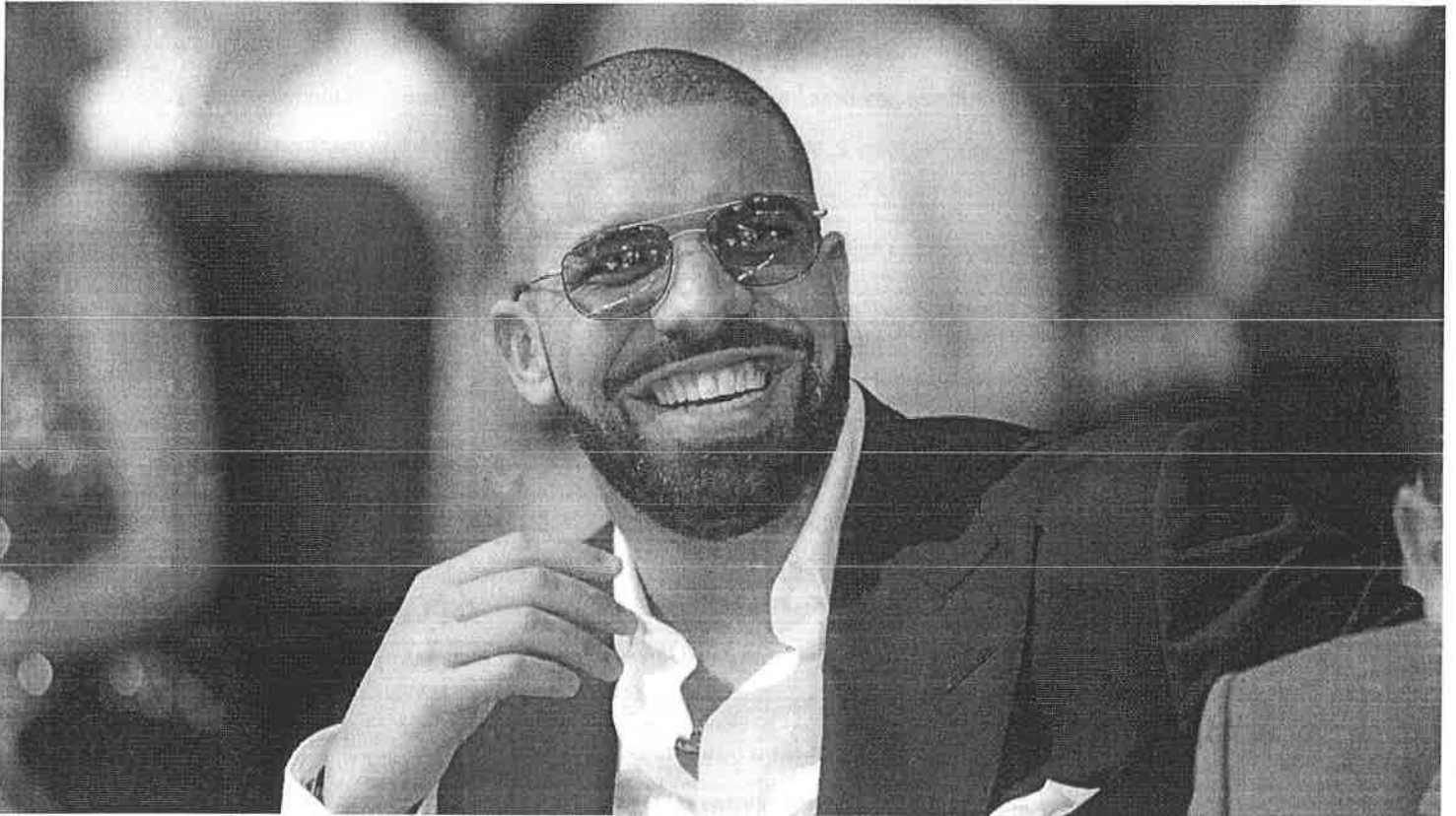
- (A) Shanahan felt that Sowers had proved she could help the team.
- (B) Shanahan felt bad that the Falcons had not hired her.
- (C) The 49ers knew her from when she was a quarterback.
- (D) The 49ers wanted to hire a coach from Kansas City.

