

7. The success of bringing back the buffalo led people to see that they could help endangered animals. The article describes plans the government can take to help bring back endangered animals. What are some of these plans? What problems could these plans cause for people?

Read and analyze the Infograph “How We’re Endangering Animals” and answer question 8.

8. Looking at the infograph, what are three ways we are endangering animals? As a group, discuss the key details and the effects on the animals of each method? There is a graphic organizer to help you. As a group, choose one of the methods and create an infograph to inform and raise awareness of the problems. Some things to consider when creating your infograph are:

Be concise. Choose the important things to include.

Cite your sources.

Be accurate with information and with the scale of visuals.

Be creative and make it attractive to your audience.

Balance data and graphics.

Organize the information effectively; tell a story - incorporate a beginning, middle, and end.

Show cause and effect or compare and contrast.

Note: There is an Infographic Rubric to help guide you on these expectations.

Part C:

9. Based on your readings, answer the question, “How do humans have an impact on ecosystems?” How useful was each article in answering the question? Complete the “Claim, Reason and Evidence” chart by identifying the claim and assessing whether the reasoning is valid and the evidence proves the claim.

10. Look at the website, <https://www.worldwildlife.org/species/directory> which is a directory of species and level of endangerment. Choose an animal that is on the endangered list. (Your teacher will have a sign-up sheet so no one has the same animal.) Research the animal, its habitat, reasons for endangerment, as well as any other facts you think are important. You will create a diorama for your animal displaying its habitat as well as creating a PowerPoint about your animal. For your PowerPoint, you will need:
 - a. Title Slide
 - b. Animal (will need a picture)
 - c. Habitat
 - d. Physical aspects of animal
 - e. Interesting facts about the animals
 - f. Where the animal falls in the food web
 - g. Reasons it is endangered
 - h. What is being done to help the animal
 - i. Conclusion

Note: There is a graphic organizer and rubrics to help guide your research.

ARTICLES/STUDENT MATERIALS

“People are More Responsible for Wildfires in America than Lightning”



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

Scientists at the University of Colorado in Boulder have been studying wildfires. They found that most wildfires are started by people.

The scientists studied wildfires that happened in the United States in the last 20 years. Fires started by people burn more land than fires started by lightning.

Fires Start Easily In California

California has an especially dry climate. Not much rain falls and fires start easily. Humans have started almost all of the fires in California. One of the biggest fires was started by a lost hunter in 2003. He was trying to use the fire as a signal. He thought someone would find him if they saw the fire. But it got out of control. People often start large fires by accident. Cigarettes, broken power lines and fireworks are all causes of fires.

Government Fire Records From the Last 20 Years

Jennifer K. Balch is a scientist at the University of Colorado. Her team published the study. They used government records from 1992 to 2012. They found that people started more than 40,000 wildfires a year across the country. The most common day for humans to start fires was on July 4th.

Wildfires can do good things, Balch said. Some fires are started on purpose by experts who study the forests. These are called controlled fires. Controlled fires can help keep some forests healthy. They are especially important in the Western states.

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

Changing Climate and Human Activity Cause More Wildfires

Balch said the warmer climate has also made the possible length of fire season longer. This means there is more time when fires can start. Human activities and the changing climate together are causing more wildfires.

While there is some debate, most scientists agree that the Earth is heating up. This is called global warming. A warmer climate will make it easier for fires to start in some places.

But most fires will still be caused by humans, the study says.

“Plants and Animals Need Us”

(Achieve3000, February 6, 2006). Have you ever seen a dodo bird? How about a Yunnan box turtle or an ibex? Sadly, no one will ever see these animals alive again. Each of them has died out.

Leaders have taken steps to keep plants and animals from dying out. In the U.S., the Endangered Species Act protects animals and plants. It also protects the places where they are found.

Why Save Endangered Species

Each plant and animal species is very important. The loss of one species could change the lives of other living things. They all need one another to stay alive.

