BEARCAT DAY 7

GRADE 6
ANDERSON COUNTY SCHOOLS

ANDERSON COUNTY MIDDLE SCHOOL

6TH GRADE BEARCAT DAY 7

LANGUAGE ARTS	DRAMA REVIEW ERQ This assignment is located in your ELA class' Google Classroom. Please complete it Google Classroom if you are able. If you are not able to please write your answers on notebook paper to turn in at school.
MATH	RATES SHORT ANSWER AND ERQ PRACTICE SET This assignment is located in your Math class' Google Classroom. Please complete it Google Classroom if you are able. If you are not able to please write your answers on notebook paper to turn in at school.
SCIENCE	EARTH'S CHANGING SURFACE This assignment is located in your Science class' Google Classroom. Please complete it Google Classroom if you are able. If you are not able to please write your answers on notebook paper to turn in at school.
SOCIAL STUDIES	THE ROMAN REPUBLIC PART A & B This assignment is located in your Social Studies class' Google Classroom. Please complete it Google Classroom if you are able. If you are not able to please write your answers on notebook paper to turn in at school.
PE/HEALTH	Dream Jobs: PATHOLOGIST This assignment is located in Mr. Ginter's Google Classroom. Please complete it Google Classroom if you are able. If you are not able to please write your answers on notebook paper to turn in at school.
LITERACY	ANSWER THE WRITING PROMPT FOR THE ARTICLE "WHAT WE LOSE WHEN ANIMALS BECOME EXTINCT." This assignment is located in Ms. Hamrick's Google Classroom. Please complete it Google Classroom if you are able. If you are not able to please write your answers on notebook paper to turn in at school.

 6th Grade Bearcat Day 7 p1 of 6

Read the play.

excerpted from

The Boy Comes Home: A Comedy in One Act

by A. A. Milne

Cast of Characters

UNCLE JAMES
PHILIP

SCENE.—A room in Uncle James's house in the Cromwell Road.
TIME.—The day after the War.

JAMES: . . . You make too much of this war. All you young boys seem to think you've come back from France to teach us our business. You'll find that it is you who'll have to learn, not we.

PHILIP: I'm quite prepared to learn; in fact, I want to.

JAMES: Excellent. Then we can consider that settled.

PHILIP: Well, we haven't settled yet what business I'm going to learn.

JAMES: I don't think that's very difficult. I propose to take you into my business. You'll start at the bottom of course, but it will be a splendid opening for you.

PHILIP: (*thoughtfully*) I see. So you've decided it for me? The jam business.

JAMES: (*sharply*) Is there anything to be ashamed of in that?

PHILIP: Oh no, nothing at all. Only it doesn't happen to appeal to me.

JAMES: If you knew which side your bread was buttered, it would appeal to you very considerably.

PHILIP: I'm afraid I can't see the butter for the jam.

JAMES: I don't want any silly jokes of that sort. You were glad enough to get it out there, I've no doubt.

PHILIP: Oh, yes. Perhaps that's why I'm so sick of it now. . . . No, it's no good, Uncle James; you must think of something else.

JAMES: (*with a sneer*) Perhaps *you've* thought of something else?

PHILIP: Well, I had some idea of being an architect—

JAMES: You propose to start learning to be an architect at twenty-three?

PHILIP: (*smiling*) Well, I couldn't start before, could I?

JAMES: Exactly. And now you'll find it's too late.

PHILIP: Is it? Aren't there going to be any more architects, or doctors, or solicitors, or barristers? Because we've all lost four years of our lives, are all the professions going to die out?

JAMES: And how old do you suppose you'll be before you're earning money as an architect?

PHILIP: The usual time, whatever that may be. If I'm four years behind, so is everybody else.

JAMES: Well, I think it's high time you began to earn a living at once.

PHILIP: Look here, Uncle James, do you really think that you can treat me like a boy who's just left school? Do you think four years at the front have made no difference at all?

JAMES: If there had been any difference, I should have expected it to take the form of an increased readiness to obey orders and recognize authority.

PHILIP: (*regretfully*) You are evidently determined to have a row. Perhaps I had better tell you once and for all that I refuse to go into the turnip and vegetable marrow[1] business.

JAMES: (*thumping the table angrily*) And perhaps I'd better tell *you*, sir, once and for all, that I don't propose to allow rude rudeness from an impertinent young puppy.