Is "YOLO" good advice? Scientists say Drake might be on the right track

By Washington Post, adapted by Newsela staff on 03.09.17

Word Count 587

Level 850L



Drake, a rapper, attends the 2016 American Music Awards at Microsoft Theater on November 20, 2016, in Los Angeles, California. Photo: Christopher Polk/AMA2016/Getty Images

Poets and thinkers have been saying it for generations. But the rapper Drake brought the saying to young people today: "YOLO," short for "You Only Live Once."

In other words, life is short so we should make the most of it. Live life to the fullest every day. It is something humans seemingly have tried to remind each other since the dawn of time.

People often say "YOLO" when they are about to try something new or risky.

Now, scientists say "living for today" is good for your brain.

Groups Get Different Tasks

Scientists from a number of universities teamed up for the experiment.

First, they gathered 139 U.S. college students. They put them in one of two groups.

They asked 70 students to imagine they were moving away in 30 days. These students should act like it, too. They should meet up with people they will miss after they are gone, the scientists said.

The scientists wanted this group to get the feeling that time is short. These students, they thought, would better appreciate their surroundings over the 30-day period.

Over the same period, a second group of 69 students was asked to simply write a detailed journal of their activities. This is called the "control" group.

Let's See What Was Learned

At the end of the period, as well as for two weeks afterward, every student filled out answers on the same form. This form asked questions about the students' satisfaction with life. For example, a person could check a box that said: "the conditions of my life are excellent." The questions asked if the students were truly happy on a deep level.

When the experiment started, the students all had about the same levels of happiness.

However, after 30 days, something changed with the first group. The people asked to imagine they had only 30 days left before moving became more likely to "plan, do and enjoy activities." They wanted to spend more time with friends. They wanted to visit special places, the researchers found.

Overall, these students said they were more satisfied with life than the students who simply wrote about their activities in a journal.

Over time, the students who were told to savor those 30 days became happier, the authors wrote.

Thinking Time Was Limited Made A Difference

The findings support the scientists' prediction that imagining time as short helps people to get greater happiness from their surroundings.

Why would this be? The scientists are not sure whether the experiment made people do more activities they enjoyed, or if the students made an effort to enjoy each activity they were doing as it happened.

Perhaps, they said, thinking of time as "limited" makes a person go out and do more things to enjoy the time in that place. Studies consistently show that being active and forming close friendships are the keys to enjoying life.

Calling On More "YOLO" Studies

This particular study comes with a few warnings you might expect. The subjects were all college students, and mostly white and female. Scientists aren't sure if the feelings of these young college students would carry over to people of all ages and backgrounds.

The researchers say their findings are just the beginning. They are encouraging others to repeat the experiment with different groups and see what happens.

Still, the results of the study are promising for anyone who has ever said "YOLO." Thanks to this research, there is a bit of scientific evidence that Drake was probably right.

Quiz

1 Overall, the article is organized around:

- (A) an idea and its followers
- (B) an experiment and its results
- (C) a scientist and her ideas
- (D) a musician and his song

2 How is the introduction [paragraphs 1-4] related to the final section, "Calling On More YOLO Studies"?

- (A) Both show the effects of music on scientific research.
- (B) Both suggest problems with the scientific study.
- (C) Both connect scientists to an idea popularized by a musician.
- (D) Both encourage readers to participate in scientific research.