Every plant and animal species is part of an ecosystem. An ecosystem is a group of living things that depend on one another. Animals depend on plants or smaller animals for food. Larger animals keep smaller animals from getting too large in number. People depend on ecosystems, like forests and oceans. These ecosystems clean the air and provide food. If one species is lost, animals and plants that depended on it might die out.

People depend on plants and animals for many things. In addition to food, plants and animals can help people make money. If a fish species dies out, for example, people that catch and sell the fish lose money. Many plant species are used to make medicines. However, 100 species of plants die out each day. This means that scientists may lose out on finding a new type of medicine. Also, plants and animals are treasured for their beauty. Many people like to have plants around. They may put pictures of wild animals in their homes.

Protecting Species

Hundreds of years ago, people didn't worry about plant and animal species. Then, the loss of the buffalo in the U.S. helped to change this. Native Americans hunted buffalos for hundreds of years. They only killed what they needed for food and clothing. White men found that buffalos were easy to hunt. Soon, the buffalos began to die out. By the late 1800s, there were just 800 buffalos left. People made a law against buffalo hunting in the 1890s. Since then, buffalos have made a comeback. In the 1900s, some groups began to ask people not to hunt other animals that were in danger of disappearing.

In 1966, the U.S. passed a law that allowed the government to make a list of endangered animal species. It also stopped the buying and selling of these animals. In 1973, Congress passed the Endangered Species Act. This law protects plants and animals, as well as the land that they need. It also allows the government to buy land. This lets the government protect the animals and plants that live there.



What Makes a Species Endangered

Scientists help the government decide whether a species is endangered. They study the animal. They also look at things that might cause the animal to die out. These include hunting, disease, loss of land, and loss of food. Scientists watch these animals and count their numbers. A species with a very low numbers might make the endangered species list.

The U.S. government has named nearly 1,000 animal and plant species as endangered or in trouble. Thousands of species of plants and animals around the world are also in danger of dying out.



Saving Animals

How can the U.S. save animal species? First, the government must name a species as endangered. Then, it makes a plan to save the species. Some plans keep people from hunting the animal. Other plans set up special rules for the use of land where the species is found. People might not be able to build homes. Sometimes, they can't cut down trees on the

land. Not everyone is pleased with these plans. Some people say that the government should make rules to let people use some of this land.

The Endangered Species Act has only been partly successful. A few species have been removed from the list. The American alligator is one example. This alligator was once hunted for its meat and skin. Then, in 1967, the animal was added to the endangered species list. People were no longer allowed to hunt the alligator. Once protected, the alligator made a strong comeback. It was removed from the list in 1995. Other species have been on the list for years. Many of them are still in danger of dying out. In Africa, for example, the mountain gorilla is losing its home. People are cutting down the forests there. Today, there are only 600 to 700 mountain gorillas left in the world.

Leaders will continue to try to save all of the species that need help.

What's the problem?

- Habitat loss
- Pollution
- Introduction of species
- Global warming
- Farms
- Poaching

“How We’re Endangering Animals” Infographic

HOW WE'RE ENDANGERING ANIMALS

CLIMATE CHANGE

HUMANS AFFECT CLIMATE CHANGE BY ADDING GREENHOUSE GASSES TO THE ATMOSPHERE, WHICH RAISE THE PLANET'S TEMPERATURE, CONSEQUENTLY MELTING ICE CAPS, RAISING SEA LEVELS AND WARMING OCEANS. CLIMATE CHANGE ALSO CREATES DROUGHTS, WHICH THREATEN ANIMALS' FOOD AND FRESH WATER SOURCES. THE LARGEST MAN-MADE CONTRIBUTIONS TO CLIMATE CHANGE COME FROM RUNNING FACTORIES AND POWER PLANTS, HEATING AND COOLING HOMES, AND DRIVING AUTOMOBILES.

ONLY ABOUT 350 NORTH AMERICAN RIGHT WHALES STILL EXIST



With rising ocean temperatures killing off their food, these whales can no longer properly bulk up for pregnancy.

