

Name _____

Write an equation for the problem.
Pablo is six inches shorter than his older brother.

$$\begin{array}{r} 3,407 \\ \times \quad 7 \\ \hline \end{array}$$

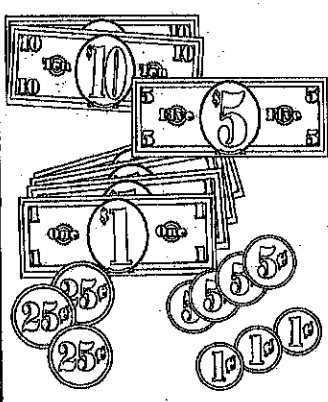
Round the answer to the nearest ten thousand

thousand

hundred

ten

Sophie has been saving her money. Does she have enough money to buy a \$30 building set?

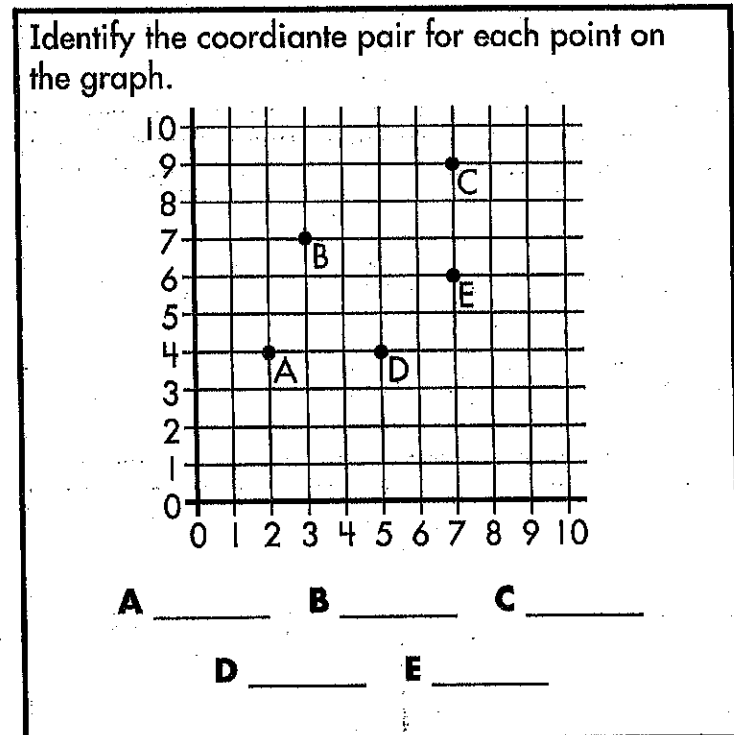


Write each as an expression.
The difference between nineteen and five, divided by two.

Add twenty-five and eight, then multiply by three.

$$\begin{array}{r} 67.98 \\ + 0.67 \\ \hline \end{array}$$

Fill in the missing number.

$$\begin{array}{r} \square \\ - 4.4 \\ \hline 2.2 \end{array}$$


Which of the following is equal to $\frac{5}{100}$?

5.0 0.5

0.05 0.005

Rule: Divide by 10

10,000, _____, _____, _____

15 feet = _____ yards

_____ feet = 7 yards

30 feet = _____ yards

Life Science

Bell Ringer 73: Herbivores, Carnivores, and Omnivores

Name: _____
 Date: AMI DAY 4

VPA 5th Grade

There are three kinds of consumers: **herbivores**, **carnivores**, and **omnivores**.

Directions: Write a definition and give two examples for each type of consumer.

Herbivore: _____

Carnivore: _____

Omnivore: _____

Bell Ringer 74: Food Chains, Food Webs, and Energy Pyramids

Name: _____
 Date: _____

Food chains, **food webs**, and **energy pyramids** are tools used to represent the flow of energy from the sun to organisms and from one organism to another organism.

Directions: Complete the boxes below by constructing an example of each flow of energy. You do not have to draw pictures; you can use names and draw arrows between them.

Food Chain

Food Web

Energy Pyramid

AMI Days 1-5

<http://www.mobymax.com>

20 minutes Moby Max Math

15 minutes Moby Max Fact Fluency

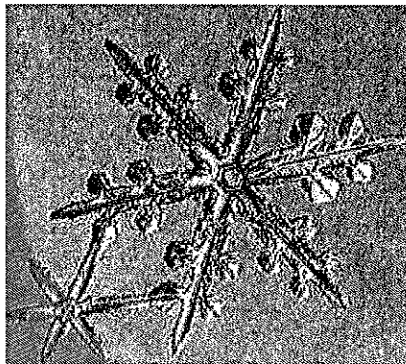
<https://www.zearn.org>

15-30 minutes Zearn

Cool Prize

***WR News* talks to an award-winning snowflake expert.**

Most people prefer to stay indoors during a snowstorm, but Kenneth Libbrecht is not most people. When flurries start drifting down from the winter sky, the scientist's work begins. Armed with a magnifying glass, a paintbrush, and a camera, he heads out into the cold.