3 Which two of the following are MAIN ideas of the article?

1. *A new study suggests the idea behind "YOLO" is good for your brain.*
2. *A control group of students was asked to write a detailed journal of activities.*
3. *People who imagined they had less time to spend with their friends made more plans and were happier.*
4. *Poets, thinkers, and singers have all talked about the idea behind "YOLO" for many generations.*

- (A) 1 and 3
- (B) 1 and 4
- (C) 2 and 3
- (D) 2 and 4

4 Which of the following was the MAIN goal of the study?

- (A) to show that different people enjoy different kinds of tasks
- (B) to learn how happy students going to college feel about studying
- (C) to make people participate in more activities with their friends
- (D) to find out whether thinking time is short helps people find happiness

How Government Works: A look at state and local governments

By USHistory.org, adapted by Newsela staff on 02.15.17

Word Count **784**

Level **800L**



The California State Capitol building is where the state legislature meets. Every U.S. state government has a governor, a legislature and courts. Photo from: Wikimedia Commons.

The Founding Fathers of the United States were concerned that a big national government could take away people's freedoms. So, when they set up the U.S. government, they created a separation of power. They divided power between three branches of government. These are the executive, judicial and legislative branches.

Their efforts went beyond the national government, too. The Founding Fathers also made sure that power was shared with states and communities. These smaller governments were given many duties. They were allowed to decide how they would govern their people.

State and local governments across the U.S. are not all organized in the same way. Yet most have some important things in common. These governments often affect people's lives more than the federal government. They give out marriage, birth and death certificates. State and local governments also decide on the driving age and who can get a drivers license. They oversee schools and are responsible for protecting citizens from crime. These important duties and others

are not managed by government officials in Washington, D.C. Instead, they are handled by state and local officials.

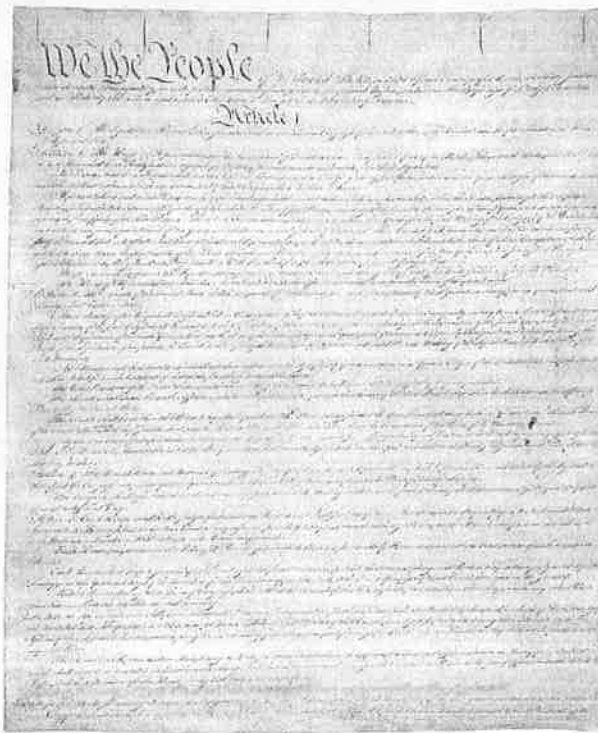
State Constitutions

The states had constitutions years before the U.S. Constitution was even written. Since the Declaration of Independence in 1776, states have written about 150 constitutions. Several states frequently even change or write new ones. State constitutions tend to be quite a bit longer than the U.S. Constitution — an average of four times as long! These documents determine the structure of state and local governments and say what each part does and how it will be paid for.



State Officials

Each of the 50 states has its own public officials. No two states are exactly alike, but all of them have a governor,



legislature and courts.

In every state, the governor is chosen by vote, and most serve four-year terms. More than half of states limit the number of times a person may be elected governor. These restrictions are called term limits. In general, governors run the state and prepare its budget. In some states, governors have more power. In other states, power is spread among many elected officials.

In most states, several other top officials are elected, such as the lieutenant governor, secretary of state and attorney general. A lieutenant governor is the vice governor. The secretary of state is in charge of elections and keeping the state's records. The attorney general is the top lawyer for the state.