PHILIP: (*reminiscently*) I remember annoying our Brigadier once. He was covered with red, had a very red face, about twenty medals, and a cold blue eye. He told me how angry he was for about five minutes while I stood to attention. I'm afraid you aren't nearly impressive, Uncle James.

JAMES: (*rather upset*) Oh! (*recovering himself*) Fortunately, I have other means of impressing you. The power of the purse goes a long way in this world. I propose to use it.

PHILIP: I see. . . . Yes . . . that's rather awkward, isn't it?

JAMES: (*pleasantly*) I think you'll find it very awkward.

PHILIP: (*thoughtfully*) Yes.

[1] **vegetable marrow**: the fleshy parts of vegetables, especially squashes, used in cooking and as a basis for jams and chutneys

 6th Grade Bearcat Day 7 ELA p. 3 of 6

Use the Reading Guide to help you understand the drama.

How the Peacock Got His Tail

Reading Guide

What is the setting? How might it affect the plot and characters?

The Bird Carver uses antiquated language. Use context clues to figure out the meaning of the words.

Why do you think the Bird Carver uses antiquated language but the birds do not?

Cast of Characters

BIRD CARVER, the maker of all the birds
PARROT, one of the Bird Carver's creations
OWL, one of the Bird Carver's creations
EMPEROR PENGUIN, one of the Bird Carver's creations
PEACOCK, the Bird Carver's latest creation

(*Setting: A clearing in the woods, long before there are humans on Earth. Owl, Parrot, and Emperor Penguin are partially concealed, spying on Bird Carver, who is working in the open clearing on his latest creation, Peacock.*)

BIRD CARVER: (*hums as he works*) Thou art becoming a fine bird. Splendid, in fact. Just a few more touches, and thou shalt be complete.

PARROT: (*whispers*) The Carver creates yet another bird. (*peers into the clearing*) He thinks that . . . (*laughs*) He thinks that the bird is almost done? Why, look! Only its neck is colored properly, and that tail . . . Why, it's far too long.

OWL: I quite agree, Parrot. That bird will never fly with such a monstrosity weighing him down.

EMPEROR PENGUIN: (*flaps wings as if in flight*) Well, Parrot, as I can attest, not being able to fly isn't the end of the world. I must admit, however, that the rest of its body is rather dull. (*peers into clearing*) That brown is as dull as dirt.

PARROT: (*nodding*) Yes, Emperor Penguin. I agree wholeheartedly. Boring.

OWL: (*smoothes feathers on body*) Careful, Emperor Penguin and Parrot. Brown suits some of us very well.

BIRD CARVER: (*lifts head and speaks loudly*) Appearances can be deceiving. There's so much more to consider. (*lowers head and continues working*)

PARROT: Is another bird really necessary?

Reading Guide

Pay attention to what the birds say about one another. What do you learn about Owl, Emperor Penguin, and Parrot from their dialogue?

How does Bird Carver's punishment fit Owl?

OWL: My thoughts exactly, Parrot. When Carver made me, he created the wisest bird. Why make yet another?

EMPEROR PENGUIN: Come now, Owl. When Carver made me, he created elegance and class. (*turns around gracefully*) Why bother with anything less?

(*Bird Carver turns and watches the birds, clearly irritated. Birds don't notice.*)

OWL: (*laughs*) Elegance! Class! Who, you? Surely you jest. I can spin my head and see all around me, which makes me the wise bird that I am. (*turns head from side to side*) Perfection does not lie in elegance or class. Perfection lies in wisdom.

PARROT: (*raises voice*) Of course, Owl. You would say that. You're just jealous because you're not especially . . . outstanding in your appearance. I may not be smart or classy, (*primps and preens*) but my bright, colorful feathers make me the cream of the crop. Beauty is the epitome of perfection.

OWL: (*sternly*) Wisdom!

EMPEROR PENGUIN: Elegance! Class!

(*Bird Carver stands and stares at Owl, Emperor Penguin, and Parrot. The birds don't notice.*)

PARROT: Beauty!

OWL: Hmmph. If you were smarter, you'd understand, Parrot. I'd be happy to explain in simpler terms.

