

ELK, WALLEYE, MONARCHS AND MORE

6th-8th Grade Discussion Guide

Developed by: Phyllis McKenzie

SCIENCE CATEGORIES

Natural Resources, Environmental Science, Ecology, Wildlife Management, Biology, Zoology, Conservation Biology

TIMEFRAME

Four to five 45-minute sessions, depending on the size of the class

MATERIALS

Large sheets of paper or posterboard and markers or access to mind mapping software, access to the Internet to download lessons

KEY WORDS

Biodiversity, citizen science/community science, conservation, stewardship, preservation, wildlife management



LEARNING OBJECTIVES

Students will be able to:

- Identify key components of conserving a species or group of species;
- Explore animals in their location that need protection and conservation; and
- Develop a plan for how they will individually take action to help steward a species that needs protection.

ACTIVITY SUMMARY

This lesson is intended to raise awareness among students of their ability to be actively involved in the conservation and stewardship of wildlife. Students will identify some of the major needs, professionals involved, and actions taken when conserving a species and will look at where in the conservation picture they would like to become involved.

Then, students will become aware of the role of stewardship in the conservation of wildlife. Finally, students will complete independent research projects and personal plans for stewarding wildlife to share with their classmates and families. With the plans they develop showing how they may become active stewards of wildlife, they will begin a journey toward future careers and stewardship.



VOCABULARY

BIODIVERSITY – all the different kinds of living organisms (plants, animals, fungi, viruses etc.) in a given area

CITIZEN SCIENCE, COMMUNITY SCIENCE – non-professionals who collect and report monitoring data for an ecosystem, species, or group of species (birds, bats, water quality)

CONSERVATION – taking action to protect land and water resources and the plants and animals that depend on them. Focuses on saving individual species and protecting biodiversity.

STEWARDSHIP – is the act of responsibly managing resources, being thoughtful consumers, taking care of something, and protecting the natural environment.

PRESERVATION – preservation seeks to protect nature from human use.

WILDLIFE MANAGEMENT – is the practice of manipulating the interactions between wildlife, habitat, and humans to meet specific goals. It is one tool used in conservation.

BACKGROUND INFORMATION

Conservation is the care and protection of Earth's natural resources – air, minerals, plants, soils, water, and wildlife - so that they can be around for future generations. Conservation includes maintaining biodiversity – the variety of species, genes, and ecosystems as well as the functions and processes of the environment such as nutrient cycling.

Conservation and preservation are similar as both relate to protecting nature. They do this in different ways. Conservation seeks the sustainable use of nature by people, for activities such as hunting, fishing, mining, or logging, while preservation seeks to protect nature from human use.

For example, the National Park Service's mission focuses on preservation, with an emphasis on minimal change to the landscape or environment. The National Forests, meanwhile, focus on the health, diversity, and productivity of the forests, allowing for timber harvesting, hunting, cattle grazing and recreation.

Stewardship is the responsible use and protection of the natural environment through conservation and sustainable practices to enhance ecosystem resilience and human well-being. Stewardship action includes the activities, behaviors, decisions, and technologies carried out by stewards: individuals, groups, or networks of people and organizations. Stewardship can take on many forms: Restoration and Protection (of an ecosystem that has been degraded, damaged or destroyed); Everyday Choices (reducing resource inputs and emissions through technological change and consumer purchasing, use and disposal behaviors); Community Awareness (informing others in an effort to convince them to take action to address community-level environmental issues); Civic Action (informing public or organizational policy decisions that can improve environmental outcomes for many people or organizations at once); Stewardship Science (collecting and reporting monitoring data in an ecosystem that inform management of the natural resource – citizen science; community science)

LEARNING PROCEDURE

INTRODUCTION:

Introduce students to the concept of wildlife conservation. Have they ever heard of Aldo Leopold, the ‘father of wildlife management’? Ask students if they are familiar with shows like, “Crikey! It’s the Irwins!”, “The Zoo”, or “Bronx Zoo”? What do they have to do with conservation? (Each of these TV shows is about conserving endangered and threatened animals, mainly through breeding programs.) What are some other ways that animals are conserved? What are some animals being conserved in your area? Have students use the “Elk, Walleye, Monarchs and More Pre-Video Questions” while watching the video, Into Bringing Back Wisconsin’s Elk, Lesson 3, to learn more. Review the questions with students before watching the video.