Every state has a state legislature, which makes its laws. Legislatures have between 20 to 400 lawmakers, and most meet every year. All states set a minimum age for a lawmaker and how long

he or she must live in the state in order to serve. States also decide how much lawmakers get paid. Many state legislators serve for several terms.

Each state also has its own court system. Most have a state Supreme Court, which is the highest court. Judges oversee courts. They decide whether a person, group or organization has broken the law. State judges make the final decisions in most cases in the U.S. since more cases are decided by state laws than federal laws. Most states have two types of courts. A trial court handles cases from traffic fines to major crimes. An appeals court hears cases appealed from trial courts. Cases are appealed when someone thinks the trial court made a mistake in its ruling.

Local Organization Of Government

Local governments are generally organized into four types: counties, townships, special districts and municipalities.

States are divided into counties. County governments make sure state laws are followed within their borders. They keep the peace, manage jails, collect taxes and build and repair roads and bridges. They also keep track of marriages and deaths. Elected officials usually lead counties. These officials are called supervisors or commissioners.

Only about half of the states have townships. In states that do have them, the responsibilities of townships can vary widely. Sometimes "township" is simply another name for a town or city. Or, it may be a smaller part of a county.

A special district is a unit of government that has a special purpose. The best known example is a local school district.

Municipalities are cities, towns or boroughs that have permission to govern themselves. Today, about 8 out of 10 Americans live in municipalities. Some municipalities have mayors who are elected. Others are run by city managers who are hired.