EMPEROR PENGUIN: (*nose in air*) Showy, that's what you are, Parrot. All that color makes you dizzy. You're a rainbow, beautiful to behold but nothing at the end of the line. You're not classic, like my stylish black and white. (*spins*)

BIRD CARVER: So! (*booms loudly, startling the three birds*) So thou each thinkest thou art the best. Thou thinkest thou art better than my newest bird, Peacock, too?

(*Birds exchange nervous glances.*)

OWL: No, no, Sire . . .

EMPEROR PENGUIN: Of course not, Sire. No, of course not.

PARROT: Uh-uhn. No way, your . . . Sire-ness.

BIRD CARVER: I shall punish thine vanity. (*points to Owl*) Owl, thou art the wise one? Dost thou not know that a truly wise bird

Reading Guide

Why does Bird Carver single out each bird in turn? What repeated message is he sending?

Notice the pattern in Bird Carver's address to the birds. He tells each one why he is upset and then explains the punishment.

How does each bird's punishment help to explain how owls, emperor penguins, and parrots acquired some of their features and determined where they would live?

judges not a work in progress? Here is thy punishment. Thou shalt remain awake at night, while other creatures sleep. Look around thee then. Thine eyes shan't have much to see and enjoy, and each sound thou wilt greet with, "Who?"

OWL: (*sighs miserably*) Yes, sire.

BIRD CARVER: Thou, (*points to Emperor Penguin*) thine appearance is elegant indeed. But elegance is class only when manners and attitude complement the dressing. One must look deep within to find true class. To punish thee, I send thee where few will see thee—inside or out! I banish thee to Antarctica.

EMPEROR PENGUIN: (*hugs himself and shivers*) Yes, sire.

BIRD CARVER: And lastly, thou, Parrot. (*points to Parrot*) Thou art bright and beautiful, but thy beauty is only skin deep. True beauty shines from within and echoes with every word thou speakest. Verily, thy feathers art a beauty to behold, but thine words and heart lack beauty. Thy punishment? One day creatures will put thee in a cage to behold thy beauty. They will ask thee over and over, "Polly want a cracker?" To which, thou wilt parrot a response.

PARROT: (*shudders*) Yes, Sire.

BIRD CARVER: Now, behold, my newest creation! (*gestures to Peacock*) I call him Peacock. His tail may be long and cumbersome, and he may not be attractive at first glance, but watch! (*Peacock slowly opens tail.*) One day he will grace the most elegant of palaces and gardens. He will be admired by all as one of the most beautiful and remarkable animals to walk on Earth!

(Light fades. Curtain falls.)

Use the passages to answer the ERQ.
Remember to use RACE.

6 Both *The Boy Comes Home: A Comedy in One Act* and *How the Peacock Got His Tail* have characters who are father figures, Uncle James and Bird Carver. Compare and contrast these two characters. Explain how their words and actions affect the other character or characters in each play and help reveal the theme of the play.

Use details from both plays to support your response.

Write your answer on the lines provided.

BEARCAT DAY 7 UNIT 1 REVIEW

* Required

1. Email address *

2. LAST NAME *

3. FIRST NAME *

EXTENDED RESPONSE

Toni made a table that shows a relationship between the total number of apples and the number of boxes of apples. Each box has the same number of apples. Toni made an error in one row.

Toni's Table

Row Number	Number of Apples	Number of Boxes
1	15	2
2	75	5
3	105	7
4	150	10
5	180	12

4. A. Which row contains Toni's error? Show your work and explain your thinking *

5. B. What is the correct number of apples for the row you selected? Show your work and explain your thinking. *

SHORT ANSWER

6. Allison is saving to buy a $500 bicycle by working during summer vacation.The job pays her $8 for every 1 hour worked.Allison works exactly 20 hours each week.If she works for 4 weeks and buys the bicycle, how much money will she have left over? Show your work AND explain your thinking. *

TOPIC 9

Earth's Changing Surface

Bearcat Day 7 6th Grade Science p1 of 4

LESSON 1: THE BASICS

KEY CONCEPTS

- weathering
- erosion
- deposition
- floodplain
- delta

THINK LIKE A SCIENTIST

You and your family are cruising down the Mississippi River on a riverboat. You love watching the scenery glide by. What a great vacation! As you travel down the beautiful Mississippi, you notice something that makes you curious. Each time you pass a smaller river that flows into the Mississippi, the water from the smaller river looks muddy.