Follow the video with a discussion covering the difference between conservation and stewardship. Include in the discussion the difference between conservation and preservation. Review the questions from the “Elk, Walleye, Monarchs and More Pre-Video Questions”.





ACTIVITY 1: How Do We Conserve? The Big Picture

Discuss the effort it takes to conserve a species. What does it mean to conserve a species? What is preservation and how does it fit into the conservation picture? What is required to conserve a species of wildlife?

1. Have students brainstorm some of things an animal needs to survive.
2. How can conservationists provide these things?
3. Divide the class into small groups. Each group will choose a species, or group of species (i.e.: Monarch butterfly, butterflies, pollinators; Whooping Crane, cranes), to focus on conserving. Focus the activity on local or regional wildlife, if possible.
4. Each group will create a mind map depicting the many elements of conserving a species, using the "How Do We Conserve?" Worksheet as a guide for research.
5. Each group will present their Mind Map and research to the class, allowing time for questions and suggestions from the class.
6. In reviewing the Mind Maps, ask students what they had to consider besides the species they explored? Can we conserve a species without conserving the habitat? Do we really conserve one species at a time? Wrap up with a brainstorming session focused on individuals or groups that are already working to conserve this species or a similar one. Who in your region is doing this work? As they develop their plans, guide students to consider careers and vocations related to wildlife.

ACTIVITY 2: Up Close, At Home Challenge: What can I do in my community to be an active steward?

Have students conduct an independent research project about a species they want to conserve in the form of a poster, paper, PowerPoint, or other approved presentation format. Students will develop a plan for how they can get involved as stewards in the conservation of a species of their choice and will present their project to the class and their families for input and suggestions. Have students use the "Up Close, At Home Challenge" worksheet to guide their research and planning.

CONCLUSION:

After students share their plans with the class, revisit their original Mind Maps to see if there are any more elements they might want to add. Did they consider the cost of all this work? Help students realize that while conservation can seem a bit overwhelming, each student can help make a difference and they now have a plan for taking their first step.

EXTENDING THE LESSON (Options for extended/additional activities and lessons)

- Invite students to pursue their plan and get involved with a local or national group working to conserve the species in which they are most interested.
- Have students look in depth at careers and education they might pursue in order to be involved in stewardship and conservation in a way they feel would be rewarding to them.



ELK, WALLEYE, MONARCHS AND MORE PRE-VIDEO QUESTIONS

Developed by: Phyllis McKenzie



Student Name: _____ Class: _____ Date: _____

Before watching the video or exploring the website, review these questions, look for and write down your answers while watching the video.

1) What is stewardship?

2) What is conservation?

3) What is the Ojibwe word for Walleye? _____

4) How is harvesting fish, or other animals, a part of conservation?

5) What are some ways that harvesting fish in a traditional way help a native community be healthy and strong?

6) How does the traditional Ojibwe way of harvesting fish reflect a commitment to conservation?

HOW DO WE CONSERVE?

Mind Mapping Conservation

Developed by: Phyllis McKenzie



Student Name: _____ Class: _____ Date: _____

A mind map is a diagram showing how various tasks, words, ideas, or items are linked around a central concept. It is one way of documenting a project. Your team is tasked to develop a mind map showing the many faces of conservation – to answer the questions, what is conservation and how does it happen? After creating your mind map, your team will present your diagram to the rest of the class.

Begin by choosing an animal or group of animals you are interested in conserving. Choose an animal found in your area. It might be a mammal, an amphibian, an insect, or some other wildlife. It could be an individual such as a Monarch Butterfly or group of animals like Pollinators.

Once you've chosen your species, place it in the center of your mind map labeled, "How Do We Conserve...?" Now, start to think about all the things your creature needs to survive. Begin to add these to your mind map, clustering them as appropriate. Continue adding to your mind map, using the questions below as a guide:

1. How do you know this animal needs protection?
2. How can a conservationist provide or meet the essential needs of your creature?
3. Who will take care of the animals and ensure they are healthy? How will they know if the animals are healthy?
4. Where will the animals live? Will the animals have habitat?
5. What are some threats to your animal?
6. Are special actions needed to protect the animal? (i.e.: from disturbance, from overharvesting, from poisons)
7. How does stewardship fit into the conservation picture?
8. How will the public know this animal needs help?
9. What professionals might be involved in conserving wildlife like the species on which you are focusing (i.e.: veterinarian, entomologist, game warden, artist, poet, drone or ROV operator, wildlife manager, lawyer)?
10. What role do everyday people, like you, your classmates, or adults you know, play as stewards of wildlife?
11. Who oversees or conducts ceremonies or celebrations regarding your animal?
12. Think about groups you have heard of who are conserving your chosen species. What are they doing?