Quiz

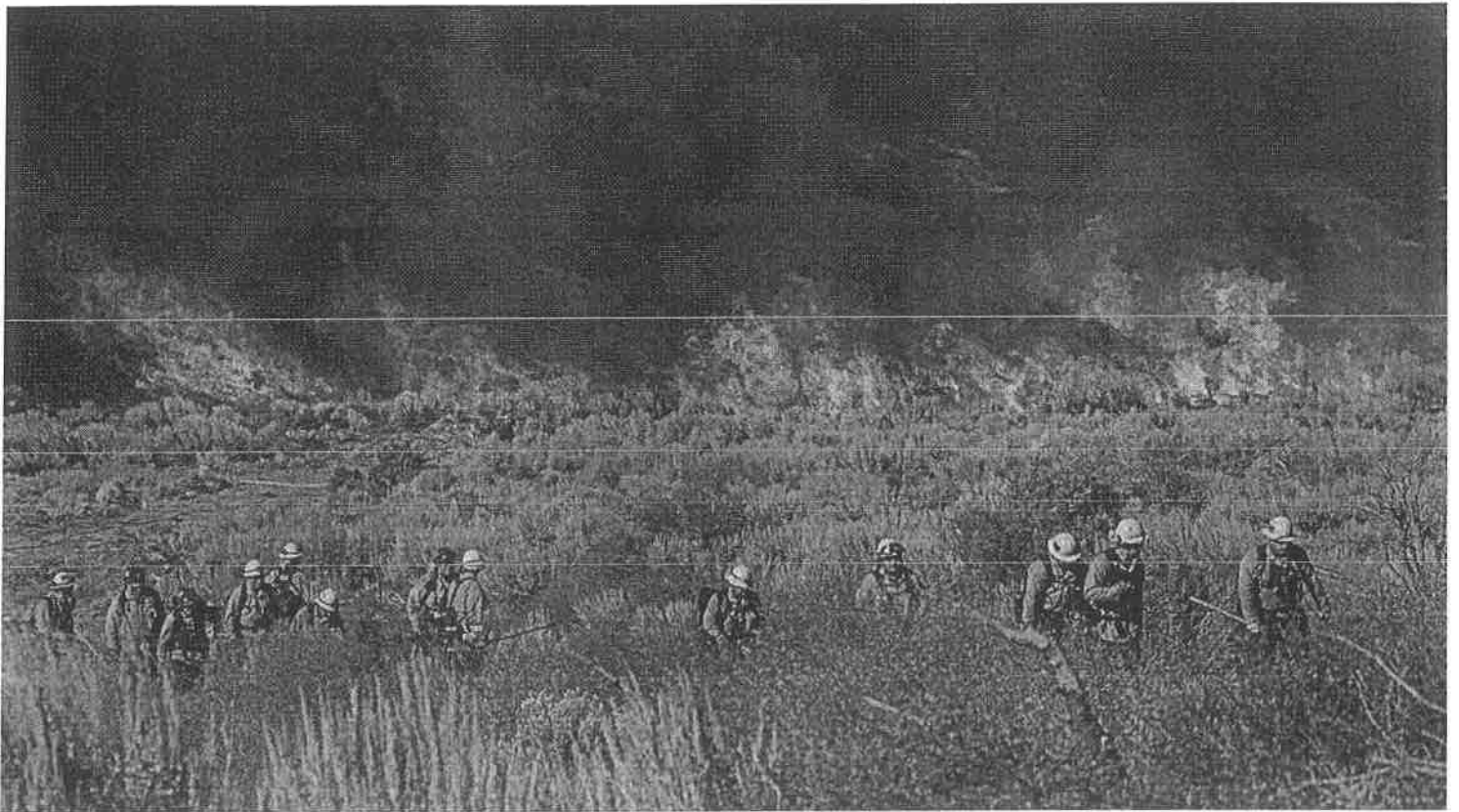
- 1 Select the sentence from the introduction [paragraphs 1-3] that suggests that local governments play an important role.
- (A) The Founding Fathers of the United States were concerned that a big national government could take away people's freedoms.
 - (B) The Founding Fathers also made sure that power was shared with states and communities.
 - (C) State and local governments across the United States are not all organized in the same way.
 - (D) These governments often affect people's lives more than the federal government.
- 2 Which sentence from the article BEST supports the idea that local governments are different from national governments?
- (A) These are the executive, judicial and legislative branches.
 - (B) State constitutions tend to be quite a bit longer than the U.S. Constitution — an average of four times as long!
 - (C) No two states are exactly alike, but all of them have a governor, legislature and courts.
 - (D) Local governments are generally organized into four types: counties, townships, special districts and municipalities.
- 3 Which of the following BEST describes the structure of the article?
- (A) problem and solution
 - (B) cause and effect
 - (C) compare and contrast
 - (D) chronological order
- 4 Which information MOST contributes to the organization of the section "Local Organization of Government"?
- (A) the comparison of local government to national government
 - (B) the explanation of the four types of local government
 - (C) the description of the courts of special districts
 - (D) the mention of the reason for different types of government

20 years of federal and state data prove humans cause most wildfires

By San Diego Union-Tribune, adapted by Newsela staff on 03.06.17

Word Count **566**

Level **840L**



The Blue Cut fire burns near Wrightwood, California, August 17, 2016. Photo by: Irfan Khan/Los Angeles Times/TNS

Scientists at the University of Colorado, Boulder have been studying the source of wildfires. Most wildfires in the U.S. have been started by people, they found. People are responsible for 84 percent of wildfires in the last 20 years. In some parts of California, nearly all wildfires were started by people.

Since 1982, 90 million acres have been burned in wildfires.

Sometimes, experts start fires on purpose to clear a field or to get rid of forest underbrush. In certain situations, this can be good for the environment. Those fires were not counted in the study.

Fire Made Easy In California's Dry Climate

California has a particularly dry climate where fires can start easily. Almost 90 percent of the total area burned in California was caused by human-started wildfires.

The study pointed out that humans have made fire season much longer. They also burn far more land than fires started by lightning. For example, one of the biggest wildfires to happen in California was started by a lost hunter. He started a fire because he thought someone would find him if they saw it. But it quickly got out of control. This led to the 2003 Cedar Fire in San Diego County. Sometimes fires are started by accident. Cigarettes, broken power lines and fireworks are all causes of fires.