The incoming water forms a dark brown stripe in the Mississippi. Then, as you sail slowly south, the muddy stripe blends into the waters of the great river and vanishes.

Sturdy green trees and lush, healthy shrubs cover the riverbanks on either side. "Where did all that mud come from?" you wonder, "And where does it go once it gets here?"

Bearcat Day 7 6th Grade Science p2 of 4

Weathering and Erosion

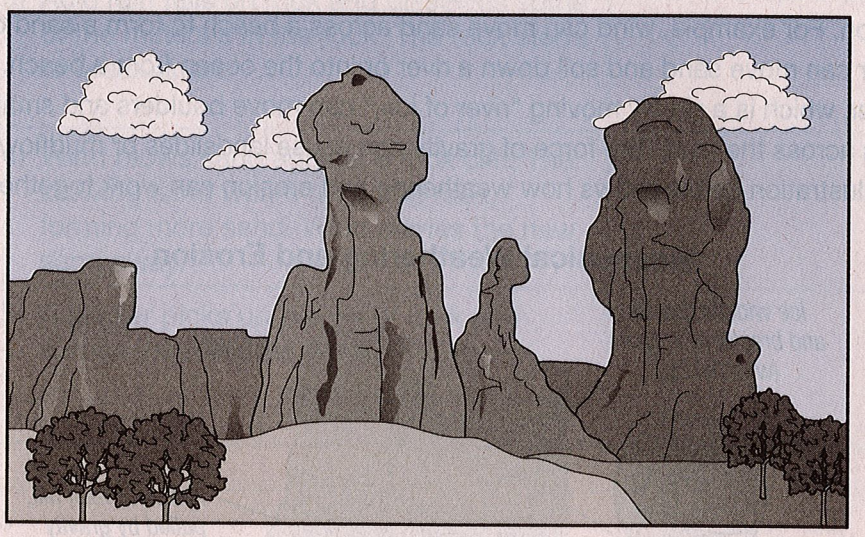
The processes that dump mud into the Mississippi, or any river, begin far from the river itself. They are some of the processes that change the face of the land.

Away from the Mississippi, rain pours down on mountain rocks. During the winter, water freezes in cracks in the rocks. Water expands when it freezes. It takes up more space, so it pushes on the rock and makes the cracks bigger. Pieces of rock break off. Over long periods of time, the rock begins to wear away.

The process of wearing away rock by breaking it into smaller pieces is called **weathering**. Weathering is the first step in producing the muddy stripe you saw in the Mississippi.

Two kinds of weathering break rock apart—mechanical weathering and chemical weathering. *Mechanical weathering* breaks rock into smaller pieces by physical means. Three forms of mechanical weathering are ice wedging, abrasion, and plant action.

Abrasion is caused by rubbing a hard object on a softer one. You abrade, or wear away, a piece of wood when you rub sandpaper on it. Wind abrades a rock when wind carries sand and rubs it on the rock. Some of the most beautiful rock formations in the American West formed because of wind abrasion.



Abrasion from wind-blown dust and sand can create rock formations such as these.

If you have ever looked closely at the wall of a cliff, you've seen another action that can weather rock. You've seen plants sprouting from cracks in the cliff. As the plants grow, their roots expand and make the cracks bigger. Just like ice wedging, this plant action can break rock apart.

KEY CONCEPTS

- weathering ✓
- erosion
- deposition
- floodplain
- delta

Bearcat Day 7 6th Grade Science p 3 of 4

KEY CONCEPTS

- weathering ✓
- erosion ✓
- deposition
- floodplain
- delta

Ice wedging is the breakup of rock caused by the freezing of water. Water in the cracks of rocks expands when it freezes. Ice can widen cracks and break the rock apart.

Rocks are made up of various natural substances called minerals. *Chemical weathering* happens when minerals in rock react with substances in water or air. Chemical weathering weakens the rock and causes it to break, dissolve, or wash away. Many caves formed in this way.

