

BEARCAT DAY 8

**GRADE 7
ANDERSON COUNTY SCHOOLS**



ANDERSON COUNTY MIDDLE SCHOOL

7TH GRADE BEARCAT DAY 8

LANGUAGE ARTS	<u>WORKING WITH INFORMATIONAL TEXTS ERQ</u> Complete the assignment in ELA teacher's Google Classroom.
MATH	<u>TWO STEP EQUATIONS WITH INTEGERS REVIEW</u> Complete the assignment in your math teacher's Google Classroom.
SCIENCE	<u>CELLULAR RESPIRATION</u> Go to your science teacher's Google Classroom to complete your assignment. Today, you will be going further with cellular respiration. Read about <u>cellular respiration</u> and answer the questions.
SOCIAL STUDIES	<u>MILITARY LEADERS: HANNIBAL</u> Read the article and answer the questions in your social studies' teacher's Google Classroom.
PE/HEALTH	<u>PHYSICAL ACTIVITY LOG</u> Read the article and answer the questions. Email your responses to your brian.glass@anderson.kyschools.us .
LITERACY	<u>SUPERSTAR SOCCER CAMP</u> Read the article and answer the questions in Ms. Knight's Google Classroom.

Read the passage.

Which Plants Can Tolerate Salt?

Some plants live near the ocean and other salty places and do well living in contact with salt water. Other plants cannot survive well in those conditions. This experiment explores which plants can tolerate salt.

Materials

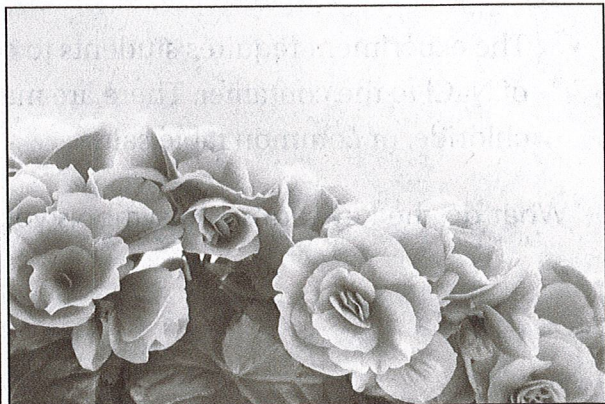
- two healthy rugosa roses growing in soil
- two healthy begonia plants growing in soil
- water
- table salt (NaCl)
- watering cans and measuring cups
- camera (optional)

Procedure

1. Predict which plant or plants will tolerate salt water. Record your prediction and explain why you think that outcome will happen.
2. Create a saltwater mix in a watering can. Dissolve $\frac{1}{4}$ cup of salt for every 2 cups of cool water.
3. Set all four plants in a cool, sunny spot, such as by a window.



Rugosa Rose



Begonia

4. Water one begonia and one rugosa rose every third day with water only. Water one of each plant with the saltwater mix at the same time.
5. Observe the plants each week. Write, draw, and take photographs if possible to record your observations.

p10f6

Grade 7 Bearcat Day 8 ELA

One student made notes about what she observed.

Data

Prediction: The plants that get plain water will do well. The plants that get salt water will not. I think so because I rarely see plants with flowers near the ocean.

Week	Rose 1 (plain water)	Begonia 1 (plain water)	Rose 2 (salt water)	Begonia 2 (salt water)
1	<ul style="list-style-type: none">• many green leaves• roses in bloom	<ul style="list-style-type: none">• many green leaves• flowers in bloom	<ul style="list-style-type: none">• many green leaves• roses in bloom	<ul style="list-style-type: none">• many green leaves• flowers in bloom
2	<ul style="list-style-type: none">• many green leaves• roses in bloom	<ul style="list-style-type: none">• many green leaves• flowers in bloom	<ul style="list-style-type: none">• many green leaves• roses in bloom	<ul style="list-style-type: none">• leaves lighter green• white spots on leaves• flowers wilting
3	<ul style="list-style-type: none">• many green leaves• roses in bloom• new flowers	<ul style="list-style-type: none">• many green leaves• flowers in bloom	<ul style="list-style-type: none">• many green leaves• roses in bloom• new flowers	<ul style="list-style-type: none">• white leaves• mostly wilted flowers
4	<ul style="list-style-type: none">• many green leaves• new roses in bloom• new flowers	<ul style="list-style-type: none">• many green leaves• new flowers in bloom	<ul style="list-style-type: none">• many green leaves• new roses in bloom• new flowers	<ul style="list-style-type: none">• shriveled leaves• dead flowers

