

Name: _____

Death Smog In Donora, Pennsylvania

By Joyce Furstenau

Smoke belched from the industrial plants in Donora, Pennsylvania. It was considered little more than a nuisance before October 1948. The U.S. Steel Corporation's zinc and wire plants in Donora employed thousands of people. Living with smog was a way of life there.



Residents didn't think much of hosing layers of dust off their homes and cars. Salesmen brought extra white shirts to work. The shirts would turn dingy before the day was over. All that came to an end in October 1948. A weeklong layer of blinding smog covered Donora. The pollution stung people's eyes. The smog was so thick the residents couldn't tell whom they were passing on the sidewalk. The smog was so thick the football players couldn't see their opponents on the field. Firemen couldn't find addresses to help those in need of oxygen. The smog was trapped in the valley. A rare weather condition called an inversion kept it there.

Eventually, the blinding smog took the lives of twenty Donora residents. It was the first air pollution event that actually killed people. This tragedy was a wake-up call for Americans. This event was the beginning of our nation's first clean air legislation. It was the first time that public officials recognized a direct link between air pollution and public health safety. The Donora tragedy and other smog problems provoked congressional hearings that led to the Air Pollution Control Act of 1955, the Clean Air Act of 1963, and the Air Quality Act of 1967.

Donora residents did not want this event to be part of their town's image. They didn't want Donora to be thought of as "that little dirty town." They wanted to forget about the incident. Over the years, the industries that caused the smog shut down. Many residents moved away. There were no reminders of the "death smog" that hit Donora in 1948.

Nearly fifty years later, a high school student named Justin Shawley did a research project on the incident. He convinced the state historical and museum commission to approve a historical marker to honor the anniversary of the event. The marker was placed at the Donora Public Library. A memorial service was held at a local church. The U.S. Environmental Protection Agency's associate director spoke at the memorial. She reported that several residents told her, "It felt good to be recognized as the town that led the clean air movement."

Death Smog In Donora, Pennsylvania

Questions

- _____ 1. The death smog occurred in which state?
- Ohio
 - Florida
 - New York
 - Pennsylvania
- _____ 2. What caused the smog?
- smoke from chimneys
 - smoke from nearby zinc and steel plants
 - smoke from automobiles
 - smoke from a burning dump

Name: _____

_____ 3. What weather condition caused the smog to become trapped?

- A. inversion
- B. dust storm
- C. rainclouds
- D. conversion

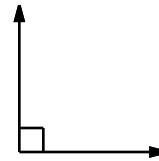
4. The Donora incident was the first smog-related incident to _____ people.

5. Who was responsible for suggesting an historical marker?

_____ 6. In what year was the Clean Air Act passed by the legislature?

- A. 1980
- B. 1963
- C. 1998
- D. 1988

Sketch 2 lines \overleftrightarrow{GH} and \overleftrightarrow{TU} that are parallel.



What kind of angle is this?

How many meters are there in 71 kilometers?

Know how many inches in a foot? Okay, smarty pants, how many inches in 8 feet?

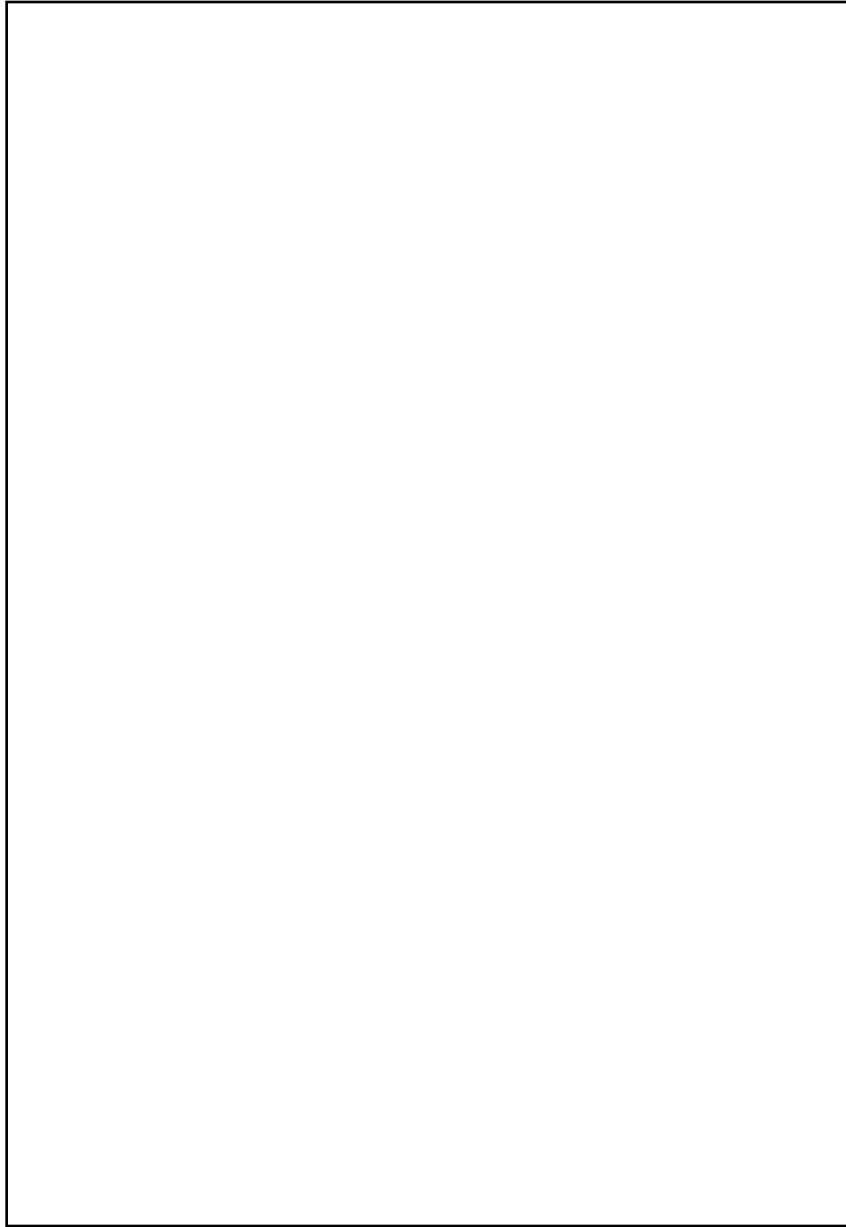
How many minutes is it from 7:00 a.m. to 11:15 a.m.?