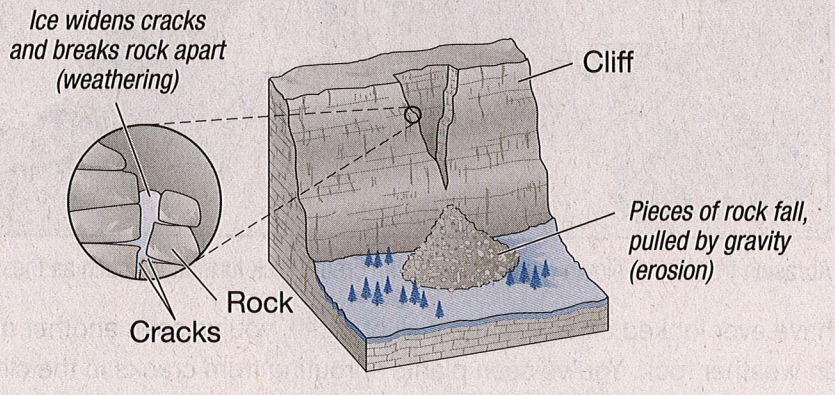
Some chemical weathering has human causes. For example, some factories and electric power plants release materials into the air that make rain water acidic. When the acid rain falls on rock, the water causes chemical changes in the rock.

You are probably wondering what weathering has to do with mud in the Mississippi River. Mud is wet soil. And soil is made up mainly of particles, or bits, of weathered rock. (Soil also contains decayed parts of organism, such as bits of dead grass and leaves.)

Small streams carry mud down from mountains and hills that may be far away from the Mississippi. The small streams flow into bigger streams, and the mud moves along, too. Eventually, the muddy water reaches the Mississippi.

This process, in which weathered material is picked up and moved to new places, is called **erosion**. Wind, flowing water, glaciers, and gravity can all cause erosion. For example, wind can move sand across a beach to form a sand dune. Water can move sand and soil down a river or into the ocean from a beach. A glacier, which is a slowly moving "river of ice," can move boulders and smaller rocks across the land. The force of gravity can cause landslides or mudflows. The illustration below shows how weathering and erosion can work together.

Mechanical Weathering and Erosion



Bearcat Day 7 6th Grade Science p4of4

EXPLORE

Read each description of change in the left-hand column of the chart below. In the right-hand column, tell whether the change is an example of weathering, erosion, or both. If weathering is described, tell whether it is mechanical or chemical. If erosion is described, describe what causes it.

INQUIRY SKILLS

- observing ✓
- classifying ✓

SOME WAYS THAT LAND CHANGES

Change	Process or Processes
1) Plants grow in cracks in a rock cliff. The plants' roots push the rock apart. Pieces of rock break off and fall to the ground.	
2) Rain washes soil into a stream. The flowing water carries the soil along.	
3) Acid rain falls on rock and dissolves some of the minerals in the rock. The rock starts to break apart.	
4) Wind blows sand against a rock cliff. The blowing sand wears away the rock, forming more sand. Wind carries the new sand away.	
5) A glacier picks up pieces of rock and carries them across the land.	

Bearcat Day 7 6th Grade Social Studies Day 7 p1 of 1

Name Period Date

Activity Sheet

Part A. Build Vocabulary

Key Terms Read the vocabulary definitions. Then match each term with the letter of its description.

patrician: a wealthy landowner who could hold important offices in Rome
plebeian: a common farmer who could vote but not hold office
Senate: a powerful body of 300 members that advised Roman leaders
consul: a leader of Rome's executive branch
Cincinnatus: a Roman who was appointed dictator to defend Rome from attack, then returned power after victory

____ **1.** Cincinnatus
____ **2.** Senate
____ **3.** patrician
____ **4.** consul
____ **5.** plebeian

a. group who gave advice to leaders
b. leader who gave power back to the Senate
c. small farmer, member of assembly
d. farmer with large estate
e. leader of Rome's executive branch

Part B. Cooperative Work

Work with your group to complete the chart below. Write two main ideas for each topic in the chart.

Topic	Main Idea
1. Structure of Roman Society	
2. Organization of Roman Government	
3. Expansion of Rome	

Dream Jobs: Pathologist

By Mark Tran, The Guardian, adapted by Newsela staff on 10.19.16
Word Count **692**

A pathologist looking through a microscope. Getty Images

Stephen Abbs is a pathologist, or someone who studies bodily fluids and tissues. He is head of a molecular genetics laboratory in London, and leads a team of scientists specializing in genes. He and his co-workers spend their time extracting DNA from blood samples. DNA is the blueprint of human life. It carries information about who we are, what we look like and what diseases we might get.