Refine your mind map and prepare to present it to the class for input and ideas. What are 3 key elements you think are most important to the success of a conservation project?



UP CLOSE, AT HOME CHALLENGE

Developed by: Phyllis McKenzie

Student Name: _____ Class: _____ Date: _____

Working with the information generated in your mind map and class discussion, think where and how you want to be part of the conservation process. Do you want to monitor individual animals, create or restore habitat, inform the public by writing stories, take care of animals, create artwork to share with others, or something else? Your challenge is to develop a plan showing how you will become a steward for a species you want to protect. Along the way you will consider conservation careers that may be of interest to you. Once you've developed and refined your plan, you will share it with your classmates and family.

First, determine what animal you want to get involved with. It might be the animal you mind mapped, or it might be another animal that you are more interested in protecting. Then, begin exploring this animal; describe what you know about it and why it needs to be protected. Discover groups that are working to conserve and protect it. Are there any local groups you can join? Can you attend a meeting, fieldtrip, workday, or participate in a citizen science count? Use the questions below to help you create a detailed plan that shows what steps you can take to help conserve this species beginning right now!

1) What animal do you want to conserve? _____

2) What data and evidence have you found that shows it needs to be protected? What threats does it face?

3) What groups or people do you know of who are already involved in this effort? _____

4) Are there national or statewide efforts underway that you might get involved in? _____



5) What do you need to know to get involved? _____

6) Discover what actions could be most beneficial for this species. _____

7) What jobs or careers associated with the conservation of this species are of interest to you? How can you pursue this career? _____

8) What stewardship actions can you take right now to begin caring for this species? Consider contacting a group or organization that you might be able to volunteer with; what can they suggest for actions? Be careful to think through your abilities and available time. Can you take the action on your own, or will you need someone to drive you to a location? Also, are you choosing an action that may require a long-term commitment? For example, building bluebird boxes can be a great project. However, someone has to monitor the boxes, keep them clean, repair them, close them over the winter and open them in the spring. Offering to build bluebird boxes for an organization may be a great project. At the same time, it could leave that organization with a lot of extra work in the future, if you're not there to take care of all those additional actions. _____

9) Conclude your report by describing how your involvement will enhance this species chances of survival. _____



The following National Common Core Standards can be met teaching;
ELK, WALLEYE, MONARCHS AND MORE

6TH GRADE:

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| CCSS.ELA-LITERACY.RI.6.1 | Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. |
| CCSS.ELA-LITERACY.RI.6.2 | Determine a central idea of a text and how it is conveyed through particular details; provide a summary of the text distinct from personal opinions or judgments. |
| CCSS.ELA-LITERACY.RI.6.4 | Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings. |
| CCSS.ELA-LITERACY.RI.6.6 | Determine an author’s point of view or purpose in a text and explain how it is conveyed in the text. |
| CCSS.ELA-LITERACY.RI.6.7 | Integrate information presented in different media or formats (e.g., visually, quantitatively) as well as in words to develop a coherent understanding of a topic or issue. |
| CCSS.ELA-LITERACY.W.6.2 | Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content. |
| CCSS.ELA-LITERACY.W.6.4 | Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. |
| CCSS.ELA-LITERACY.W.6.5 | With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach. |
| CCSS.ELA-LITERACY.W.6.6 | Use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of three pages in a single sitting. |
| CCSS.ELA-LITERACY.W.6.7 | Conduct short research projects to answer a question, drawing on several sources and refocusing the inquiry when appropriate. |
| CCSS.ELA-LITERACY.W.6.8 | Gather relevant information from multiple print and digital sources; assess the credibility of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and providing basic bibliographic information for sources. |
| CCSS.ELA-LITERACY.W.6.9 | Draw evidence from literary or informational texts to support analysis, reflection, and research. |
| CCSS.ELA-LITERACY.W.6.10 | Write routinely over extended time frames (time for research, reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences. |
| CCSS.ELA-LITERACY.SL.6.1 | Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others’ ideas and expressing their own clearly. |
| CCSS.ELA-LITERACY.SL.6.2 | Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study. |
| CCSS.ELA-LITERACY.SL.6.3 | Delineate a speaker’s argument and specific claims, distinguishing claims that are supported by reasons and evidence from claims that are not. |



CCSS.ELA-LITERACY.SL.6.4

Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation.