The team recently published their findings. They used government records from 1992 to 2012. They found that people started more than 40,000 wildfires a year across the United States. The most common day for humans to start fires was on July 4th.

Good Fires Versus Bad Fires

Jennifer K. Balch is one of the scientists who led the study. She also runs the Earth Lab at the University of Colorado, Boulder. Wildfires can do good things, according to Balch. Small wildfires burn sticks and leaves that have fallen on the forest floor. This way, no single fire gets out of control. If wildfires are not allowed to burn a little, the fires that eventually happen may be especially bad.

“There are good fires and there’s bad fires,” Balch said. She pointed out that the study looked at bad fires that needed to be put out. She says that some fires are good because sometimes the fires started on purpose can be good for nature. They are especially important in the Western states.

Balch said it is hard to get people to support controlled fires. People do not want fires in their neighborhood because they think it’s risky. However, Balch pointed out that people are already at risk. They still live in places vulnerable to wildfires.

Fire Season Extended By Warmer Climates

A warmer climate in recent years has helped extend the length of the fire season in the Western states, Balch said.

“People are providing the ignition during this longer fire season, and also contributing to large fires,” Balch said. “It’s not either people or climate, it’s both.”

Though there is some debate, most scientists agree that the Earth is heating up. This is called climate change or global warming. A warmer climate can increase the likelihood of fires in some places. In the next 100 years, the number of lightning strikes is expected to double due to global warming, the study stated.

Even if that happens, though, the study said humans would still be the main cause of fires in the United States.

Quiz

- 1 Select the paragraph from the section "Fire Season Extended By Warmer Climates" that BEST explains why a warmer climate leads to a longer fire season.
- 2 Based on the information in the article, which of these statements is TRUE?
- (A) Balch thinks controlled fires are very important in the Western U.S. states.
 - (B) Most wildfires are started by lightning strikes in places with dry climates.
 - (C) People start over 40,000 wildfires on purpose every year in the United States.
 - (D) Both good fires and bad fires should be put out as soon as possible.
- 3 Which of the following are MAIN ideas from the article?
1. *People do not want controlled fires in their neighborhoods.*
 2. *Global warming and humans are contributing to extended fire seasons.*
 3. *People are responsible for most of the wildfires in the last 20 years.*
 4. *Some scientists debate whether the Earth is heating up and changing the climate.*
- (A) 1 and 3
 - (B) 1 and 4
 - (C) 2 and 3
 - (D) 2 and 4
- 4 Which of the following is a summary of the section "Fire Made Easy In California's Dry Climate"?
- (A) People that hunt are often responsible for starting wildfires in California. Most of the land there burned because hunters started fires when they got lost. Hunters shouldn't start fires when they get lost.
 - (B) People start more than 40,000 wildfires every year in the United States. California has a very dry environment where wildfires can start and spread very easily. The Cedar Fire was the worst fire in the United States.
 - (C) People smoking cigarettes and setting off fireworks is a main cause of wildfires in California and other states. More fires are started on July 4th than any other day of the year. The team published findings.
 - (D) People start most of the wildfires that happen in the United States. California's dry environment is especially prone to human-caused wildfires. Some fires are on purpose and become out of control, while others are started on accident.

How Government Works: The president's job

By USHistory.org, adapted by Newsela staff on 02.13.17

Word Count **689**

Level **800L**



The presidential podium outside the Oval Office at the White House in Washington, D.C. Photo from: Brooks Kraft LLC/Corbis via Getty Images

Just what exactly does the president do all day?

The growing power and responsibilities of the modern presidency have made it a very big job. Some even say that it's impossible for one person to handle it all.

Crisis Manager

The U.S. Constitution gives the president the power of commander in chief. That means the president leads the entire military of the United States. Over time, this job has evolved into the important role of "crisis manager." A crisis is a critical situation that needs attention.