Kenneth Libbrecht

There, Libbrecht waits for the picture-perfect snowflakes. Sometimes he waits for hours. Finally, the scientist spots what he's been looking for - beautiful, glittering ice crystals. As the shiny snowflakes fall, Libbrecht carefully catches them on his paintbrush. Then he sets the specks of ice on a cardboard backdrop. He points his camera and shoots.



AP Images

Kenneth Libbrecht studies a snowflake in his lab.

Libbrecht's sparkling photos have earned the expert the 2010 Lennart Nilsson Award. The honor is given to science and medical photographers around the world.

The scientist recently traveled to Stockholm, Sweden, to claim his award. "Kenneth Libbrecht's images open our eyes to the ... beauty of nature," say members of the awards committee. "With his photographs of snowflakes, [Libbrecht] turns mathematics [and science] into images of great beauty."

Winter Wonders

Libbrecht takes snapshots of both real and **artificial** snowflakes to learn more about how they get

their shapes. Something that is artificial is fake.

Snowflakes form when **water vapor**, or steam, in clouds freezes. Frozen pieces of hydrogen and oxygen stick together to form **hexagons**. Those are six-sided shapes. Every snowflake is a hexagon. However, no two snowflakes have the same shape. Experts are not sure why. Libbrecht hopes he can solve the mystery with his camera.

"Right now, we don't really understand [how the ice crystals] grow," Libbrecht told *WR News*. "It's somewhat **intriguing** [or interesting] why they have the shapes they do."

What experts *do* know is a snowflake's appearance depends on certain weather conditions, such as temperature and humidity. The best-looking ice crystals form in 5 to 10 degrees Fahrenheit, Libbrecht explains. Those are the snowflakes he tries to capture with his camera.

"I'm always looking for just the right temperature," he says. "I'm looking for places that are cold and snow a lot."

Snow Days

Libbrecht has traveled the world in search of such places. He has taken photos of snowflakes in Alaska, Vermont, Canada, and even areas within the chilly Arctic Circle.

The work takes patience, Libbrecht explains. "It doesn't snow all the time, and when it does, the crystals aren't always good," he says.

Besides snapping pictures, Libbrecht also takes careful measurements of snowflakes. Once he's collected enough data, he returns to his lab in California to review his research. There, he compares his snowflake pictures with the artificial ice crystals he grows.

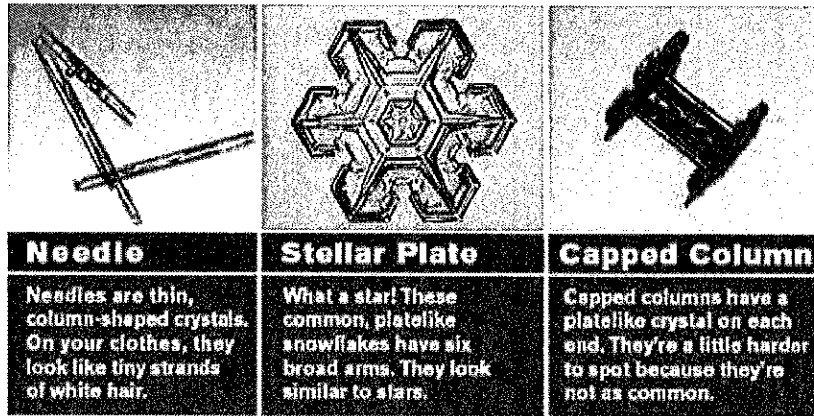
Since developing his interest in snowflakes, Libbrecht has taken about 10,000 images. This winter he plans to hunker down in the lab to study what he's gathered so far.

The scientist's snowy, outdoor adventures are far from over, though. Libbrecht hopes to one day photograph ice crystals in Siberia. The northern Asian region is one of the coldest places on the planet.

"I really enjoy going out and watching the snow fall and trying to see what I can find," he says. "It's a bit of a treasure hunt."

Frosted Flakes

Watch for some of these types of snowflakes the next time you walk through a winter wonderland.



Kenneth Libbrecht

Meet the Snow Man

Scientist Kenneth Libbrecht has a (snow) ball when flurries start to fall! Read to learn more about the scientist's snowy work.



Kenneth Libbrecht

WR News: Have you always been interested in snowflakes?

Kenneth Libbrecht: I grew up in North Dakota, so I did have some fondness of snow.