CCSS.ELA-LITERACY.SL.6.5

Include multimedia components (e.g., graphics, images, music, sound) and visual displays in presentations to clarify information.

CCSS.ELA-LITERACY.SL.6.6

Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate.

CCSS.ELA-LITERACY.L.6.1

Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

CCSS.ELA-LITERACY.L.6.2

Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.

CCSS.ELA-LITERACY.L.6.3

Use knowledge of language and its conventions when writing, speaking, reading, or listening.

CCSS.ELA-LITERACY.L.6.4

Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 6 reading and content, choosing flexibly from a range of strategies.

CCSS.ELA-LITERACY.L.6.5

Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.

CCSS.ELA-LITERACY.L.6.6

Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.

7TH GRADE:

CCSS.ELA-LITERACY.RI.7.1

Cite several pieces of textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

CCSS.ELA-LITERACY.RI.7.3

Analyze the interactions between individuals, events, and ideas in a text e.g., how ideas influence individuals or events, or how individuals influence ideas or events).

CCSS.ELA-LITERACY.RI.7.4

Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze the impact of a specific word choice on meaning and tone.

CCSS.ELA-LITERACY.RI.7.6

Determine an author's point of view or purpose in a text and analyze how the author distinguishes his or her position from that of others.

CCSS.ELA-LITERACY.W.7.2

Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.

CCSS.ELA-LITERACY.W.7.4

Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

CCSS.ELA-LITERACY.W.7.5

With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.

CCSS.ELA-LITERACY.W.7.6

Use technology, including the Internet, to produce and publish writing and link to and cite sources as well as to interact and collaborate with others, including linking to and citing sources.

CCSS.ELA-LITERACY.W.7.7

Conduct short research projects to answer a question, drawing on several sources and generating additional related, focused questions for further research and investigation.



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| CCSS.ELA-LITERACY.W.7.8 | Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation. |
| CCSS.ELA-LITERACY.W.7.9 | Draw evidence from literary or informational texts to support analysis, reflection, and research. |
| CCSS.ELA-LITERACY.W.7.10 | Write routinely over extended time frames (time for research, reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences. |
| CCSS.ELA-LITERACY.SL.7.1 | Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 7 topics, texts, and issues, building on others' ideas and expressing their own clearly. |
| CCSS.ELA-LITERACY.SL.7.2 | Analyze the main ideas and supporting details presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how the ideas clarify a topic, text, or issue under study. |
| CCSS.ELA-LITERACY.SL.7.3 | Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and the relevance and sufficiency of the evidence. |
| CCSS.ELA-LITERACY.SL.7.4 | Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples; use appropriate eye contact, adequate volume, and clear pronunciation. |
| CCSS.ELA-LITERACY.SL.7.5 | Include multimedia components and visual displays in presentations to clarify claims and findings and emphasize salient points. |
| CCSS.ELA-LITERACY.SL.7.6 | Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate. |
| CCSS.ELA-LITERACY.L.7.1 | Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. |
| CCSS.ELA-LITERACY.L.7.2 | Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing. |
| CCSS.ELA-LITERACY.L.7.3 | Use knowledge of language and its conventions when writing, speaking, reading, or listening. |
| CCSS.ELA-LITERACY.L.7.4 | Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 7 reading and content, choosing flexibly from a range of strategies. |
| CCSS.ELA-LITERACY.L.7.5 | Demonstrate understanding of figurative language, word relationships, and nuances in word meanings. |
| CCSS.ELA-LITERACY.L.7.6 | Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression. |

8TH GRADE:

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| CCSS.ELA-LITERACY.RI.8.1 | Cite the textual evidence that most strongly supports an analysis of what the text says explicitly as well as inferences drawn from the text. |
| CCSS.ELA-LITERACY.RI.8.3 | Analyze how a text makes connections among and distinctions between individuals, ideas, or events. |
| CCSS.ELA-LITERACY.RI.8.4 | Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze the impact of specific word choices on meaning and tone, including analogies or allusions to other texts. |