Analysis

At the start of the experiment, all four plants looked healthy. They had green leaves and plenty of flowers. Both control plants, the ones that got plain water, were equally healthy or healthier four weeks later. In week 4, they had the same green leaves and flowers in bloom. They even had a few new flowers.

The plants that received salt water did not have equal results. The rugosa rose did just as well with salt water as the one with plain water. It had as many green leaves, roses in bloom, and new flowers. The begonia that got salt water, though, basically died. The leaves dried up and the flowers died.

Conclusion

Rugosa roses can live with salt water but begonias cannot. My prediction was incorrect; there are plants with flowers that can tolerate salt water.

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Use the Reading Guide to help you understand the passage.

Trees and Shrubs That Tolerate Saline Soils and Salt Spray Drift

Reading Guide

Is salt generally good for most plants? Reread paragraph 1 to find out.

Review the bulleted list. Where does the salt that disturbs plants come from?

How exactly does salt affect trees and shrubs?

The following information about salt water and plants is adapted from the Virginia Polytechnic Institute and State University's Cooperative Extension.

Concentrated sodium (Na) is a component of salt. It can damage plants when it contacts the plant parts above or below ground. High salinity (saltiness) can reduce growth and even cause death. Care should be taken to avoid excessive salt buildup on tree and shrub roots, leaves, or stems. Sites with salty soils, and those that are exposed to coastal salt spray or pavement deicing materials, present challenges to landscapers and homeowners.

Saline Soils

Saline soils occur when salts build up in the soil. Significant salt buildup is uncommon where rainfall exceeds twenty inches per year. However, saline soils do occur in specific places.

- Along the coastline and barrier islands where seawater may flood over the land
- Where salt from spray may collect in the soil
- Along brackish tidal rivers and estuaries; flooding during storms and high tides can deposit salt in low-lying areas . . .
- Along sidewalks and roads where salt is used to remove ice and snow; in areas where treated ice and snow are piled; where vehicles cause salt spray . . .
- In cultivated areas when too much fertilizer is applied . . .

How Do Saline Soils Affect Trees and Shrubs?

Plant root cells contain a membrane that allows water to pass through. The membrane prevents salt from entering. As the soil's salt content increases, it becomes more difficult for water to pass through the membrane into the root. In addition, if salt levels get high enough, they may actually dehydrate roots. That causes "salt burn" by drawing water out of root cells.

High levels of soluble salts also cause changes to soil structure. That can result in compacted soils that are problematic for plants . . .

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Reading Guide

Find the word *halophytic*. What are halophytic plants?

Would a salt concentration in soil of 1,500 ppm be low or medium?

Two plants of the same species receive salt damage. Plant A receives salt spray, but Plant B is in saline soil. Which plant will likely show signs of damage first?

Plants vary in their ability to grow in salty soils. Plants that grow only in saline soils are called “halophytic,” or salt loving. Halophytic plants are generally found in coastal areas, saltwater marshes, and brackish wetlands. The presence of some of these plants (such as spartina and sea oats) indicates that there is saline soil . . .

There is a direct relationship between the amount and duration of salt exposure and potential damage to plants. The higher the amount of salt in the soil, the greater the impact on plants. Salt damage is generally more severe during periods of hot, dry weather.

Measuring Soil Salinity

The amount of salt in the soil can be measured with a soil test. The Virginia Cooperative Extension Service Soil Test Laboratory reports salt levels using the measure “parts per million,” or “ppm.” Salt concentrations of 1–1,000 ppm are considered low. Those from 1,000–2,000 ppm are medium. With the exception of very salt-sensitive plants, most landscape plants can tolerate salt concentrations in the medium range.