How many centimeters in 9.5 meters?

$$2\frac{3}{8} + 9\frac{3}{8}$$

132 divided by 11 equals

My Name: _____



Think it. Draw it! This is a picture of a party for Earth. The other planets were invited to the party!



Recycling

I am going to create an acrostic poem using the word "RECYCLE." For each letter of the word "RECYCLE," I am going to write down a word or phrase that reminds me of this word.

R = _____

E = _____

C = _____

Y = _____

C = _____

L = _____

E = _____

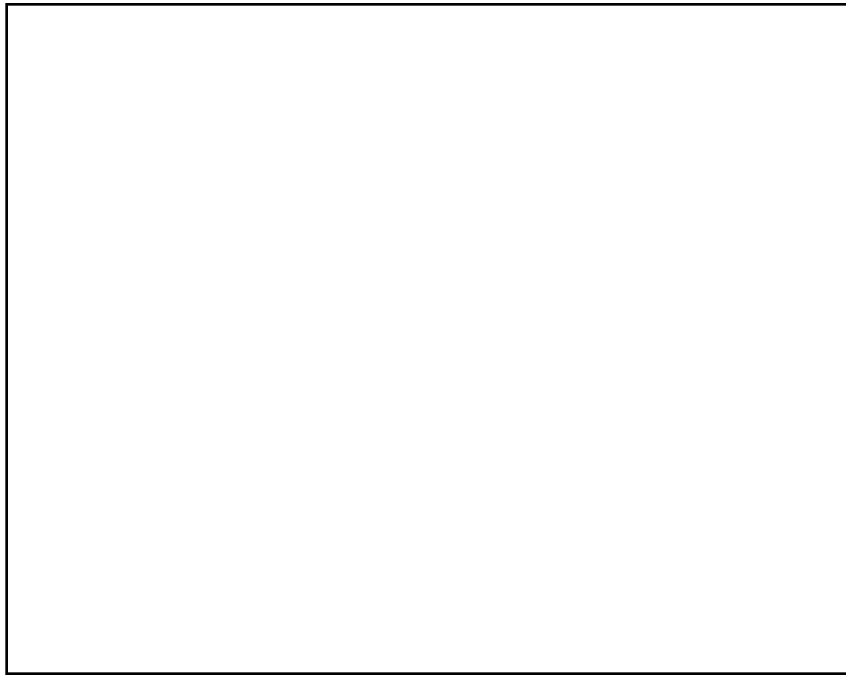
Name a person who is extremely good at reducing, reusing, and recycling materials.

In my opinion, the easiest thing to remember to recycle is

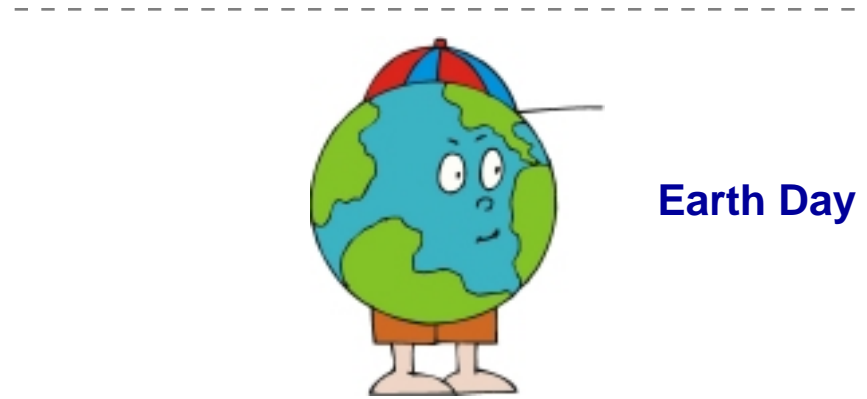
In my opinion, the most difficult thing to remember to recycle is

Where does your family place things to be recycled?

Someone left an empty container in your room. You've never seen this type of container before. How do you know if it should be thrown out or recycled?



Draw a picture of four things that can be recycled.



Come up with an Earth Day resolution for someone in your family. Who is the resolution for? What is the resolution?

I'm going to tell these three people about Earth Day:

1. _____
2. _____
3. _____

These are ten things I can do to celebrate Earth Day. Rank these activities from least important (1) to the one you think is the most important (10).

- _____ reduce waste
- _____ use less electricity
- _____ reuse something old
- _____ walk or ride my bike
- _____ recycle something
- _____ learn about endangered animals
- _____ plant a tree or garden
- _____ start a compost pile
- _____ pick up litter
- _____ reduce mail



Light Bulbs

How many light bulbs are in your room?

Which room in your house has the most light bulbs?

How many light bulbs are in that room?

What kind of light bulbs are mostly used in your house? (circle one)

incandescent bulbs

compact fluorescent light (CFL) bulbs

light-emitting diode (LED) bulbs

other: _____

Incandescent light bulbs are very cheap. They can cost as little as a quarter! But they don't last as long as other types of bulbs and use more energy. If you had to use your own money, which light bulbs would you buy? Explain. There is no right or wrong answer!



Oops!

Sometimes we don't think about the Earth or maybe we are in a rush. Write three things you have done that you would want to do differently.