WR: What is your process for photographing ice crystals?

KL: When I find a good one, I'll [catch it] using a paintbrush. I then stick it under my microscope and take a picture. I repeat this hundreds of times!

WR: What advice do you have for kids who want to study snowflakes?

KL: You don't need a lot of fancy equipment. With a simple magnifying glass on a snowy day, you can really see quite a bit if you just stop and look.

arctic arc · tic**Advanced Definition****adjective**

1. (often cap.) of or pertaining to the geographic region encompassing the North Pole.

Polar bears live in the Arctic wilderness.

2. characterized by or resembling the severity of weather of the arctic region.

We had arctic temperatures here in Chicago last week.

3. suited for or similar to that which is used or worn in the arctic.

I bought an arctic parka to stay warm this winter.

We have an arctic tent that we use for winter camping.

noun

1. (often cap.) the geographical area enclosed by the Arctic Circle.

Global warming is already causing melting of ice in the Arctic.

Several varieties of moss and lichens grow in the Arctic.

2. (pl.) warm, waterproof outer shoes.

You'll have to get a pair of arctics to stay dry and warm in this weather.

Spanish cognate

ártico: The Spanish word *ártico* means arctic.

These are some examples of how the word or forms of the word are used:

1. In the arctic winter, some animals hibernate, and others travel south to where there is more sunlight. In the arctic summer, there are pools of still water from melted ice, and the 24-hour sunlight warms the Arctic Circle.
2. Some animals that live in places where it is very snowy, like high in the mountains or in the arctic, end up white so that they fit in better. Animals and plants that live in the desert, like cacti and camels, have evolved so that they need only the very little water that they get living there.

crystal

 crys · tal

Definition

noun

1. a clear rock that has a regular shape. Diamonds and grains of salt are crystals.
2. glass of very high quality.

That beautiful vase is made of crystal.

Advanced Definition

noun

1. a naturally symmetrical or layered solid, such as diamond or quartz, with a regularly repeating three-dimensional atomic, ionic, or molecular structure.

Grains of salt are crystals.

2. any of numerous electronic devices, such as detectors or oscillators, that are made of crystals.
3. glass or glassware of exceptional quality and brilliance.

That beautiful vase is made of crystal.

4. the clear covering of a watch face.

This crystal is so scratched I can hardly read the time.

5. the solid form of a stimulant drug, esp. methamphetamine.

adjective

1. made of or like crystal.

A crystal chandelier hung from the ceiling.

2. not obscured or clouded; transparent; clear.

A crystal stream ran through the dense forest.

Spanish cognate

de cristal: The Spanish word *de cristal* means crystal.

These are some examples of how the word or forms of the word are used:

1. Those ices each have many different crystal structures too. The impact of a collision in space can transform the crystal structure of ice.

2. But once you've seen 10 white-sand beaches with crystal clear water and perfect waves, they all start to blend together. I never used to understand why people who grew up on tropical islands in the Caribbean wanted to move to cities like Los Angeles or New York.
3. Ever since Bart was born, their family had been coming to Lake Wenatchee, a crystal blue sheet which stretched as far as the eye could see. Ever since Bart was born, they had stayed in the same cabin, a musty old wreck just steps from where the water met the gritty beach.
4. He bends down to grab the hand of a man standing below, who has his arms stretched high over his head and still does not reach the crystal. The crystal formations make the cavern's floor look as if it were covered in ice, and the ceiling's mix of rock and crystal makes it look like diamonds tossed into a chocolate cake.

humidity

 hu · mid · i · ty

Advanced Definition

noun

1. dampness or moistness, as of the atmosphere.
2. the amount of water vapor in the air, relative to the greatest amount possible at a given temperature; relative humidity.

Spanish cognate

humedad: The Spanish word *humedad* means humidity.

These are some examples of how the word or forms of the word are used:

1. On a beautiful day, there is low humidity.
2. On a foggy day there is high humidity.
3. On a rainy day there is 100% humidity.
4. Humidity is the amount of water in the air.
5. Clouds, rain, and snow all have to do with humidity.
6. Humidity is the measure of water vapor in the air.
7. Most of the weather conditions that we can observe come from humidity.
8. The heat releases moisture from plants and bodies of water that results in humidity.
9. Four main factors determine the weather: temperature, humidity, wind speed and direction, and air pressure.
10. They also consider other factors that affect weather like humidity, wind speed, and air pressure.

Name: _____ Date: _____

1. According to the passage, which of the following statements is true?

- A. Capped column snowflakes are hard to spot because they are uncommon.
- B. Needle snowflakes are sharp and can be dangerous to the touch.
- C. The best looking snowflakes form at 32 degrees Fahrenheit.
- D. All snowflakes are heptagons because they have 7 sides.