Symptoms of Saline Soil Damage

Plant damage due to saline soils becomes evident more slowly than plant damage due to salt spray. . . . General symptoms include stunted growth and reduced yields. All parts of the plant, including leaves, stems, roots, and fruits, may be reduced in size.

Are you trying to diagnose plant damage? Keep in mind that all of the signs and symptoms can also be caused by a variety of other factors. These factors include root damage, drought, diseases, and chemical misuse. Try to eliminate these other possibilities, and use tools such as soil and water analyses to help you arrive at a correct diagnosis.

Reading Guide

Summarize one of the bulleted suggestions for reducing salt damage.

Using salt to deice roads can harm plants. What materials can be substituted for salt?

Refer to the table. How are the Japanese cedar and white poplar alike and different?

Reducing Salt Spray or Salt Spray Damage

Numerous options exist for reducing salt damage. They include:

- Carefully designing planting areas to reduce exposure of trees and shrubs to salt spray. Establish windbreaks to prevent “wind tunnels” that can carry salts farther and at higher speeds. Use salt-tolerant shrubs or plant borders as windbreaks to help stop salt drift before it reaches sensitive plants.
- Erecting burlap fencing or other barriers for winter protection of plants next to roads.
- Grouping trees and shrubs to shield them from wind and drift. Put the most tolerant species in higher-exposure areas to shield less tolerant ones.
- Maintaining soil and moisture conditions to reduce stress and fight drying. If possible, rinse salt spray off trees and shrubs after storms and high winds. Rinse again in early spring to remove salt residue from tender buds and leaves.
- Working in the spring when planting trees and shrubs near roads on which deicing salts are used. This allows plants more time to become established prior to salt exposure. Trees and shrubs that are susceptible to salt damage should be located at least fifty to sixty feet from roads.
- When practical, using cinders, fly ash, or sand for deicing instead of salt.
- Selecting and planting salt-tolerant trees and shrubs. Avoid plants, such as azaleas, that are considered especially sensitive to salt spray.

Short List of Salt-Tolerant Trees

Name	Type of Tolerance	Deciduous/Evergreen
Gray birch	salt spray	D
Japanese cedar	salt spray	E
American holly	salt spray	E
White poplar	saline soils, salt spray	D
Red oak	saline soils	D

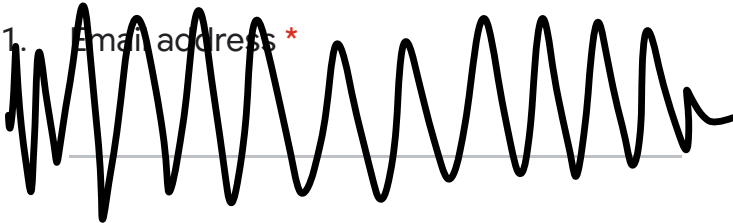
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Grade 7 Bearcat Day 8 Math

Two-Step Equations with Integers

* Required

1. Email address *



2. First Name *

3. Last Name *

Question 1

4. 1. Find the value of x that makes the following equation true.

1 point

$$-4x + 26 = -2$$

Question 2

Grade 7 Bearcat Day 8 Math

5. 2. Which is the correct first step in solving the equation shown?

1 point

$$33 - 2x = 31$$

Mark only one oval.

- A. Subtract 33 from both sides
- B. Add 33 to both sides
- C. Add 2 to both sides
- D. Divide both sides by -2

Question 3

6. 3. What is the value of p in the equation below?

1 point

$$19 = 4p - 5$$

Mark only one oval.

- A. 3.5
- B. 6
- C. 3
- D. -6

Question 4

7. 4. On a beach trip, Lucy rents a bike from "Wheels by the Waves", where they rent bikes for \$12 plus \$3 per hour. If Lucy spent \$30, how many hours (h) did she rent a bike?

1 point

Question 5

Grade 7 Bearcat Day 8 Math

8. 5. A waiter earns \$128 for 6 hours of work. The total included \$86 in tips. 1 point
How much does the waiter earn each hour?