1. _____
2. _____
3. _____

"I like trying to help the Earth, but there is one thing I still don't plan to do." What is it and why don't you want to do it?

New technologies, such as better light bulbs and more efficient cars, are good for the Earth but they cost money. If you were mayor and had to spend \$1,000,000 on anything, how much of it would you spend for the Earth? Where would the other money go?



Our School

What do you do with your school papers after your teacher has graded them and you have shown them to your parents? (circle one)

Throw them in the trash.

Place them in the recycle bin.

We keep all my papers.

other: _____

Mr. and Mrs. Fred Earth are coming to your class to talk about Earth Day. Write one question you'd like to ask them.

Circle all the things that your class does.

recycles paper

turns the classroom lights off when no one is in the room

uses a manual pencil sharper instead of an electric sharpener

keeps windows shut when the school's air conditioner or heater is running

recycles ink cartridges

recycles batteries

Write one thing that you think your class does not do that it should:

If we had to read one book for Earth Day from one of these topics, I would pick (circle one)

endangered animals global warming
national parks gardening



Trash

Eight things that I've put into the trash this week:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____



Old Things

What do you do with the following things?

your old clothes _____

batteries that no longer work _____

a pen with no ink _____

You have a present for a birthday party you are going to today, but you forgot to buy wrapping paper. What could you do?

Five things in my house that we don't need and we should consider how to throw out:

1. _____
2. _____
3. _____
4. _____
5. _____



Eight things in my house that use electricity are:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____

If you lost electricity in your house for the day, what would you miss doing? Write a paragraph.

Complete this thought: I could use a little less electricity by

Ask one of your parents to see an old electric bill. How much did your family pay for electricity that month?



Reduce your Mail

Who is sending mail to your family? Look at the mail your family received this week. Write the names of 10 different people or companies that sent your family mail.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

What could your family do to receive less mail? Talk to other members of your family and write down your ideas:



Thermostat in your Home

We keep our home at _____ degrees Fahrenheit during the day and _____ degrees Fahrenheit while we sleep.



How many gallons of water do you think your family uses in one day?

How did you estimate that your family uses this much water in one day?
Show your work:

Name: _____

Resources- Renewable or Nonrenewable?

By Patti Hutchison

Food, air, water, and shelter. People need these to survive. The Earth provides resources for all these things. Natural resources are materials found on the Earth. They include air, water, and land. They also include rocks, minerals, and soil. Even living things are natural resources. These are the building blocks of all the things we need to live.

Some of Earth's resources can be used over and over. These are called renewable resources. Others can't be replaced quickly. These are called nonrenewable resources.

Renewable resources can be used and replaced over and over again. Examples of renewable natural resources are fresh air, water, and soil. These materials are replaced by nature at a fairly fast rate.

Living things are renewable resources. People cut down trees to use for wood. They build and heat homes with it. If a tree is cut, another one can be planted in its place. In a few years, it will be as large as the one that was cut down. As it grows, it helps supply living things with oxygen, another important resource. Trees and other plants are examples of renewable resources.

Animals are used for food by other living things. Animals can reproduce naturally. As long as some adults of the species survive, there will be offspring. Some people raise animals for food. Cattle and chickens can be replaced in a short period of time.

All living things are dependent on the sun. Plants use sunlight to produce food. They, in turn, provide food for other living things. The sun provides energy for almost all processes on Earth. Thankfully, solar energy, the energy we get from sunlight, is renewable. Scientists predict that the sun will still be burning for at least another five billion years.

Have you been to a jewelry store lately? Did you put oil in your car today? Do you know anyone who burns coal to heat his home? If so, you have seen examples of nonrenewable resources. These substances exist in fixed amounts. They cannot be replaced quickly.

Diamonds are an example of a nonrenewable resource. These beautiful gems are worn and adored by many people. Do you know how diamonds are formed? Carbon must be subjected to tremendous pressure for millions of years. Diamonds cannot be replaced quickly! Other examples of nonrenewable resources that are used for jewelry include copper, silver, and gold. These metals are mined underground. They are in limited supply. When the mines run out, there will be no more of these metals available naturally.

Coal and oil deposits beneath the Earth formed millions of years ago. These resources are the result of the decay of certain plants and animals. They are also examples of nonrenewable resources. They are being used up much faster than they can be replaced. Someday, the Earth will run out of these precious materials.

Natural resources are necessary for life on Earth. Some cannot be replaced. We need to protect them. Reduce, reuse, and recycle!



Name: _____

Resources- Renewable or Nonrenewable?

Questions

- _____ 1. Resources that can be replaced quickly are called:
- A. renewable
 - B. nonrenewable
 - C. depleted
2. Give two examples of renewable natural resources.
- _____ 3. Scientists predict the sun will give us energy for at least how much longer?
- A. five million years
 - B. five billion years
 - C. fifty billion years
- _____ 4. Resources that exist in small amounts and cannot be replaced quickly are called:
- A. renewable
 - B. extinct
 - C. nonrenewable
5. Give two examples of nonrenewable resources.
- _____ 6. Coal and oil are being replaced faster than they can be used.
- A. true
 - B. false

Can 910 be evenly divided by 7? Circle:

910 is evenly divisible by 7

910 is NOT evenly divisible by 7

$18,331 + 54,753 = \underline{\hspace{2cm}}$

$21 \div 3 = \underline{\hspace{2cm}}$

$$\begin{array}{r} 99 \\ - 32 \\ \hline \end{array}$$

word root **polis** can mean **civic or city****police, political**

Name: _____

This puzzle has a large number in the middle, which is the sum of the four numbers that surround it.