2. Which sequence of steps *describes* Libbrecht's process for photographing snowflakes?

- A. look for snowflakes with a telescope, collect samples using ice cubes, arrange flakes by type and take a picture
- B. spot a snowflake with a magnifying glass, catch it on a paintbrush, put it under a microscope and take a picture
- C. open a cooler to catch snowflake, choose the best samples, put on a cardboard piece and take a picture
- D. make a snowflake in a lab, examine it with a magnifying glass, count the sides and take a picture

3. What words could be used to best describe Kenneth Libbrecht?

- A. strong, natural and scientific
- B. artistic, detailed and intelligent
- C. smart, lazy and fearful
- D. careful, patient and determined

4. Read the sentence.

Kenneth Libbrecht explains that since he grew up in North Dakota he had a **fondness** for snow when asked whether he had always been interested in snowflakes.

In this sentence **fondness** means

- A. love
- B. dislike
- C. fear
- D. sadness

5. The primary purpose of this passage is to describe
- A. what artificial snowflakes can do to help cool hot places
 - B. why snowflakes are not interesting to scientists
 - C. how Kenneth Libbrecht studies snowflakes
 - D. where snowflakes are all alike
6. What tools does Kenneth Libbrecht use to complete his work?
7. How might growing artificial snowflakes help Libbrecht learn about how snowflakes get their shapes?
8. The question below is an incomplete sentence. Choose the answer that best completes the sentence.

Photographing ice crystals takes patience _____ sometimes it takes hours to find picture-perfect snowflakes and you must repeat it hundreds of times.

- A. if
- B. because
- C. although
- D. but

9. Vocabulary Word: appearance (*noun*): the way something or someone looks on the outside.

Use the vocabulary word in a sentence:

Name: _____ Date: _____

1. What is a meaning of the word **crystal**?

- A. a health facility where patients receive treatment
- B. a heading that names a statute or legislative bill
- C. structure of snowflakes

2. What is another meaning of the word **crystal**?

- A. colorless glass made of almost pure silica
- B. two or more slices of bread with a filling
- C. a specific relation of parts to each other

Please use each answer choice only once. Choose the one word that best completes the sentence.

3. This process of _____ is the opposite of dissolution.

- A. crystallize
- B. crystalline
- C. crystallization
- D. crystal
- E. crystallized

4. Most minerals can be found in nature in _____ form.

- A. crystallize
- B. crystalline
- C. crystallization
- D. crystal
- E. crystallized

5. Different minerals _____ at different temperatures, producing different kinds of rock.

- A. crystallize
- B. crystalline
- C. crystallization
- D. crystal
- E. crystallized

6. When soil is composed of minerals with a _____ structure, the high energy light bounces back, providing information.

- A. crystallize
- B. crystalline
- C. crystallization
- D. crystal
- E. crystallized

7. Since 1935, many viruses have been _____.

- A. crystallize
- B. crystalline
- C. crystallization
- D. crystal
- E. crystallized

8. Please write your own sentence using the word **crystal**.

9. What would you like to remember about the meaning of the word **crystal** so that you can use it when you write or speak?

Name: _____ Date: _____

1. What is a meaning of the word **arctic**?

- A. installation from which a military force initiates operations
- B. a sheltered port where ships can take on or discharge cargo
- C. a waterproof overshoe that protects shoes from water or snow

2. What is another meaning of the word **arctic**?

- A. the regions to the north of the Arctic Circle centered on the North Pole
- B. the action or process of making goods systematically or on a large scale
- C. a period of the year marked by special events or activities in some field

Please use each answer choice only once. Choose the one word that best completes the sentence.

3. The _____ are at both poles.

- A. arctic
- B. artics

4. The life of an _____ polar bear is becoming more difficult each year.

- A. arctic
- B. artics

5. Please write your own sentence using the word **arctic**.

6. What would you like to remember about the meaning of the word **arctic** so that you can use it when you write or speak?

Name: _____ Date: _____

1. What is a meaning of the word **humidity**?

- A. a mark of a foot or shoe on a surface
- B. a projectile that is fired from a gun
- C. the amount of water vapour in the air

2. What is another meaning of the word **humidity**?

- A. wetness in the atmosphere
- B. any loose flowing garment
- C. an area of soft, wet land

Please use each answer choice only once. Choose the one word that best completes the sentence.

3. It was hot and _____ in the tropical forest.

- A. humidity
- B. humid

4. The _____ was stifling.

- A. humidity
- B. humid

5. Please write your own sentence using the word **humidity**.

6. What would you like to remember about the meaning of the word **humidity** so that you can use it when you write or speak?