Mark only one oval.

- A. \$256
- B. \$21.33
- C. \$35.67
- D. \$7.00
-

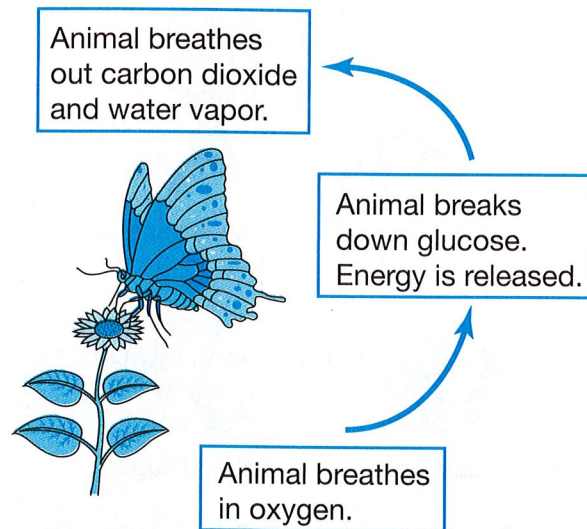
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Google Forms

Grade 7 Bearcat Day 8 Science

Cellular respiration enables living things to extract energy from food. An organism uses this energy to live and grow.

Cellular Respiration



Can organisms conduct cellular respiration in environments that do not contain oxygen? Why or why not?

Some food molecules are not sugars. How might these molecules become an energy source for organisms?

It might seem as if food molecules are destroyed during cellular respiration. They are not. The molecules of both glucose and oxygen are simply broken apart and rearranged into new molecules. Matter is conserved in both physical and chemical processes. This means that matter is not created or destroyed. There is as much matter at the end as there was in the beginning.

plof5

Grade 7 Bearcat Day 8 Science

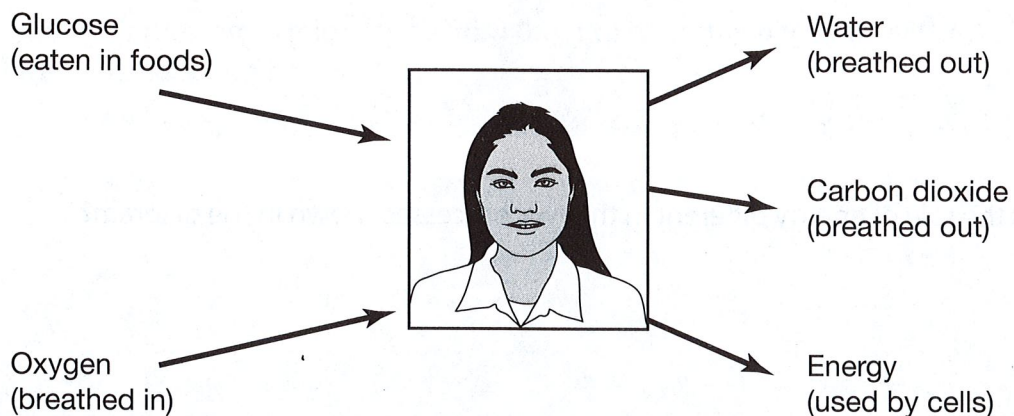
Cellular respiration is not limited to unicellular organisms, such as yeast. It occurs in animals, plants, and fungi as well. (Fungi are mushrooms, molds, and their relatives. The singular of *fungi* is *fungus*.)

Each of your body's cells conducts cellular respiration. You take in oxygen from the air when you inhale. This oxygen is brought into your lungs and then carried to your cells by blood.

You take in food by eating. Unlike the yeast you observed, you eat different kinds of food. During digestion, food is broken down into smaller molecules, including simple sugars. The molecules from food are carried to your cells by blood.

Your cells conduct cellular respiration to get the energy they need. As in the yeast cells, cellular respiration in your body produces carbon dioxide and water. Carbon dioxide is a waste product. It is removed from the cells through your blood. It travels back to the lungs and is released when you exhale. Your cells use some water and release any extra as waste. Some of this water is released in the air you exhale.