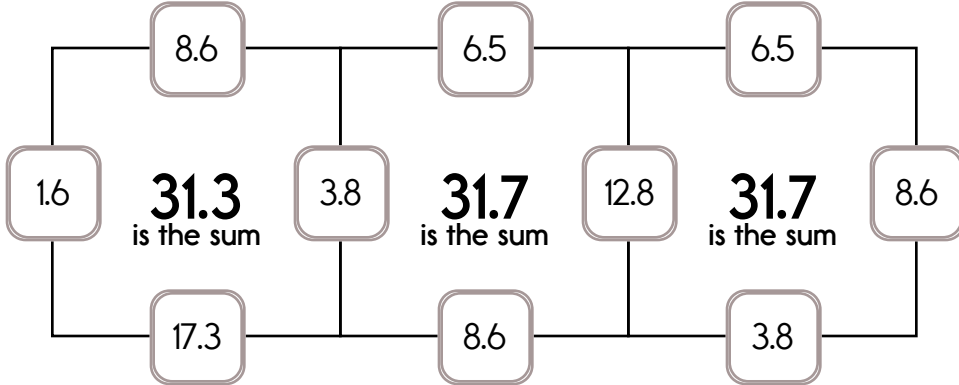
Example:

$$1.6 + 3.8 + 8.6 + 17.3 = 31.3$$

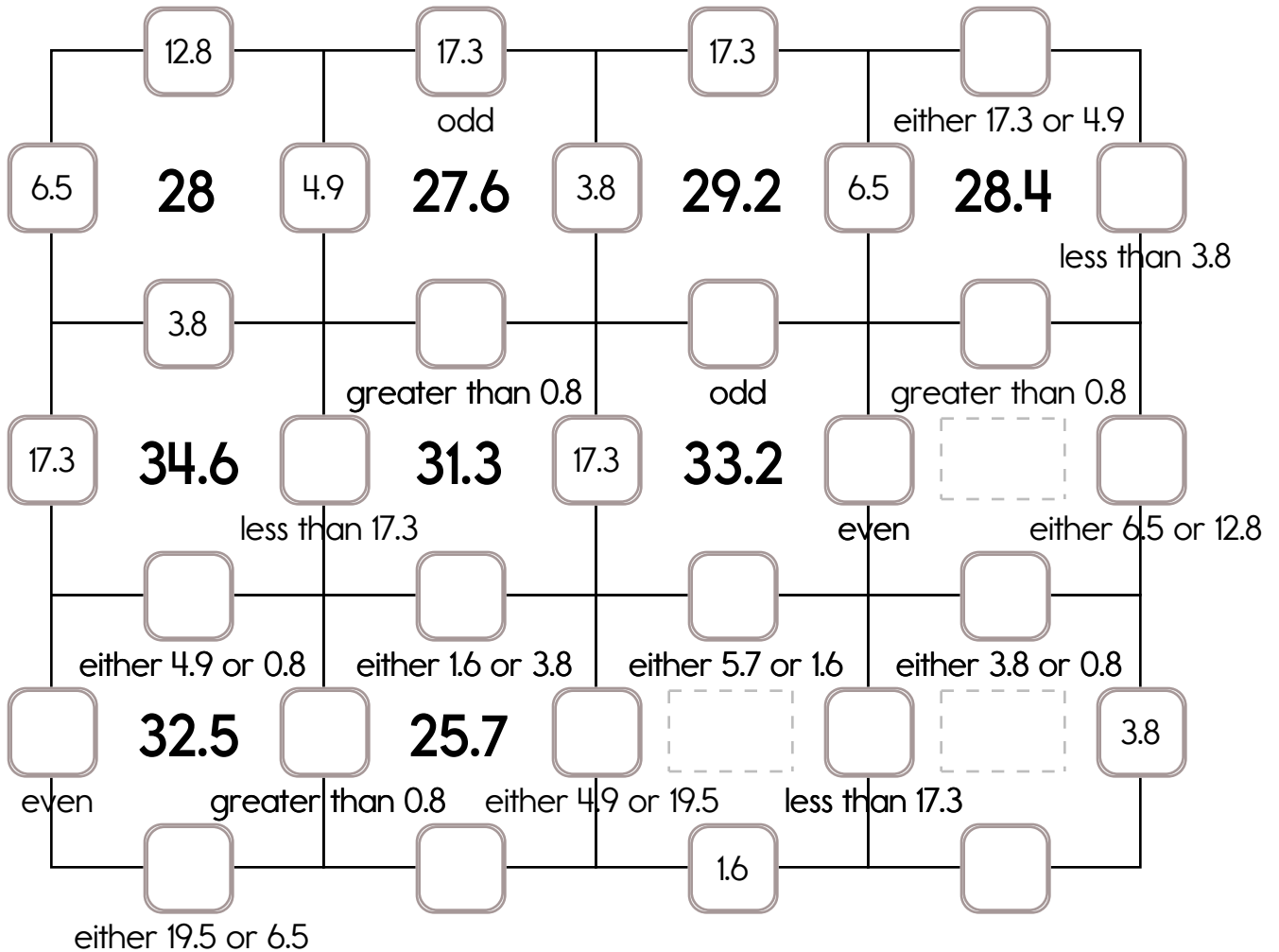
Example:

$$12.8 + 8.6 + 6.5 + 3.8 = 31.7$$

Sample:



Fill in the missing numbers. How? The sum of the four surrounding numbers is in the center of each square. Exactly one of the four numbers has to be one of these numbers: 19.5, 17.3, or 12.8. The other three numbers have to all be DIFFERENT and must be from these: 4.9, 8.6, 0.8, 5.7, 6.5, 1.6, or 3.8.



Name: _____

Fill in the missing numbers. How? The sum of the four surrounding numbers is in the center of each square. Exactly one of the four numbers has to be one of these numbers: 16.7, 11.3, or 27.1. The other three numbers have to all be DIFFERENT and must be from these: 2.5, 8.8, 0.3, 5.2, 4.7, 9.7, or 1.1.

