

Into the Outdoors

PLANNING THE DREAM FAMILY FISHING TRIP

Developed by: Rachel Konkle

In This Activity ...

Students will research, debate, and develop a travel binder of their dream fishing trip. Their trip will consider logic and reasoning on how to keep their family and natural resources safe and responsible during their angling adventure while also evaluating the personal, social, or environmental rewards of fishing.

Educational Partners



GRADE LEVELS

Middle School - Grades 6-8
High School - Grades 9-10

CONTENT AREA

Life Science, Natural Resource Management

UNIT THEME

Outdoor Recreation and Environmental Safety

TOPIC

Angling Safety, Boating Safety, Angling, Stewardship, Recreational Values

TIME REQUIRED

Three, 45-minute sessions



OVERVIEW

Fishing is an outdoor recreational activity on the rise in the United States. Not only can it give families an outdoor adventure on the open water, but it also gives everyone the opportunity to participate in a sustainable lifestyle that offers families the chance to catch nutrient-rich, healthy meat. And anglers' purchase of fishing gear and permits also funds natural resource and fisheries conservation to boot! As a result, there are many personal, social, and environmental rewards of fishing. But for the inexperienced families who lack boating and angling knowledge, planning their first fishing trip in a water environment may be quite puzzling or daunting. This inexperience can lead to serious accidents on the water, unsuccessful or illegal catches, or the loss of wildlife.

Fortunately, there are multiple pathways families can use to get the most out of their fishing trip the safe and right way. Families may dive into the sport of fishing with a fishing guide who can help new anglers discover where to fish, how to use gear and buy permits, and which fishing methods to use. These fishing guides can be relatives or extended family members, or mentors from fishing clubs and organizations. To learn how to protect their family members on the water, anglers can enroll in boater safety course. In fact, most states require people who drive a boat to have their boater certification. New anglers may learn boater safety by taking courses in person or online that are offered by the U.S. Coast Guard and other agencies. But if families wish to continue angling and enjoying their aquatic areas, it is also important they respect their natural resources. Conservationists and fisheries biologists can educate families on how to conserve their fish by following legal limits, and by following proper catch and release procedures. This information can also be found in educational resources posted by state wildlife agencies.

In this lesson, students will assume angling stakeholder roles while researching, debating, and designing a family travel binder for a fishing trip. Their binder presentations will be evaluated on safety considerations for boating and anglers, and responsibility for natural resources.



Enduring Understanding:

Students will understand the different considerations to planning a safe fishing trip. They will also discover the multiple resources they can use to plan future fishing trips.

Content Objectives:

Students will be able to determine boating, fishing, and conservation methods that protect the lives of anglers and preserve natural resources. Students will also research and debate the rewards people can experience on a fishing trip.

Learner Outcomes:

Students will use video and online research to understand safe fishing methods and develop their own family fishing trip in a travel binder. Students will also debate the numerous rewards to responsible fishing for anglers, families, and the environment.

Process Objectives:

Students will work in small and large groups to process new information and use evidence to come to conclusions.

MATERIALS NEEDED:

(for each group, for each student)

- Access to computers and the internet
- Pathways to Safe Angling video and background information at: <http://intotheoutdoors.org/topics/pathways-to-safe-angling/>
- Pre-lesson Student Worksheet with questions to fill in while watching the video
- Student Worksheets for each group
- Binder for each group



PROCEDURES

Session 1:

Before watching the *Pathways to Safe Angling* classroom video or reading the website background information, ask students what kind of fishing trip they have been on or would like to go on if they had the chance. Have the students brainstorm what they would need to know to plan for such a trip. Lead a short discussion that emphasizes the importance of being safe and responsible in aquatic environments.



Have students download, or print and distribute, the **Pre-Lesson Student Worksheet** (copy contained in the web link). Instruct students to fill in the worksheet while watching the video. Go over the questions with the students before viewing so they know what to look and listen for.

After watching the video, review and discuss the answers to the worksheet questions as a class.