Cellular Respiration



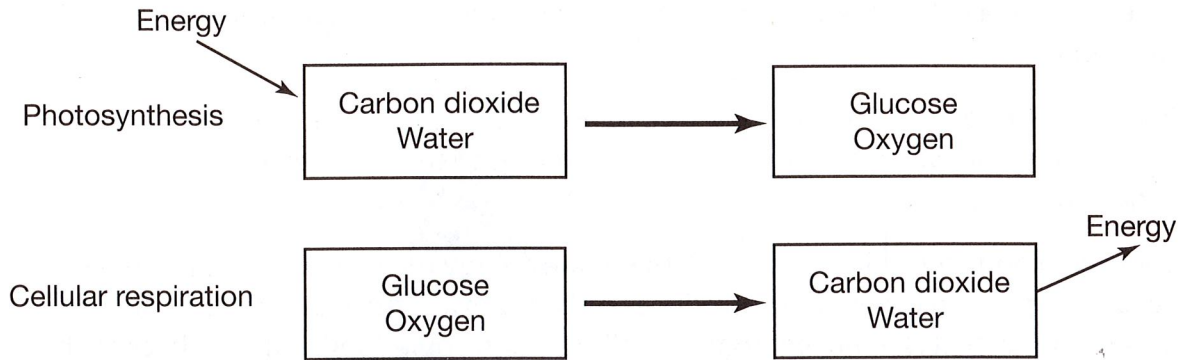
Think about times when you exercise or play a sport. What is another way that your body removes water produced during cellular respiration?

When might a person need more oxygen? What might happen if enough oxygen is not available?

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Grade 7 Bearcat Day 8 Science

The process of cellular respiration is essentially the reverse of photosynthesis. Recall that during photosynthesis, green plants and some other organisms use carbon dioxide and water to produce glucose and oxygen. The products formed during photosynthesis are broken down during cellular respiration.



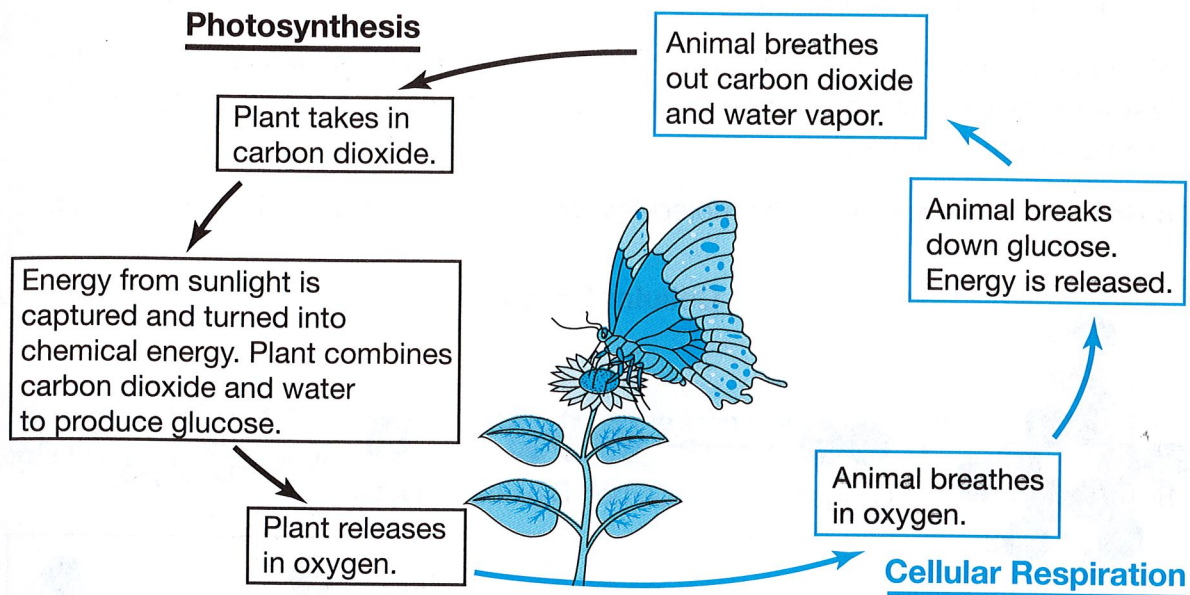
What do the large arrows in the diagram indicate?