	5.2			2.5		0.3		
			odd					
27.1	50.8	9.7	34.5	8.8	43.1		17.4	1.1
			less than 11.3		less than 16.7			
	8.8							
			even	greater than 0.3	either 11.3 or 2.5			
	37.3			8.8	37.3		23.7	
			odd		less than 8.8			
	greater than 0.3	greater than 4.7		even	either 2.5 or 4.7			
	30		20.1		25.6		37.7	
	less than 11.3	even	greater than 4.7	even	less than 27.1			
	even	either 1.1 or 2.5	less than 8.8					
	35.5		37.3		38.1		22.4	
	even	even	greater than 16.7	odd	less than 16.7			
	greater than 5.2	even			less than 5.2			
	41.8		50.8					
			greater than 0.3	odd				
			less than 11.3	odd	either 5.2 or 11.3			

Name: _____

Hybrid Cars Update

By Sharon Fabian

Hybrids are cars that run on two or more power sources - usually gasoline and electricity. Hybrid cars are recognized for their fuel economy and their low emissions. They also produce less noise pollution.

Cars that get at least part of their power from electricity aren't something new. In fact, since the time of Henry Ford, automobile makers have tried to create electric-powered cars. Until recently, none of the attempts have been very successful.

Then in the 1990s, the push for a car that was better for the environment led to renewed efforts toward a hybrid gas-electric car. By 2000, there were two hybrids in mainstream production - the Honda Insight and the Toyota Prius. The two-door Insight was the first mass market hybrid, and it won many awards. The Prius was the first four-door hybrid sedan.



Gradually, more car makers entered their own hybrid models into the market. In 2002, Honda came out with the Civic Hybrid. In 2004, there was the Ford Escape Hybrid.

Toyota continued to produce the Prius, but the Honda Insight went out of production.

Each year there was more and more demand from consumers for hybrid cars. Although the prices were higher than for gasoline-powered cars, buyers were willing to pay the price for a car that got up to fifty miles per gallon and was good for the environment, too.

In 2000, about ten thousand hybrids were sold. By 2004, the number had jumped to nearly one hundred thousand. By 2006, the number of hybrids sold was over two hundred thousand, and in 2008, around four hundred thousand. By 2011, over two million hybrids had been sold in the U.S. since 1999.

And the numbers might have been even higher. In several years, the number of hybrids sold was limited only by the number that could be produced. Automakers were not geared up to produce hybrids in large numbers. Waits of as long as six months for a Toyota Prius were not unusual.

Meanwhile, many other car manufacturers were jumping on the hybrid bandwagon. By the 2008 model year, hybrids were being produced by Toyota, Saturn, Nissan, Mercury, Mazda, Lexus, Honda, GMC, Ford, Dodge, Chrysler, and Chevrolet. Some makers produced one hybrid model, and others produced two.

Toyota was already producing three - the Prius, the Camry Hybrid, and the Highlander Hybrid. And Honda was making plans to bring back the car that started it all - the Insight. The Toyota Prius and the Honda Insight were expected to once again be the two hybrid models that would sell to large numbers of people.

In a surprising development, many automakers also began to produce hybrid versions of the big fuel-guzzling SUVs.

Gas-electric hybrids are more popular in some areas of the country than others. California and Washington, D.C. are two areas showing a strong interest in these hybrids.

Hybrids do especially well in city traffic, so it is no surprise that some major U.S. cities are leading the way in the use of hybrid cars. Portland, San Francisco, Santa Barbara, Monterey, San Diego, Los Angeles, and Phoenix are some of the cities where hybrid sales have boomed. Cities in California seem to be leading the way.

The popularity of hybrids has also led to a new interest in other types of energy-efficient and clean-running cars. Drivers can now purchase all-electric plug-in cars. Cars powered by hydrogen fuel cells are expected to be on the market in the near future.

Name: _____

Hybrids have come a long way since the debut of the Insight and the Prius. Still, the number of hybrid cars sold is only a small percentage of total new car sales. Will hybrid cars become more popular or disappear? Only time will tell.

Hybrid Cars Update

Questions

- _____ 1. Most hybrid cars run on _____.
 - A. electricity
 - B. gasoline and electricity
 - C. hydrogen
 - D. all of the above

- _____ 2. Hybrid cars _____.
 - A. get good fuel economy
 - B. produce low emissions
 - C. both
 - D. neither

- _____ 3. The first mass market hybrid was the _____.
 - A. Honda Insight
 - B. Mercury Mariner
 - C. Toyota Prius
 - D. Honda Civic

- _____ 4. Ford first produced a mass market hybrid in _____.
 - A. It hasn't produced one yet.
 - B. 2000
 - C. 2004
 - D. 2006

- _____ 5. Hybrid cars cost more to _____ but less to _____ than gasoline-powered cars.
 - A. operate, sell
 - B. run, repair
 - C. buy, operate
 - D. buy, sell

- _____ 6. Which happened first?
 - A. Ford Escape introduced
 - B. Toyota Prius first introduced
 - C. Honda Insight reintroduced
 - D. Honda Insight first introduced

7. Which two automobile makers produced the first mass market hybrids?

Name: _____

8. Why have hybrids sold well in major U.S. cities?

1 cm = 10 mm 18 cm = _____ mm	Rewrite these in increasing order of length: 62 cm, 340 dm, 6 km, 338 m, 362 mm	$\begin{array}{r} 23 \\ + 27 \\ \hline \end{array}$
----------------------------------	--	---

Write this as a number in standard form. Use a comma in your number. three hundred fifty-one thousand, one hundred nineteen _____	$6 \times 9 = \underline{\hspace{2cm}}$	$11 \times 4 = \underline{\hspace{2cm}}$
--	---	--

$\begin{array}{r} 266 \\ - 245 \\ \hline \end{array}$	April makes a basket for every three attempts that she makes. Emma needs six attempts to make a basket. Each basket is worth 2 points. If they each make 54 attempts, then what is the score?	$8 \times 2 = \underline{\hspace{2cm}}$
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Ava rolls a die. What is the chance of her rolling a 6? _____	$25 \text{ kg} = \underline{\hspace{2cm}} \text{ g}$	$96 \div 8 = \underline{\hspace{2cm}}$
--	--	--

How many yards are in 6 feet? _____ yards	For 793,111,327,948,615, write the digit that is in the ten thousands place. _____
--	---

Name: _____

Ready to make equations? There is a missing equation in each box.
Circle the numbers once you find it!