The labs and offices are full of people looking closely at computer screens. They have 90,000 DNA samples. Some of the samples go back 20 years, and some are from people who are now dead. The samples are kept in tubes the size of a thumb. They sit on trays and are stored at below-freezing temperatures.

Most Of The Work Benefits Living Patients

Many people believe pathology is the study of dead bodies and organs. However, most of the work that pathologists do benefits living patients.

Every time someone has a blood test or a lump removed, it is a pathologist who looks at the material to determine if the patient has a disease. While few pathologists see patients directly, they provide the information doctors need to identify a problem and decide on treatment. Not all pathologists are doctors. Most are scientists.

Abbs Specializes In Clinical Muscular Genetics

Abbs, 46, specializes in clinical molecular genetics. This means he studies DNA. Sometimes, there are changes to DNA and a patient develops a disease. Abbs is especially interested in a disease called muscular dystrophy. It is an inherited condition that causes muscles to weaken over time. There is no cure, but molecular geneticists can still help these patients and others.

First, they can confirm the presence of the disease and tell the patient which kind of muscular dystrophy they have. This helps to determine their treatment.

Second, they can test a person's DNA to see if they are at risk for a disease. If so, patients can make medical decisions about their future.

Third, pregnant women can be tested to see if their fetuses might be abnormal or carry harmful DNA. If they do, parents must decide whether to continue with the pregnancy.

Pathologists Talk To Doctors, Doctors Talk To Patients

An important part of the work is the use of clear, direct language to pass on information. Pathologists talk to doctors, and then doctors talk to patients. A pathologist's report must be written clearly and be simple to understand.

Many people believe that molecular geneticists spend their days peering at DNA cells through microscopes. This is not true. When blood samples arrive, the DNA is pulled out by a DNA extraction machine. The special machine is the size of a small coffeemaker. It separates different parts of the blood and pulls out the DNA. The DNA contains a person's genes. A tiny amount is taken for testing.

It is true that thousands of DNA samples are kept for a long time in big refrigerators, even from people who have died. This is because relatives might someday want to have the DNA tested. Perhaps they want to see if they are at risk for a disease, or see if their children might be. All patients must agree to let their DNA be used by relatives.

Work Is Not Glamorous Like TV

There are currently several TV shows that feature pathologists working to help solve crimes. Their work is made to look glamorous. Abbs says a forensic pathologist recently told him that the work was actually quite repetitive and boring.

Abbs replied that "some of the work is boring and repetitive here, as well, but we have

Job Stats

Pay: A clinical scientist after four years of college and extra training starts at £25,000 ($31,000) and can climb to £90,000 ($114,000).

Hours: Abbs starts at 7:30 a.m. and leaves early. He works a usual 37.5-hour week, Monday to Friday, but most people work longer hours.

Work-life balance: Abbs is able to work flexible hours.

Highs: Bringing in new technology successfully. This means Abbs can better help patients.

Lows: "When we confirm a disease such as muscular dystrophy. That really hits you."

Quiz

1 What is the main idea of the section "Most Of The Work Benefits Living Patients"?

(A) Pathology is mainly the study of dead bodies and organs.

(B) Some pathologists help living people, but many do not.

(C) Pathologists help living patients by studying blood or lumps for diseases.

(D) Pathologists help living patients by working with patients directly to cure diseases.

2 Which selection from the text BEST summarizes a main idea of the article?

(A) DNA is the blueprint of human life. It carries information about who we are, what we look like and what diseases we might get.

(B) While few pathologists see patients directly, they provide the information doctors need to identify a problem and decide on treatment.

(C) Many people believe that molecular geneticists spend their days peering at DNA cells through microscopes.

(D) Abbs says a forensic pathologist recently told him that the work was actually quite repetitive and boring.

3 Read the following sentence from the section "Abbs Specializes In Clinical Muscular Genetics."

Third, pregnant women can be tested to see if their fetuses might be abnormal or carry harmful DNA.

Which word from the text helps the reader understand the meaning of fetuses?

(A) pregnant

(B) woman

(C) tested

(D) abnormal

4 Read the following sentence from the section "Work Is Not Glamorous Like TV."

Abbs says a forensic pathologist recently told him that the work was actually quite repetitive and boring.

Which word would BEST replace the world "repetitive" above?