How is the role of energy different in the two processes shown in the diagram?

Which organisms perform both processes? Which organisms perform just one of the processes? Explain your ideas.

Grade 7 Bearcat Day 8 Science

Together, photosynthesis and cellular respiration cycle matter through living things and the environment.



Describe how a carbon atom might cycle from the sugary nectar in the flower through the butterfly, and back into the plant.

How could an oxygen atom be breathed out by a butterfly, then become part of the butterfly's body?

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Grade 7 Bearcat Day 8 Science

BearCat Day 8: Cellular Respiration

Name: _____ Teacher: Bowman or Chrisman (Circle One)

1. Watch the video [Cellular Respiration by the Ameoba Sisters](#)
2. Read the attached Article and answer the questions Below
3. Go to your Teacher's Quizziz.com to complete Cellular Respiration Quiz

Question	Answer
What might happen if not enough oxygen is available for cellular respiration? (p.71)	
How is the role of energy different in the two processes shown in the diagram on page 72?	
How could an oxygen molecule be breathed out by a butterfly, then become part of the butterfly's body (p.73)	

Military Leaders: Hannibal

By History.com, adapted by Newsela staff on 07.18.17

Word Count 888

Level 1020L



Hannibal's celebrated feat in crossing the Alps with war elephants passed into European legend. Detail of a fresco by Jacopo Ripanda, painted around 1510. The painting is in the Capitoline Museums in Rome, Italy.

Synopsis: Hannibal of Carthage was one of history's great generals. He led brilliant military campaigns against Rome, which had one of the strongest armies in the ancient world. For a while, it looked as though Hannibal's tactics on the battlefield would destroy Rome. But Rome bounced back and showed that brilliance alone is not always enough to win wars.

Early Life

Hannibal was born in 247 B.C. in Carthage, an ancient empire started by the Phoenicians in North Africa, where Tunisia is today. Ancient historians say Hannibal's father was the great Carthaginian general Hamilcar Barca. Hamilcar brought his son to Spain (a region he had begun to conquer around 237 B.C.) at a young age. The historians say Hamilcar made the 9-year-old Hannibal dip his hand in blood and swear an oath of hatred against Rome.

Hamilcar had helped lead Carthage's forces against Rome in the First Punic War (264-241 B.C.). That war had ended in victory for Rome. Hamilcar died in 229 B.C. and was succeeded by his son-in-law Hasdrubal, who made the young Hannibal an army officer. In 221 B.C., Hasdrubal was

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assassinated, and the army chose the 26-year-old Hannibal to command Carthage's empire in Spain.

In 219 B.C., Hannibal led a Carthaginian attack on Saguntum, a city on the eastern Spanish coast allied with Rome. Rome saw this as an act of war and demanded Hannibal's surrender. He refused. Instead, Hannibal pushed ahead with plans to invade Italy and start the Second Punic War.

Invasion Of Italy

Hannibal assembled a massive army. It included more than 100,000 men and nearly 40 elephants. The march that followed was one of the most famous in history. Hannibal's army covered some 1,000 miles (1,600 kilometers) through the Pyrenees mountains. His soldiers then went across the Rhone River and the snowcapped Alps, and finally into Italy. Many of his men died or left during the crossing, but Hannibal still met a powerful Roman army on the plains west of the Ticino River and won an important victory.