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| CCSS.ELA-LITERACY.RI.8.6 | Determine an author's point of view or purpose in a text and analyze how the author distinguishes acknowledges and responds to conflicting evidence or viewpoints. |
| CCSS.ELA-LITERACY.RI.8.7 | Evaluate the advantages and disadvantages of using different mediums (e.g., print or digital text, video, multi-media) to present a particular topic or idea. |
| CCSS.ELA-LITERACY.W.8.2 | Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content. |
| CCSS.ELA-LITERACY.W.8.4 | Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. |
| CCSS.ELA-LITERACY.W.8.5 | With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed. |
| CCSS.ELA-LITERACY.W.8.6 | Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas efficiently as well as to interact and collaborate with others. |
| CCSS.ELA-LITERACY.W.8.7 | Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration. |
| CCSS.ELA-LITERACY.W.8.8 | Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation. |
| CCSS.ELA-LITERACY.W.8.9 | Draw evidence from literary or informational texts to support analysis, reflection, and research. |
| CCSS.ELA-LITERACY.W.8.10 | Write routinely over extended time frames (time for research, reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences. |
| CCSS.ELA-LITERACY.SL.8.1 | Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 8 topics, texts, and issues, building on others' ideas and expressing their own clearly. |
| CCSS.ELA-LITERACY.SL.8.2 | Analyze the purpose of information presented in diverse media and formats (e.g., visually, quantitatively, orally) and evaluate the motives (e.g., social, commercial, political) behind its presentation. |
| CCSS.ELA-LITERACY.SL.8.3 | Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and relevance and sufficiency of the evidence and identifying when irrelevant evidence is introduced. |
| CCSS.ELA-LITERACY.SL.8.4 | Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound valid reasoning, and well-chosen details; use appropriate eye contact, adequate volume, and clear pronunciation. |
| CCSS.ELA-LITERACY.SL.8.5 | Integrate multimedia and visual displays into presentations to clarify information, strengthen claims and evidence, and add interest. |
| CCSS.ELA-LITERACY.SL.8.6 | Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate. |
| CCSS.ELA-LITERACY.L.8.1 | Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. |
| CCSS.ELA-LITERACY.L.8.2 | Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing. |



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| CCSS.ELA-LITERACY.L.8.3 | Use knowledge of language and its conventions when writing, speaking, reading, or listening. |
| CCSS.ELA-LITERACY.L.8.4 | Determine or clarify the meaning of unknown and multiple-meaning words or phrases based on grade 8 reading and content, choosing flexibly from a range of strategies. |
| CCSS.ELA-LITERACY.L.8.5 | Demonstrate understanding of figurative language, word relationships, and nuances in word meanings. |
| CCSS.ELA-LITERACY.L.8.6 | Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression. |

6TH-8TH GRADE:

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| CCSS.ELA-LITERACY.RST.6-8.1 | Cite specific textual evidence to support analysis of science and technical texts. |
| CCSS.ELA-LITERACY.RST.6-8.2 | Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions. |
| CCSS.ELA-LITERACY.RST.6-8.4 | Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6-8 texts and topics. |
| CCSS.ELA-LITERACY.RST.6-8.6 | Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text. |
| CCSS.ELA-LITERACY.RST.6-8.8 | Distinguish among facts, reasoned judgment based on research findings, and speculation in a text. |
| CCSS.ELA-LITERACY.RST.6-8.9 | Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic. |
| CSS.ELA-LITERACY.WHST.6-8.2 | Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes. |
| CCSS.ELA-LITERACY.WHST.6-8.4 | Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. |
| CCSS.ELA-LITERACY.WHST.6-8.5 | With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed. |
| CCSS.ELA-LITERACY.WHST.6-8.6 | Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently. |
| CCSS.ELA-LITERACY.WHST.6-8.7 | Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration. |
| CCSS.ELA-LITERACY.WHST.6-8.8 | Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation |
| CCSS.ELA-LITERACY.WHST.6-8.9 | Draw evidence from literary or informational texts to support analysis, reflection, and research. |
| CCSS.ELA-LITERACY.WHST.6-8.10 | Write routinely over extended time frames (time for research, reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences. |



NEXT GENERATION SCIENCE STANDARDS:

- MS-LS2-1.** Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem. [Clarification Statement: Emphasis is on cause and effect relationships between resources and growth of individual organisms and the numbers of organisms in ecosystems during periods of abundant and scarce resources.]
- MS-LS2-2.** Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems. [Clarification Statement: Emphasis is on predicting consistent patterns of interactions in different ecosystems in terms of the relationships among and between organisms and abiotic components of ecosystems. Examples of types of interactions could include competitive, predatory, and mutually beneficial.]
- MS-LS2-4.** Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations. [Clarification Statement: Emphasis is on recognizing patterns in data and making warranted inferences about changes in populations, and on evaluating empirical evidence supporting arguments about changes to ecosystems.]