(A) exciting

(B) routine

(C) dangerous

(D) meaningful

5. Write a short paragraph that explains the central idea of the article. Use at least 2 details from the article to support your response.

Bearcat Day 7 6th Grade Literacy

Based on "What We Lose When Animals Become Extinct" News ELA Article

Make and support a claim about why someone should read this text.
What makes this text worth reading?
What will a reader gain or what might a reader do after reading this?
Support your response with specific details from the text.

What we lose when animals become extinct

By Elizabeth Kolbert, National Geographic on 01.28.20
Word Count **1,611**
Level **MAX**

Image 1. An Asian elephant eating a watermelon at the Melbourne Zoo in Australia. Elephants are endangered because of habitat loss and poaching. Photo: Fir0002/Wikimedia

The International Union for Conservation of Nature says more than 28,000 species of animals and plants are threatened with extinction. That number actually understates the risk. Since 1964, when the IUCN established a "red list" of threatened species and began compiling data gathered worldwide, the list has become the preeminent global database of endangered life and an essential tool for conservation policy. Yet the IUCN has been able to assess only about 106,000 species of the more than 1.5 million species of animals and more than 300,000 plants that scientists have described and named — which they estimate is less than a quarter of what's really out there. An intergovernmental report on the biodiversity crisis estimated that extinction threatens up to a million animal and plant species, known and unknown. The IUCN hopes to raise the number of species assessments to 160,000 by 2020. Next up on its agenda: a "green list" of conservation successes. It will be much shorter than the red one.

The Biggest Threat: Humans

Habitat loss — driven primarily by human expansion as we develop land for housing, agriculture and commerce — is the biggest threat facing most animal species, followed by hunting and

fishing. Even when habitat is not lost entirely, it may be changed so much that animals cannot adapt. Fences fragment a grassland or logging cuts through a forest, breaking up migration corridors; pollution renders a river toxic; pesticides kill widely and indiscriminately. To those local threats one must increasingly add global ones: Trade, which spreads disease and invasive species from place to place, and climate change, which eventually will affect every species on Earth — starting with the animals that live on cool mountaintops or depend on polar ice. All of these threats lead, directly or indirectly, back to humans and our expanding footprint. Most species face multiple threats. Some can adapt to us; others will vanish.

If we lived in an ordinary time — time here being understood in the long, unhurried sense of a geologic epoch — it would be nearly impossible to watch a species vanish. Such an event would occur too infrequently for a person to witness. In the case of mammals, the best-studied group of animals, the fossil record indicates that the "background" rate of extinction, the one that prevailed before humans entered the picture, is so low that over the course of a millennium, a single species should disappear.

But of course we don't live in an ordinary time. Everywhere we look, species are winking out. Just in the past decade, two mammal species have gone extinct: a bat known as the Christmas Island pipistrelle and a rat, the Bramble Cay melomys.

The International Union for Conservation of Nature lists more than 200 mammal species and subspecies as critically endangered. In some cases, like the Sumatran rhino or the vaquita — a porpoise native to the Gulf of California — there are fewer than a hundred individuals left. In others, like the baiji (also known as the Yangtze River dolphin), the species, though not yet officially declared extinct, has probably died out.

And unfortunately, what goes for mammals goes for just about every other animal group: reptiles, amphibians, fish, even insects. Extinction rates today are hundreds — perhaps thousands — of times higher than the background rate. They're so high that scientists say we're on the brink of a mass extinction.

The last mass extinction, which did in the dinosaurs some 66 million years ago, followed an asteroid impact. Today the cause of extinction seems more diffuse. It's logging and poaching and introduced pathogens and climate change and overfishing and ocean acidification.

But trace all these back and you find yourself face-to-face with the same culprit. The great naturalist E.O. Wilson has noted that humans are the "first species in the history of life to become a geophysical force." Many scientists argue that we have entered a new geologic epoch — the Anthropocene, or age of man. This time around, in other words, the asteroid is us.

What's Lost?

One way to think of a species, be it of ape or of ant, is as an answer to a puzzle: how to live on planet Earth. A species' genome is a sort of manual; when the species perishes, that manual is lost. We are, in this sense, plundering a library — the library of life. Instead of the Anthropocene, Wilson has dubbed the era we are entering the Eremozoic — the age of loneliness.