98% OF LOGGERHEAD TURTLES ARE FEMALE



Changes in temperature have affected nesting conditions, skewering their gender ratio.

PENGUIN POPULATIONS HAVE DECLINED ABOUT 60%



Since the 1960s, Antarctic penguins have been vanishing due to a loss of habitat resulting from melting sea ice.

POLAR BEARS ARE 10 PERCENT THINNER THAN 30 YEARS AGO

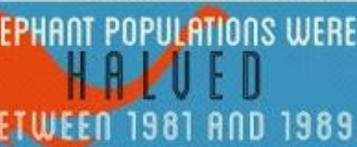


Rising temperatures are melting sea ice, leaving hungry polar bears with less hunting grounds.

POACHING

WHILE POACHING HAS VARIOUS EFFECTS, ITS MOST DIRECT AND DRASTIC IMPACT IS EXTINCTION, EITHER GLOBALLY OR REGIONALLY. POACHING IS THE ILLEGAL HUNTING, CAPTURE OR COLLECTION OF WILDLIFE. SNARING IS A COMMON FORM OF SUBSISTENCE POACHING THAT LEADS TO THE MAIMING OF MANY ANIMALS NOT INTENDED FOR CONSUMPTION. POPULATIONS OF ELEPHANTS, GORILLAS, RHINOS, LEOPARDS AND CHEETAHS HAVE BEEN DECIMATED BY POACHERS.

ELEPHANT POPULATIONS WERE HALVED BETWEEN 1981 AND 1989



There were 5 to 10 million African elephants in 1930 – less than 1% of that number now exist.

ONLY 3200 TIGERS REMAIN



In just over a century, poaching has led to the loss of 97% of wild tigers.

RHINO HORN IS 5X MORE EXPENSIVE THAN GOLD



In some areas, 2 to 3 rhinos are killed per week for their horns, which are sold as medicine on the black market.

HABITAT LOSS

HABITAT LOSS MAY BE THE GREATEST THREAT TO BIODIVERSITY ON EARTH, BEING THE PRIMARY THREAT TO 85% OF SPECIES. MOST HABITAT LOSS IS DUE TO INTENSIVE HARVESTING AND EXPANSION OF AGRICULTURAL LAND. THE BIGGEST CAUSES INCLUDE LOGGING (BOTH LEGAL AND ILLEGAL), AGRICULTURE, OIL EXPLOITATION AND HUMAN DISASTERS.

80% OF ORANGUTANS HAVE DISAPPEARED IN 100 YEARS



Logging in Indonesia for palm oil plantations has left the orangutan population critically endangered.

AMUR LEOPARDS ARE CRITICALLY ENDANGERED



Due to extensive habitat loss and conflict with humans, there are only 25 to 35 leopards left in the wild.

THERE ARE ONLY 1600 PANDAS IN THE WILD



Much of the pandas' habitat has been destroyed by logging, with some areas under pressure from human development.

HOW TO HELP

TO LEARN HOW YOU CAN REDUCE CLIMATE CHANGE, VISIT EPA.GOV



HELP PROTECT ANIMALS FROM POACHING; FIND OUT MORE AT WWF.ORG



TO DISCOVER HOW YOU CAN HELP PRESERVE ANIMAL HABITATS, VISIT IFAW.ORG



SOURCE: EPA.GOV WWF.ORG IFAW.ORG AFRICANCONSERVANCY.ORG

design by francesca greggs & lemonwood design.