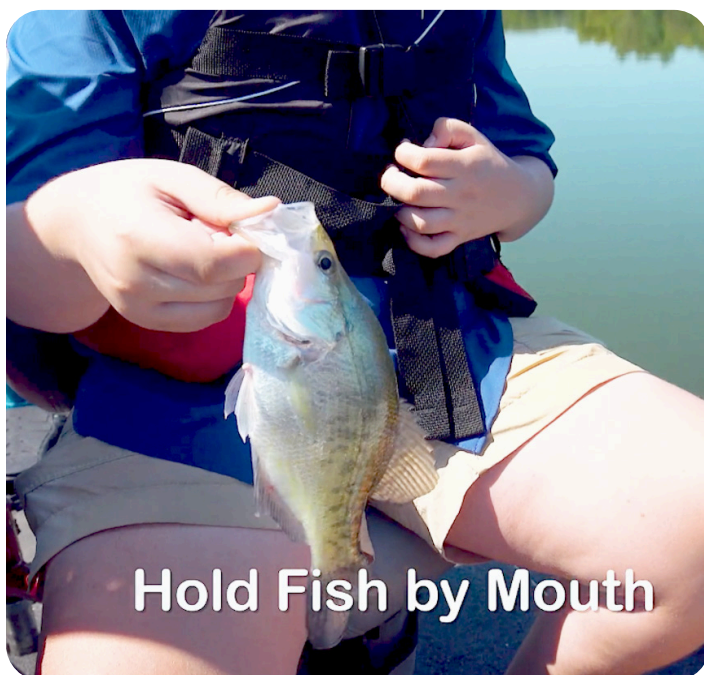
Next, divide the whole class into large groups of six students. Then evenly assign students in each group to an angling role:

- **Fishing Guide**
- **Boater Safety Officer**
- **Fish and Game Warden**

Have students download and print or hand out to each student their respective **Student Worksheet** (copy contained in this PDF and on the web link). Ask them to review the details and assignments of the worksheet in preparation for Session 2.

Session 2 - Team Research & Binder Development

In their small groups, have students perform online research from links provided and from other sources they discover. The worksheets give instructions and research options that will guide students in their information gathering. Then, have the small groups discuss, and plan their family fishing trip. Students will develop, print, and place their trip details in a binder. Encourage students to be creative in designing their binder with graphics,



Hold Fish by Mouth

paints, decór, scrapbook materials, or with other art supplies. Inform each group they will present their binder to the class and their presentation must be supported by factual research.

Session 3: Trip Presentations and Class Debate

Have each group present their **Family Fishing Trip Binder** and supporting research and safety considerations. Limit each group to 6 minutes presentation time followed by two minutes of questions by the other groups. After each group presents their trip, give students an additional two minutes to fill out a **trip review slip** that will encourage students to evaluate how safe and rewarding the trip “was”.

After all groups present their plans, lead an open discussion on what benefits students think their families or others could experience from a fishing trip. Also ask students to share what safety concepts, contacts, or resources they found most useful when planning their trip. Then tally up and average the review scores from each group to determine a winner!

ASSESSMENT

- Students will be informally assessed based on their participation within their groups and during class presentations and discussions.
- Teachers could collect the Pre-Lesson Student Worksheets and formally assess the discussion notes students took during the video to check for completion.
- Students can be assessed on meeting the formal learning objectives based on how thoroughly students completed their research assignment and binder.
- Students can be evaluated on their presentations during Session 3.



EXTENSION ACTIVITIES

Challenge students who are anglers, and those interested in angling, to use this activity as a model for planning a safe group-fishing trip to a popular body of water nearby. Students may connect with real fishing guides, boater safety officers, and fish wardens to review their plans or join them on the trip!

Teachers may copy and print the winning fishing plan trip for students interested in presenting the fishing trip to their family.

RESOURCES FOR TEACHERS & STUDENT RESEARCH

<https://www.takemefishing.org/fish-species/>

<https://www.takemefishing.org/boating/boating-and-water-safety/boat-safety-equipment/>

<https://www.nps.gov/subjects/fishing/how-to-safely-catch-and-release.htm>

<https://crappienow.com/magazine/crappie-kids-corner/>

<https://www.fishbase.se/search.php>

<https://www.fws.gov/fishing/FishingLicense.html>

STANDARDS

The following **National Common Core Standards** can be met teaching:

PLANNING THE DREAM FAMILY FISHING TRIP

Grades 6:

CCSS.ELA-LITERACY.RI.6.	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.6.7	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.6.1	Write arguments to support claims with clear reasons and relevant evidence.
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.6.6	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.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.

Grade 7:

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.7.2	Determine two or more central ideas in a text and analyze their development over the course of the text; provide an objective summary of the text.
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.W.7.1	Write arguments to support claims with clear reasons and relevant evidence.
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.7.6	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.
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.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.