Joel Sartore has been photographing animals for his Photo Ark project for 13 years. In an ever growing number of cases, animals housed in zoos or special breeding facilities are among the last remaining members of their species. In some instances, they are the only members.

Toughie, a Rabbs' fringe-limbed tree frog from central Panama, lived at the Atlanta Botanical Garden. He became the last known of his kind when a fungal disease swept through his native habitat and a captive-breeding program failed. Toughie died in 2016, and it's likely the Rabbs' fringe-limbed tree frog is now extinct.

Romeo, a Sehuencas water frog that lives at the natural history museum in Cochabamba, Bolivia, was likewise believed to be a sole survivor. Scientists created an online dating profile for him. It linked to a donation page, and the $25,000 raised helped fund expeditions in the eastern Andes, where the species was once abundant.

Amazingly, the search has revealed five more Sehuencas water frogs, two males and three females. All were taken to Cochabamba; the one female mature enough to breed with Romeo was named Juliet. Whether she will prove a worthy mate and perpetuate the species, no one knows.

Was the Rabbs' fringe-limbed tree frog beautiful? Not in the flashy way of, say, the Spix's macaw (which is believed to be extinct in the wild) or the Gee's golden langur (which is endangered). But with its expressive brown eyes and gangly limbs, it had its own kind of charm.

Sartore treats all creatures — great and small, handsome and homely — with reverence. His photos capture what's singular and, I'd also like to say, soulful about every living thing. One of my favorite images of Joel's is of a Partula nodosa, or niho tree snail, laying down a trail of slime. There used to be dozens of Partula species in the South Pacific, occupying different islands and different ecological niches. Much like Darwin's finches, they are the darlings of evolutionary biologists — living, slime-producing illustrations of the power of natural selection. The introduction of carnivorous snails from Florida drove nearly a third of the Partula species extinct; several survive solely thanks to captive-breeding programs.

Precisely because extinction takes place so frequently now, it's possible to become inured to it. This desensitizing is what makes Sartore's images so crucial: They show us just how remarkable each species is that's being lost.

We live in an extraordinary time. Perhaps by recognizing this, we can begin to imagine creating a different one — one that preserves, as much as is still possible, the wonderful diversity of life.

Threat: Disease

Since the 1980s, a fungal disease called chytridiomycosis, likely spread through direct contact and by infected water, has ravaged global amphibian populations. More than 500 species have been affected; 90 of these may be extinct. The fungus disrupts transmission of electrolytes through the skin of a frog or toad, ultimately stopping its heart.

Threat: Invasive Species

Like many island species, the nearly flightless kagu, native to the French Pacific territory of New Caledonia, was seriously affected by the arrival in the late 1700s of European settlers and their animals. Roughly chicken size, the kagu continues to fall prey to non-native pigs, cats and dogs. The birds nest on the ground, and rats eat their eggs. Recent population estimates suggest fewer than a thousand kagu survive. Scientists nevertheless have some hope for the future: Decades of successful captive breeding have resulted in the reintroduction of the birds to the wild, and predator control has allowed some populations to rebound.

Bearcat Day 7 6th Grade Literacy

Threat: Fragmentation

This subspecies of the dama gazelle was once widespread across the western Sahara. Now there are fewer than 300 damas combined in Mali, Chad and Niger. Their range is broken up by grazing lands for livestock, and they're at risk from hunting. Reintroduction of captive-bred animals has had mixed success.

Threat: Habitat loss

Butterflies can fly long distances and feed on many types of flowers, but caterpillars are locavores, eating plants they hatch on or near. As those plants are lost to development or farming, butterflies disappear. The ones here aren't listed by the IUCN — which has evaluated only 8,100 insect species — but are considered at risk by other authorities.

Threat: Poaching

Early in the 20th century, perhaps 100,000 elephants roamed across Asia. Since then, their population likely has been cut in half. They're killed not just for their ivory tusks but also for their meat and hides — and sometimes in retaliation for the damage they do to crops.

Threat: Deforestation

For tree-dwelling lemurs, there's no life without the forest — or Madagascar, their only home. Yet the island nation has lost 80 percent of its trees to development, charcoal production, and slash-and-burn agriculture. Lemurs are squeezed into limited protected areas; 38 species are critically endangered. Fuel-efficient stoves are being introduced to encourage people to reduce wood use and protect forest habitat.