Certification Map
Teacher certification made simple

Name _____ Date _____

CAUSES OF WILDFIRES

PREVENTABLE

UNAVOIDABLE

Newspaper Article Rubric

Student Name: _____				
CATEGORY	4	3	2	1
Who, What, When, Where & How	The article includes all of the 5 W's (who, what, when, where and why/how).	The article includes 3-4 of the 5 W's (who, what, when, where and why/how).	The article addresses 2 of the 5 W's (who, what, when, where and why/how).	The article does not include the 5 W's and/or is a summary of the entire book.
Articles - Purpose	The article establishes a clear purpose in the lead paragraph and demonstrates a clear understanding of the topic.	The article establishes a clear purpose in the lead paragraph, but lacks a clear understanding of the topic.	The article does not establish a clear purpose in the lead paragraph.	The article is more than 25% off-topic.
Articles - Supporting Details	The details in the article are clear, effective and vivid 90-100% of the time.	The details in the article are clear and pertinent 80-90% of the time.	The details in the article are clear and pertinent 70-80% of the time.	The details in more than 30% of the article are neither clear nor pertinent.
Articles - Interest	The article contains facts, figures, and/or word choices that makes the article exceptionally interesting to readers.	The article contains facts, figures, and/or word choices that makes the article interesting to readers.	The article contains some facts or figures but is marginally interesting to read.	The article does not contain facts or figures that might make it interesting to read.
Spelling and Proofreading	0-1 spelling, punctuation or grammar errors.	2-3 spelling, punctuation or grammar errors.	4-5 spelling, punctuation or grammar errors.	6+ spelling, punctuation or grammar errors.

MAIN IDEA GRAPHIC CORGANIZER

The diagram is a graphic organizer for identifying the main idea and details of a text. It consists of four rounded rectangular boxes. At the top is a wide box labeled "Main Idea:". Below it are three vertical boxes, each labeled "Detail:". Three arrows point downwards from the bottom edge of the "Main Idea:" box to the top edge of each of the three "Detail:" boxes. At the bottom of the page is a wide box labeled "Summary:".

Main Idea:

Detail:

Detail:

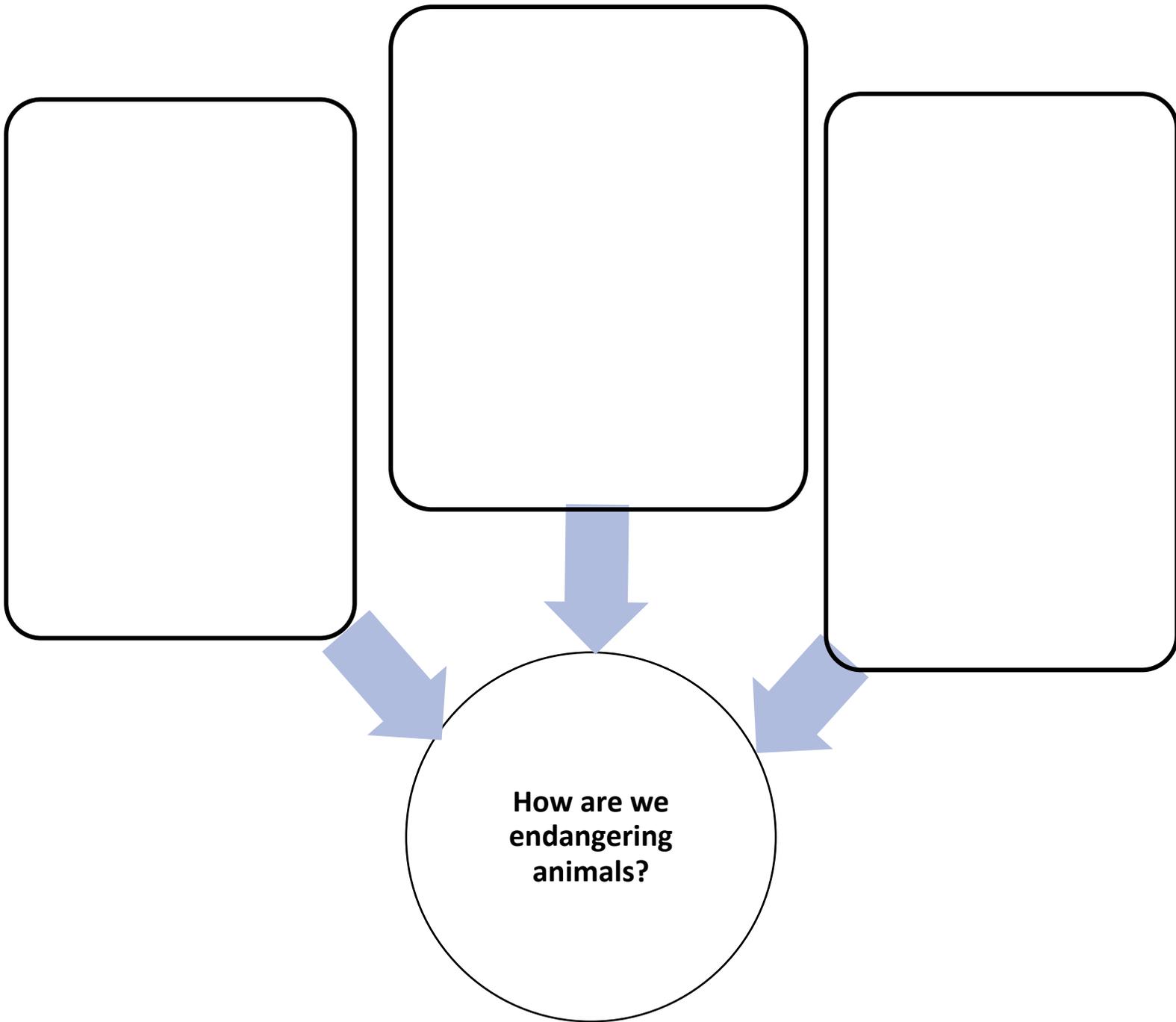
Detail:

Summary:

INFERENCE CHART

Story Clues	+ What I know	= Inference

Infograph Graphic Organizer



INFOGRAPHIC RUBRIC

SOME TIPS FOR HELP IN CREATING AN INFOGRAPH

- Easel.ly and Piktochart are both pretty easy to use to create infographics and share with others.
- Infogr.am is a good site if you want to create charts.
- Wordle allows you to create word clouds of frequently used words.
- Tagxedo has the ability to create shapes with words.

CATEGORY	4	3	2	1
Graphics - Relevance	All graphics are related to the topic and make it easier to understand.	All graphics are related to the topic and most make it easier to understand.	All graphics relate to the topic.	Graphics do not relate to the topic.
Required Elements	The infographic includes all required elements as well as additional information.	All required elements are included on the infographic.	All but 1 of the required elements are included on the infographic.	Several required elements are missing.
Content - Accuracy	At least 4 accurate facts are displayed on the infographic.	3 accurate facts are displayed on the infographic.	2 accurate facts are displayed on the infographic.	Less than 2 accurate facts are displayed on the infographic.
Attractiveness	The infographic is exceptionally attractive in terms of design, layout, and neatness.	The infographic is attractive in terms of design, layout and neatness.	The infographic is acceptably attractive though it may be a bit messy.	The infographic is distractingly messy or very poorly designed. It is not attractive.
Mechanics	Capitalization and punctuation are correct throughout the infographic.	There is 1 error in capitalization or punctuation.	There are 2 errors in capitalization or punctuation.	There are more than 2 errors in capitalization or punctuation.
Grammar	There are no grammatical mistakes on the infographic.	There is 1 grammatical mistake on the infographic.	There are 2 grammatical mistakes on the infographic.	There are more than 2 grammatical mistakes on the infographic.

Claim/Reason/Evidence Chart

What do you know?	How do you know that?	Why do you know that?
Claim	Reason(s)	Evidence

Endangered Why?		My Animal	Location Continent: Country: Describe Habitat:	
Interesting Facts			Interesting Facts	