Grade 8:

- 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.8.2 Determine a central idea of a text and analyze its development over the course of the text, including its relationship to supporting ideas; provide an objective summary of the text.
- 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.
- CCSS.ELA-LITERACY.W.8.1 Write arguments to support claims with clear reasons and relevant evidence
- 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.8.6 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.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.8.3	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.
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.

Grades 6-8:

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.6-8.8	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.
CCSS.ELA-LITERACY.WHST.6-8.1	Write arguments focused on discipline-specific content.
CCSS.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.

Grades 9-10:

- CCSS.ELA-LITERACY.RI.9-10.1 Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.
- CCSS.ELA-LITERACY.RI.9-10.2 Determine a central idea of a text and analyze its development over the course of the text, including how it emerges and is shaped and refined by specific details; provide an objective summary of the text.
- CCSS.ELA-LITERACY.RI.9-10.4 Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze the cumulative impact of specific word choices on meaning and tone (e.g., how the language of a court opinion differs from that of a newspaper).
- CCSS.ELA-LITERACY.W.9-10.1 Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.
- CCSS.ELA-LITERACY.W.9-10.2 Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.
- CCSS.ELA-LITERACY.W.9-10.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
- CCSS.ELA-LITERACY.W.9-10.5 Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
- CCSS.ELA-LITERACY.W.9-10.6 Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.
- CCSS.ELA-LITERACY.W.9-10.7 Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
- CCSS.ELA-LITERACY.W.9-10.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.
- CCSS.ELA-LITERACY.W.9-10.9 Draw evidence from literary or informational texts to support analysis, reflection, and research.
- CCSS.ELA-LITERACY.SL.9-10.1 Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9-10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.

CCSS.ELA-LITERACY.SL.9-10.2	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
CCSS.ELA-LITERACY.SL.9-10.3	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.
CCSS.ELA-LITERACY.SL.9-10.4	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
CCSS.ELA-LITERACY.SL.9-10.5	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
CCSS.ELA-LITERACY.SL.9-10.6	Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate.
CCSS.ELA-LITERACY.L.9-10.1	Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
CCSS.ELA-LITERACY.L.9-10.2	Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
CCSS.ELA-LITERACY.L.9-10.3	Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.
CCSS.ELA-LITERACY.L.9-10.4	Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grades 9-10 reading and content, choosing flexibly from a range of strategies.
CCSS.ELA-LITERACY.L.9-10.5	Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.
CCSS.ELA-LITERACY.L.9-10.6	Acquire and use accurately general academic and domain-specific words and phrases, sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.
CCSS.ELA-LITERACY.RST.9-10.1	Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.
CCSS.ELA-LITERACY.RST.9-10.2	Determine the central ideas or conclusions of a text; trace the text's explanation or depiction of a complex process, phenomenon, or concept; provide an accurate summary of the text.
CCSS.ELA-LITERACY.RST.9-10.4	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 9-10 texts and topics.
CCSS.ELA-LITERACY.RST.9-10.9	Compare and contrast findings presented in a text to those from other sources (including their own experiments), noting when the findings support or contradict previous explanations or accounts.
CCSS.ELA-LITERACY.WHST.9-10.1	Write arguments focused on discipline-specific content.
CCSS.ELA-LITERACY.WHST.9-10.2	Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes.
CCSS.ELA-LITERACY.WHST.9-10.4	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
CCSS.ELA-LITERACY.WHST.9-10.5	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
CCSS.ELA-LITERACY.WHST.9-10.6	Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.

- CCSS.ELA-LITERACY.WHST.9-10.7 Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
- CCSS.ELA-LITERACY.WHST.9-10.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.
- CCSS.ELA-LITERACY.WHST.9-10.9 Draw evidence from informational texts to support analysis, reflection, and research.

Next Generation Science Standards for ...

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- 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.]
- HS-LS2-6. Evaluate claims, evidence, and reasoning that the complex interactions in ecosystems maintain relatively consistent numbers and types of organisms in stable conditions, but changing conditions may result in a new ecosystem. [Clarification Statement: Examples of changes in ecosystem conditions could include modest biological or physical changes, such as moderate hunting or a seasonal flood; and extreme changes, such as volcanic eruption or sea level rise.]
- HS-LS2-8. Evaluate the evidence for the role of group behavior on individual and species' chances to survive and reproduce. [Clarification Statement: Emphasis is on: (1) distinguishing between group and individual behavior, (2) identifying evidence supporting the outcomes of group behavior, and (3) developing logical and reasonable arguments based on evidence. Examples of group behaviors could include flocking, schooling, herding, and cooperative behaviors such as hunting, migrating, and swarming.]