A

14	49	46
-	33	70 73
	85	31 11
	34	32 10

Find a subtraction fact.

B

94	36	13
-	14	10 70
	7	76 38
	92	79 67

Find a subtraction fact.

C

86	68	15
-	39	77 87
	56	81 27
	79	60 63

Find a subtraction fact.

Equations:

Write the equation facts you found.

A		-		=	14
B		-		=	
C		-		=	

Circle the digit in the hundredths place.

624.769

Circle the greatest number:

70,861 294,359 7,034
18,625,251

$$\begin{array}{r} 488 \\ + 307 \\ \hline \end{array}$$

How many dimes make \$3.70?

$$(8 + 4) + 4 =$$

$$4 \times 11 = \underline{\hspace{2cm}}$$



Name: _____

Indoor Air Pollution

By Jennifer Kenny

The **environment** is everything around you. Do you know what **pollution** is? Pollution includes all the harmful materials that make our environment dirty. You've probably heard about pollution in our environment many times before. Maybe you've heard about chemicals, automotive exhaust, and industrial waste. You usually think of this as being in the air or the water or the soil. These are important issues.

Interestingly enough, scientists are now just as concerned about our indoor environment. There is such a thing as indoor air pollution. What is that? Why is it important?

Indoor air pollution includes the things that make our inside world dirty or impure. Scientists realize now that almost ninety percent of our lives are spent indoors. People work inside and study inside. They eat and drink inside. They sleep indoors. So, while the outdoors needs to be kept clean, scientists realize that the indoor air quality is extremely important as well.

It's important that people are aware of the consequences of pollution. All air pollution contributes to lung disease. Lung diseases include respiratory tract infections, asthma, and lung cancer. Lung disease is the third leading cause of death in the United States. Obviously, it would be beneficial for pollution to be reduced in all parts of our environment.

So what's inside your indoor environment at home or school? Some places have germs like bacteria and viruses. Others have allergens like mold, pollen, dust mites, and animal dander. In some places, there are more of these irritants than in others. Some people are more sensitive than others. Sensitivity to these items can cause people to miss work or school because they may feel tired, nauseous, congested, or experience headaches.

There are many kinds of pollutants that can possibly be found inside. These things are sometimes in the heating, cooling, and ventilation systems.

One very unsafe inside pollutant is **radon**. Radon can be extremely dangerous. It is naturally occurring. However, when it enters a building through cracks in the foundation, it can be dangerous. It can decay and cause your cells to change, leading to lung cancer.

Secondhand smoke is a huge cause of inside pollution. Tobacco smoke contains thousands of chemicals and cancer-causing substance. It harms young children by causing respiratory tract infections. Later on in life it causes lung disease and heart disease.

Another pollutant, **formaldehyde**, is very common. It is often found in adhesives in carpets, upholstery, and plywood. For those sensitive to this chemical it can cause skin rashes, headaches, dizziness, eye irritation, nose irritation, throat irritation, and coughing.

The pollutant known as **asbestos** is made up of lightweight fibers. Asbestos is a problem if it's disturbed. It is sometimes found in the roof, the floor, the walls, and the heating system. If it's disturbed, it can cause scarring in the lungs, lung cancer, or mesothelioma.

Carbon monoxide is an odorless and colorless gas. When it's inhaled, it interferes with your body's ability to take in oxygen. Small amounts can cause fatigue, headache, and confusion. Larger amounts can cause coordination problems, nausea, dizziness, and death. Carbon monoxide can be found in heating systems, furnaces, fuel burning stoves, fireplaces, heaters, water heaters, and dryers.

These are just a small number of the different sources of indoor pollutants. Even everyday products contain chemicals that can be considered inside pollutants. Think of what is used to "clean" the house. Think of personal care products like hairspray. Think of pesticides used in the yard, the paints used in the house, and any hobby materials. Any of these can possibly cause dizziness, nausea, allergic reactions, or even cancer.

What can people do?

First and foremost, **control the sources** of pollution. Test for radon. Choose environmentally friendly

Name: _____

products. Have a working carbon monoxide detector in the home. Prevent mold by keeping bathrooms, kitchens, and basements clean. Use a dehumidifier in the basement.

Second, improve **ventilation** indoors. Open windows. Get the air flowing.

Third, **clean the air**. How? Certain air cleaners can collect pollutants, draw the air through a filter, and send out clean air.

Some risks are unavoidable. Some risks are choices such as using hairspray or smoking. So, when you get a chance, take a good look at your own situation. How is everyone feeling? How do individuals in your home react to chemicals in your home? How can you keep sources at a minimum? Even small changes help the environment, whether indoors or outdoors.

Indoor Air Pollution

Questions

- _____ 1. What word means everything around you?
 - A. pollution
 - B. radon
 - C. asbestos
 - D. environment

- _____ 2. Pollution only occurs outdoors.
 - A. true
 - B. false

- _____ 3. How much of their lifetime do scientists believe people spend indoors?
 - A. 100%
 - B. 25%
 - C. 10%
 - D. 90%

- _____ 4. How much time do scientists believe people spend outdoors?
 - A. 75%
 - B. 10%
 - C. 100%
 - D. 90%

- _____ 5. Which pollutant is a naturally occurring substance that causes problems if it enters the foundation of a building?
 - A. carbon monoxide
 - B. secondhand smoke
 - C. formaldehyde
 - D. radon

- _____ 6. Some pollutants are unavoidable.
 - A. true
 - B. false

Name: _____

7. Which step do scientists view as the most important one in controlling indoor air pollution?
- A. improve ventilation
 - B. clean the air
 - C. go outside
 - D. control sources of pollution

The vowels are missing in the word search.
Fill in the missing vowels and circle the words.