Diorama Rubric

Student Name: _____

CATEGORY	4	3	2	1
Quality of Construction	The diorama shows considerable attention to construction. The items are neatly trimmed. All items are carefully and securely attached to the backing. There are no stray marks, smudges or glue stains. Nothing is hanging over the edges.	The diorama shows attention to construction. The items are neatly trimmed. All items are carefully and securely attached to the backing. A few barely noticeable stray marks, smudges or glue stains are present. Nothing is hanging over the edges.	The diorama shows some attention to construction. Most items are neatly trimmed. All items are securely attached to the backing. A few barely noticeable stray marks, smudges or glue stains are present. Nothing is hanging over the edges.	The diorama was put together sloppily. Items appear to be just "slapped on". Pieces may be loose or hanging over the edges. Smudges, stains, rips, uneven edges, and/or stray marks are evident.
Creativity	Several of the objects used in the diorama reflect an exceptional degree of student creativity in their creation and/or display	One or two of the objects used in the diorama reflect student creativity in their creation and/or display.	One or two objects were made or customized by the student, but the ideas were typical rather than creative (.e.g, apply the emboss filter to a drawing in Photoshop).	The student did not make or customize any of the items on the diorama.
Design	Objects are an appropriate size and interesting shape and are arranged well. Care has been taken to balance the diorama scene.	Objects are an appropriate size and interesting shape and are arranged well. The diorama, however does not appear balanced.	Objects are an appropriate size and shape, but the arrangement of items is not very attractive. It appears there was not a lot of planning of the item placement.	Objects are of an inappropriate size and/or shape. It appears little attention was given to designing the diorama.
Number of Items	The diorama includes 15 or more items, each different.	The diorama includes 10-14 different items.	The diorama includes 9 different items.	The diorama contains fewer than 9 different items.
Time and Effort	Class time was used wisely. Much time and effort went into the planning and design of the diorama. It is clear the student worked at home as well as at school.	Class time was used wisely. Student could have put in more time and effort at home.	Class time was not always used wisely, but student did do some additional work at home.	Class time was not used wisely and the student put in no additional effort.
Attention to Theme	The student gives a reasonable explanation of how every item in the diorama is related to the assigned ecosystem. For most items, the relationship is clear without explanation.	The student gives a reasonable explanation of how most items in the diorama are related to the assigned theme. For many of the items, the relationship is clear without explanation.	The student gives a fairly and reasonable explanation of how most items in the diorama are related to the assigned theme.	The student's explanations are weak and illustrate difficulty understanding how to relate items to the assigned theme.

Grading Rubric for a Power Point Project

	5	4	3	2	1
Content	Content is accurate and information is presented in a logical order.	Content is accurate but some information is not presented in a logical order, but is still generally easy to follow.	Content is accurate but information is not presented in a logical order, making it difficult to follow.	Content is questionable and information is not presented in a logical order, making it difficult to follow.	Content is inaccurate and information is not presented in a logical order, making it difficult to follow.
Slide Creation	Presentation flows well and logically. Presentation reflects extensive use of tools in a creative way. Correct number of slides.	Presentation flows well. Tools used correctly. Correct number of slides. Overall presentation is interesting.	Presentation flows well. Some tools used to show acceptable understanding. Correct number of slides.	Presentation is unorganized. Tools are not used in a relevant manner. Lacking in number of slides.	Presentation has no flow. No tools used. Insufficient number of slides.
Slide Transitions	Transitions are smooth and interesting. Transitions enhance the presentation.	Smooth transitions are used on most slides.	Smooth transitions are used on some slides.	Very few transitions are used and/or they distract from the presentation.	No transitions used.
Pictures, Clip Art & Background	Images are appropriate. Layout of images is pleasing to the eye.	Images are appropriate. Layout is cluttered.	Most images are appropriate.	Images are inappropriate.	No images.
Mechanics	No spelling errors. No grammar errors. Text is in authors' own words.	Few spelling errors. Few grammar errors. Text is in authors' own words.	Some spelling errors. Some grammar errors. Text is in authors' own words.	Some spelling errors. Some grammar errors. Most of text is in authors' own words.	Many spelling errors and/or text is copied.
Technology Connection	Comprehensive use of technology is apparent.	General understanding of technology.	Acceptable understanding of technology.	Little understanding of technology.	No understanding of technology.



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