In the 20th century, the United States grew as a world leader. The president became a key player in international crises. Presidents faced war, such as the Vietnam War and the Persian Gulf War. They also handled less famous clashes, such as those in Somalia and Haiti. Each time, the president went into "emergency mode" to handle the immediate problem.

Crises happen in our own country, too. Examples include hurricanes, forest fires, or riots in cities. The president must plan the government's response to emergency situations like these.

Symbolic Role

More than anyone else, the president symbolizes the country: both its people and its beliefs. In this role, a president performs many ceremonial duties. Presidents host foreign government officials, throw the first baseball of the season and attend political events. These actions are not trivial. Strong presidents must show confidence in themselves and in the American people. Some think the best presidents are those with great personal charm to help spark public confidence.



Making Sure The Work Of Government Gets Done

The United States government has three branches: executive, legislative and judicial. The president leads the executive branch. He or she is primarily responsible for seeing that the work of government gets done. A famous sign sat on President Harry Truman's desk which read, "The buck stops here." The responsibility to carry out the laws of the land squarely rests on the president's shoulders.

To help with the work, the president appoints many people to top government jobs. These jobs include Cabinet members and their assistants as well as federal judges including Supreme Court justices. Also included are ambassadors to other countries, top military leaders and heads of government agencies. Some appointments — like Cabinet members — have to be approved by the Senate. Still, the president controls more than 4,000 appointments to the government. That's a big responsibility.

The Political Agenda

In recent years, presidents have also set the political agenda. The founders intended for Congress to set priorities and policy. Today, presidents have their own plans for Social Security, taxes and public education. Recent presidents regularly recommended laws to Congress. When it comes to foreign policy decisions, they often act first and then consult Congress.



Each year the president gives the State of the Union address. This speech comes in January at the start of a new congressional session. Modern presidents have used this speech to communicate their visions for policy. They also use the media to bring attention to their proposals. This places pressure on legislators to act.

A president may threaten to veto a bill before it gets to the Oval Office. A veto means that the president refuses to sign a bill into law. The threat of a veto lets legislators know the president's

thinking. It also pressures them to rethink bills that they know the president will veto.

The Hardships Of Office

Can any one person successfully hold the president's job? The great author John Steinbeck said: "We give the president more work than a man can do, more responsibility than a man should take, more pressure than a man can bear."

Presidents somehow have managed to bear the hardships of office. Still, the job has taken a tremendous toll on each of them.

Quiz

1 Read the summary below. Choose the answer that BEST fits into the blank to complete the summary.

The growing power and responsibilities of the modern presidency have made it a very big job. Presidents lead the military and manage wars and other crises around the world.

They also have some ceremonial duties, such as hosting foreign government officials and throwing the first baseball of the season.

- (A) They also give an important speech each fall called the State of the Union.
- (B) They are responsible for seeing that government work gets done.
- (C) They have a very hard job, but each president has done it very well.
- (D) They usually seek advice from Congress before making foreign policy decisions.

2 Which section of the article explains how the president can help the nation by doing events that do NOT seem that important at first?

- (A) "Crisis Manager"
- (B) "Symbolic Role"
- (C) "Making Sure The Work Of Government Gets Done"
- (D) "The Political Agenda"

3 Read the section "Crisis Manager."

Select the paragraph that BEST describes the president's role outside of the United States.

4 Which selection BEST supports the idea that the role of the president has increased in importance?

- (A) The founders intended for Congress to set priorities and policy. Today, presidents have their own plans for Social Security, taxes and public education.
- (B) Each year the president gives the State of the Union address. This speech comes in January at the start of a new congressional session.
- (C) Modern presidents have used this speech to communicate their visions for policy. They also use the media to bring attention to their proposals.
- (D) Presidents somehow have managed to bear the hardships of office. Still, the job has taken a tremendous toll on each of them.