B	T	C				D		C	N
R	W	S	N	S			C		D
		S	D	C			C	F	I
	N	W			L	T			M
N	K		R	R		R	M		I
	L	V	W		P		P	B	N
C				L	H	L	L	L	I
R	R	L							S
			R	S	N		S	S	H
P		T	Y	S	T	F	H	D	N

RELIEF • TWINKLE • FEEBLE
UNDERWEAR • ACRE • SWIVEL
DIMINISH • PITY • ACCOMPLISH
DUET • ELEPHANT • BRAIN
CARELESS

Peter took three numbers greater than 1 and multiplied them. One number was seven and the other number was fourteen. Of course, he forgot the last number, but he remembered the product was 277. Is this possible?

$$48 \div 12 =$$

$$10 \times 10 =$$

$$14 \div 7 =$$

The letters A and O each have a line of symmetry. Name another letter between A and O that has a line of symmetry.

Name: _____

		+		+		-		=	
	B	A	C	C					19
x	C	C	B	C					12
+	B	C	C	?					6
=									
	36	33	30	18					

Equations and Hints:

Each letter is a whole number.

Fill in the equations using the chart:

$$C + C + B - C = 12 \quad B + A + C - C = \underline{\quad}$$

$$\underline{\quad} \times \underline{\quad} + \underline{\quad} = 33 \quad \underline{\quad} \times \underline{\quad} + \underline{\quad} = 36$$

$$\underline{\quad} \times \underline{\quad} + \underline{\quad} = 30$$

Additional hints:

$$C < 12 \quad A = C + 7$$

Solve:

$$? = \underline{\quad}$$



Name: _____

Get a fidget spinner! Spin it.

I needed to spin _____ time(s) to finish.

$7 + 4 + 5 \times (7 \times 2) = \underline{\quad}$

$(6 + 5) \times 8 = \underline{\quad}$

$4 - 2 + 7 \times 1 \times (4 \times 9) = \underline{\quad}$

$9 + 10 + 6 = \underline{\quad}$

$2 \times 1 + 5 \times 6 = \underline{\quad}$

$2 + 9 + 3 = \underline{\quad}$

$7 + 1 + 8 \times 5 = \underline{\quad}$

$(11 - 7) \times 3 = \underline{\quad}$

$1 + 5 + 7 + 4 = \underline{\quad}$

$12 \times (9 + 3) = \underline{\quad}$

$1 \times 2 + 3 - 1 + 64 \div 8 \times 4 = \underline{\quad}$

$4 + 5 \times 8 = \underline{\quad}$

$9 \times 7 - 7 - 4 + 48 \div 4 = \underline{\quad}$

$9 + 3 + 7 = \underline{\quad}$

$6 + 7 + 6 - 1 - 1 + 44 \div 11 = \underline{\quad}$

$7 \times 9 - 2 \times 12 = \underline{\quad}$

$7 \times 7 + 4 \times 6 + 2 + 5 = \underline{\quad}$

$12 + 5 - 11 = \underline{\quad}$

$3 + 6 + 72 \div 12 - 6 = \underline{\quad}$

$10 - (5 + 2) = \underline{\quad}$

$(7 - 2 + 2) - 3 = \underline{\quad}$

$8 + (11 - 2) = \underline{\quad}$

$1 \times 2 \times 3 \times 4 = \underline{\quad}$

$4 \times 9 + 1 = \underline{\quad}$

$2 \times 5 + 8 \times 1 \times 2 - 7 = \underline{\quad}$

$10 + 3 + 10 = \underline{\quad}$

$3 + 6 \div 2 + 8 + 3 \times 1 + 6 = \underline{\quad}$

$12 + 11 \times 2 = \underline{\quad}$

$(2 \times 1) + 7 - 1 = \underline{\quad}$

Name _____

Disaster at Sea: The Gulf Coast Oil Spill

Answer the following questions **BEFORE** you read this book. Write what you know. If you want to guess, you can. You will **NOT** be marked wrong!

1. What do you know about the oil spill in the Gulf of Mexico?

2. Do you think oil spills are dangerous? Why or why not?

3. Should companies be allowed to drill for oil in the ocean? Why or why not?



Early in the morning of April 20, 2010, the 126 workers aboard the Deepwater Horizon oil rig had every reason to believe that the sun was rising on another normal day. The crew had been hard at work drilling a new oil well in the Gulf of Mexico. They were almost finished.

Work aboard an oil rig can be very dangerous. The crewmembers aboard the Deepwater Horizon were drilling under 5,000 feet of water to create a new well under the ocean floor. The Deepwater crew took their job very seriously and strived for safety. Their safety record was so great that energy company officials came aboard the rig and honored them that morning for their excellent work.

How do you think energy officials honored the oil rig crew? What do you think they did or said?



No one could have known that later that same day, the entire rig would go up in flames due to a malfunction in the rig's blowout preventer. Around ten o'clock that evening the oil rig became a fireball. Gigantic flames shot straight up in the air. The crew scrambled to board the rig's life boats and escape to safety. Sadly, eleven members did not survive.

The fire aboard the rig was a big problem. Unfortunately, it was only the first, and it wasn't the worst. Firefighters tried to control the flames for two days before the rig eventually sank. When the rig's drilling platform sank, it took the riser or pipe with it. The broken riser started leaking oil in several places on the ocean's floor.



Within ten days of the accident, almost 3,850 square miles of the water's surface was covered with thick, smelly oil. While hard to imagine, that is roughly twice the size of the entire state of Delaware.