Late in 218 B.C., the Carthaginians again defeated the Romans on the Trebia River. By the spring of 217 B.C., Hannibal inflicted yet another terrible defeat on the Romans at Lake Trasimene. In the summer of the following year, 16 Roman legions — close to 80,000 soldiers, an army said to be twice the size of Hannibal's — confronted the Carthaginians near the town of Cannae. The Roman general Varro focused his soldiers in the center of the line, a normal military formation. But Hannibal maintained a relatively weak center and put more of his forces on the sides. When the Romans advanced, the Carthaginians were able to hold their center and win the struggle at the sides. The Carthaginians surrounded the Romans, cutting off the possibility of retreat. Almost the entire Roman army was wiped out.

From Victory To Defeat

The Roman defeat at Cannae stunned Italy, and many of Rome's allies switched sides to join Carthage. Under the leadership of Quintus Fabius Maximus and Publius Cornelius Scipio, the Romans began to rally. In southern Italy, Fabius slowly pushed back against Hannibal's forces. In northern Italy in 208 B.C., Rome defeated an army of reinforcements coming to Hannibal's aid.

Meanwhile, Scipio drew on Rome's seemingly inexhaustible supply of manpower. He used new armies to drive the Carthaginians out of Spain. He then invaded North Africa, forcing Hannibal to withdraw his troops from southern Italy in 203 B.C. in order to defend Carthage. The following year, Hannibal met Scipio's forces on the battlefield near Carthage. This time it was the Romans (with the help of their North African allies, the Numidians) who surrounded and wiped out the Carthaginians. In honor of his great victory, Scipio was given the name Africanus.

Postwar Life And Death

In the peace agreement that ended the Second Punic War, Carthage was allowed to keep only its territory in North Africa. It lost its overseas empire permanently. Carthage was also forced to

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surrender its fleet and pay Rome a huge amount in silver. Carthage agreed to never again rearm or declare war without permission from Rome. Hannibal escaped with his life from the crushing defeat at Zama, and he still wanted to defeat Rome. He retained his military and government titles, despite accusations that he had mishandled the war.

According to ancient Roman historian Livy, Hannibal encouraged another ruler, Antiochus III of Syria, to fight against Rome. This caused his enemies in the Carthaginian nobility to force him to flee to Syria. When Rome later defeated Antiochus, one of the peace terms called for the surrender of Hannibal. The famous general fled from one country to another, serving kings who had heard of his military leadership. But each time, the Romans demanded his surrender. In 183 B.C., Hannibal couldn't escape anymore. He decided to kill himself by taking poison.

The ancient city of Carthage was destroyed by the Romans in the Third Punic War in 146 B.C. It was later redeveloped as Roman Carthage, which became the major city of the Roman Empire in Africa. The Punic Wars were the only major challenge to the Romans until the Vandals destroyed the Roman Empire centuries later.

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Quiz

- 1 Which section of the article highlights the idea that Hannibal never stopped hating Rome, as his father had made him promise?
- (A) "Early Life"
 - (B) "Invasion Of Italy"
 - (C) "From Victory To Defeat"
 - (D) "Postwar Life And Death"
- 2 Select the sentence from the article that BEST explains how Hannibal came to power.
- (A) The historians say Hamilcar made the 9-year-old Hannibal dip his hand in blood and swear an oath of hatred against Rome.
 - (B) Hamilcar died in 229 B.C. and was succeeded by his son-in-law Hasdrubal, who made the young Hannibal an army officer.
 - (C) Instead, Hannibal pushed ahead with plans to invade Italy and start the Second Punic War.
 - (D) The Roman defeat at Cannae stunned Italy, and many of Rome's allies switched sides to join Carthage.
- 3 Which sentence from the article is BEST supported by the map in the section "Invasion Of Italy"?
- (A) In 219 B.C., Hannibal led a Carthaginian attack on Saguntum, a city on the eastern Spanish coast allied with Rome.
 - (B) Instead, Hannibal pushed ahead with plans to invade Italy and start the Second Punic War.
 - (C) The Carthaginians surrounded the Romans, cutting off the possibility of retreat.
 - (D) Under the leadership of Quintus Fabius Maximus and Publius Cornelius Scipio, the Romans began to rally.
- 4 Which paragraph in the article MOST closely relates to the painting of Hannibal at the top of the article?