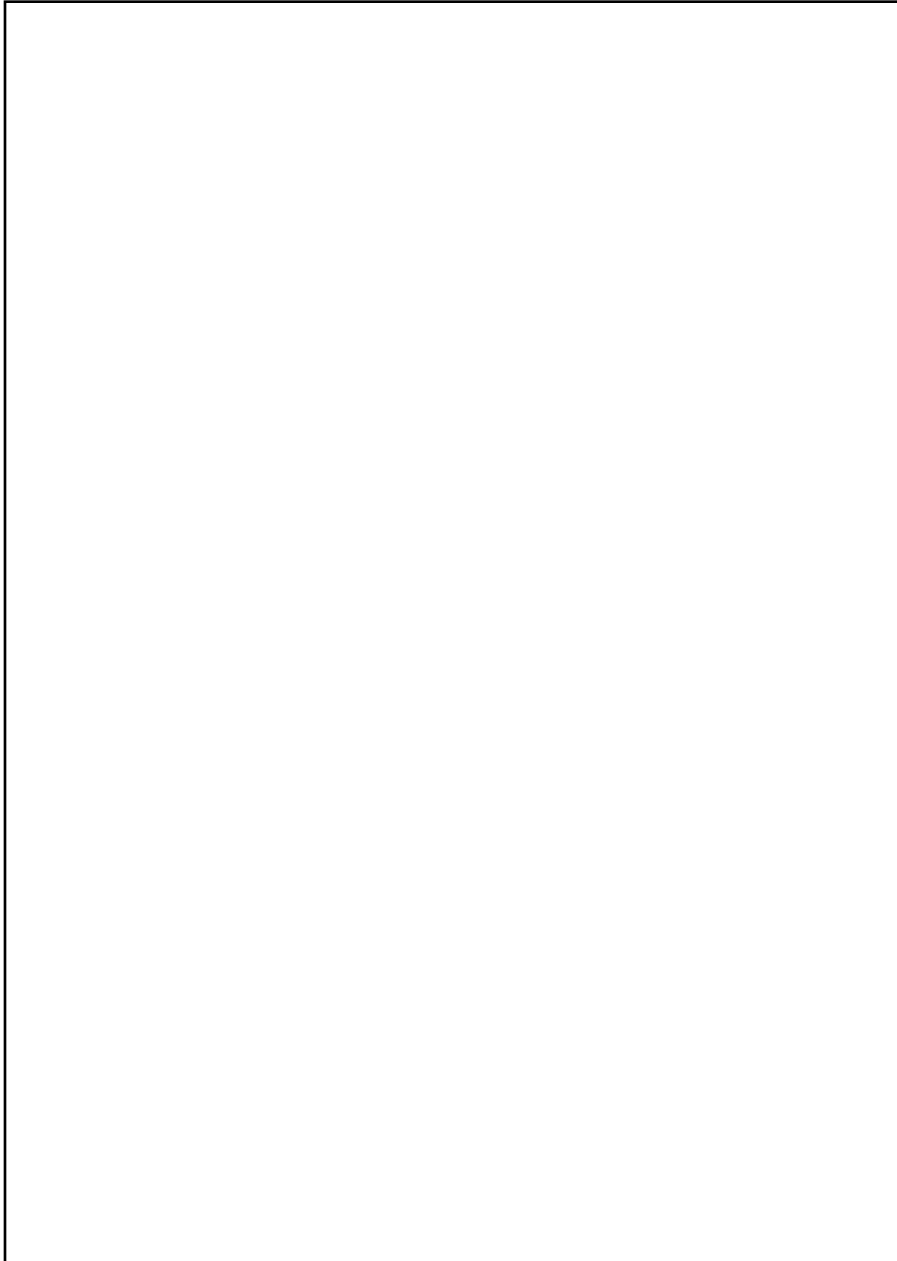
Experts knew it was only a matter of time before weather and water currents carried the spilled oil to shore. Even with thousands of workers trying to clean up the mess, and the government taking charge of the clean up, it was obvious that our environment was in trouble.



Something had to be done to stop the leak, but what? First, British Petroleum, or BP, the energy company that had operated the Deepwater rig, tried to stop the leak by sending robots underwater to close some valves. This did not work. Next, they created a plan to drill relief wells. By drilling a new well into the leaking well, BP's leaders believed they could stop the oil flow. Unfortunately, drilling a new well into the ocean floor would take a long time. The workers began drilling on May 2, 2010, but didn't expect to complete the project until August!

In the meantime, company officials knew that something had to be done to try to stop the massive amounts of oil that were spewing into the water. They tried many things. First, they tried placing a dome underwater. They hoped the dome would catch the spilling oil and then pump it to a ship at the surface. Unfortunately, that didn't work.

What do you think this underwater dome looked like? Draw a picture of your answer.



Finally in mid-July, a tight-fitting cap was placed on the well, and the oil leak was stopped. While it was good news that no *new* oil was leaking, scientists working for the U.S. government believed that 4.1 million barrels or 172 million gallons of oil had already leaked into the ocean. Others estimated that it may have been as much as 5 million barrels!

In early August, BP was able to use 2,300 barrels of drilling mud and cement to seal the leaking well under the ocean floor. Then in September, a carefully drilled relief well plugged the broken oil well once and for all. On September 19, 2010, the leaders announced that the well was dead!

Name _____

Disaster at Sea: The Gulf Coast Oil Spill

Answer the following questions **AFTER** you have completed this book.

1. Write two facts and one opinion about the 2010 oil spill.

1. _____

2. _____

3. _____



News that the well was finally dead was a welcome relief. Now, however, experts and environmentalists had to figure out how to clean up the mess left behind by the millions of gallons of spilled oil. That process, unfortunately, would take a lot longer.

2.

Do you or your family members use anything that needs gasoline or oil? Draw a picture of your answer.