Grade 7 Bearcat Day 8 Health & PE

P1 of 1

Physical Activity Log

Warm up:

30 seconds of Jumping Jacks and 60 seconds of running in place.

Stretches:

- Triceps both right and left arm for 15 seconds each
- Deltoid (shoulder) 15 seconds each arm
- Toe Touches 15 seconds
- Hurdler stretch, 15 seconds for each leg
- Butterfly stretch 15 seconds
- Flamingo, 15 seconds for each leg
- Calve muscle, 15 seconds each leg

Exercises:

- 2 minutes of jumping jacks
- 2 minutes of jumping rope
- 2 minutes of running in place
- 1 minute of squats
- 10 push ups
- 10 sit ups
- 1 minute break
- Repeat the exercise routine 3 more times.

Additional Physical Activities:

20 minutes of work around the house (cleaning, shoveling snow, whatever needs to be done)

I, _____, have completed all of the above activities for Bearcat Day 1.

Student Signature _____ Date: _____

Parent Witness _____ Date: _____

Grade 7 Bearcat Day 8 Literacy

Learn about the Superstar Soccer Camp. Read the selection below. Then read each question and choose the best answer. Use the provided answer sheet at the end of the workbook to record your answers, and use a separate sheet of paper to record your response to the open-ended question.

Superstar Soccer Camp

Do You Love Soccer? Do You Want to Be a Better Player?

Join the fun at Superstar Soccer Camp. SSC middle-school players spend a week learning how to improve their soccer skills, and they get a kick out of doing it! We use proven methods that make learning fun and effective for kids, including:

- Coaching by soccer coaches from winning college teams
- Videotaping of games with follow-up instructional sessions
- Mentoring and advice from capable, confident high-school soccer players who observe each player and give one-on-one advice
- Lots of chances to play
- Group meetings with soccer players from all over the country

You'll Get a Kick Out of It!

After an exciting and fun-filled day of training, evenings are packed with a wide variety of fun, soccer-related activities, including

- Films and talks about the greatest names in soccer like Pelé and Mia Hamm
- SSC Olympics Night
- Game nights with chances to win prizes
- Entertaining skits of soccer do's and don'ts

What SSC Graduates Say:

- "I learned more in a week of SSC camp than I could have learned on my own in a year."—Missy L, grade 6
- "Everyone was so helpful and encouraging."—Terrence B., grade 7
- "I now have soccer friends all over the country."—Lonnie T., grade 8

Boys and Girls at SSC Learn More Because . . .

- The staff is highly qualified.
- Each camper receives so much personal attention.
- The instruction is FUN!

How to Join the Fun:

Call (555) 555-1234 to get information about registration and costs. Or visit our Web site at www.superstarsoccercamp.org.

Sessions fill up fast—so ask your parents to call right away. Don't miss a chance to become part of the Superstar Soccer Camp.

Grade 7 Bearcat Day 8 Literacy

Superstar Soccer Camp

1. The selection begins by asking two questions. The effect of starting with these questions is to
- A introduce some humor.
 - B prompt readers to glance at the pictures and then read something else.
 - C encourage readers to skip to the end to find out how the story ends.
 - D persuade readers who love soccer to keep reading.

2. Which heading belongs in the empty box?

Proven methods that are effective for kids			
coaching	mentoring	games	

- A videotaping
- B Web site
- C costs
- D qualified staff

3. At the end of the selection, the author writes, "The instruction is FUN!" The author wrote *fun* in capital letters in order to create which mood or feeling?

- A enthusiasm
- B authority
- C seriousness
- D sadness

4. Based on the context of the first section, what does the word *mentoring* mean?

- A constant watching and listening
- B ongoing socializing and cheering
- C repeated correcting and scolding
- D focused teaching and supporting

Grade 7 Bearcat Day 8 Literacy

Superstar Soccer Camp

5. Which conclusion is **best** supported by the section "What SSC Graduates Say"?
- A A few campers have fun at the camp.
 - B Most campers learn a lot about soccer.
 - C No campers leave the camp unhappy.
 - D Every camper loves soccer.

6. What is the **main** purpose of this selection?