Into the Outdoors

TACKLING WALLEYE FISHING MYTHS

Developed by: Rachel Konkle

In This Activity ...

Students will research, debate, and develop tackle boxes for a walleye fishing trip that is filled with notecards on walleye angling strategies. Their tackle boxes will consider walleye biology and angling methods that anglers and families may use to debunk myths about the elusive walleye.

Educational Partners

SPORT FISH RESTORATION

FUTURE ANGLER FOUNDATION
FAF

TACKLING WALLEYE FISHING MYTHS

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

CONTENT AREA
Natural Resources Management,
Ichthyology, Environmental Science,
Aquatic Ecology

UNIT THEME
Outdoor Recreation Science

TOPIC
Walleye Biology, Angling, Fishing Gear,
Habitat

TIME REQUIRED
Three, 45-minute sessions

OVERVIEW

Fishing is an outdoor recreation that can reward people with life skills, such as navigation, communication, survival, sustainability, and more. And to successfully acquire these skills, anglers must understand and practice the techniques to this outdoor sport. However, there are over 1,000 freshwater fish species in the United States … and each fish species has unique behaviors. This means there are a plethora of gear, methods, and strategies anglers use to catch fish, which can be challenging to new anglers and families who are starting the sport.

Some families and anglers will target one species of fish. And one of the most popular gamefish that anglers seek for in American water bodies is the walleye. This fish is a predator that inhabits rivers and lakes across the country and makes for tasty table fare. But this fish is elusive and picky in nature, and can stump even the most experienced anglers. That's why many anglers call this mystery fish the "golden prize". As a result, there are many myths surrounding the walleye. But anglers who do their research on walleye biology and fishing techniques can experience the fun of putting the fish in their boat regularly.

In this lesson, students will research, debate, and develop a "tackle box" for walleye fishing that is filled with walleye biology and angling tips for anglers. The students will utilize their tackle box in a myth-buster challenge where they will debate and debunk walleye fishing myths. The tackle box and fishing team that receives the most points wins the challenge.

ENDURING UNDERSTANDING:

Students will understand that fishing is a science that requires knowledge in fish biology, behaviors, and habitat. Students will also understand the general methods and gear that anglers may use to target fish.

CONTENT OBJECTIVES:

Students will be able to evaluate the biological concepts that determine angling strategies in freshwater ecosystems.

LEARNER OUTCOMES:

Students will use video and online research to determine walleye fishing patterns and techniques in order to develop a tackle box of fishing tips. Students will debate the walleye fishing myths by referring to their tackle boxes.

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
- Techniques to Walleye Fishing video and background information at: http://intotheoutdoors.org/topics/techniques-to-walleye-fishing/
- Pre-lesson Student Worksheet with questions to fill in while watching the video
- Student Worksheets for each group
- Tackle boxes or shoe boxes
- Notecards
- Art supplies for each group: construction paper, paper, glue, coloring pencils

PROCEDURES

Session 1

Before watching the **Techniques to Walleye Fishing** classroom video or reading the website background information, ask students what they already know about the techniques of fishing. Ask students who have already gone fishing to share what gear or methods they used to catch fish. Lead a short discussion on how fishing also relates to fish biology.

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 small groups of four students.** Then have students download and print, or hand out to each student a Student Worksheet (copy contained in the web link). Ask them to review the details and assignments of the worksheet in preparation for Session 2.

Session 2 – Team Research & Fishing Report Development

In their assigned 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 design their tackle box for walleye anglers. Inform students they should fill their tackle boxes with walleye fishing tips. Encourage students to use their imaginations by drawing or printing pictures on their notecards, molding fishing bait or tackle from clay, or including actual documents of regulations or fishing licenses. Inform each group they will be utilizing their tackle boxes to solve walleye fishing mysteries in a myth-buster challenge. The group to crack the most myths will have the winning tackle box.

Session 3 – Fishing Report Presentations and Class Debate

Start the session by allowing groups to showcase their tackle box to the class. Limit their showcase to a minimum. Then ask students to organize into their teams and begin the myth-buster challenge. A list of walleye myths and questions (with answers) is provided at the bottom of this lesson guide. Read off questions to the class and give groups 1 minute

Educational Partners

to dig around in their tackle boxes and debate answers. Every group that answers a question correctly receives a point. Continue reading questions. The group to receive the largest amount of points wins the myth-buster challenge! If there is a tie, use the bonus question to break the tie. The group to first answer correctly wins.

After completing the myth-buster challenge, open the floor to discussion on how anglers can prepare for a successful fishing trip. Highlight the importance of understanding biology and science for fishing. Ask students what resources and topics they found useful when decoding which walleye fishing tips to include in their tackle boxes. **Conclude the discussion** by announcing that the winning group's tackle box will be distributed to the community. Encourage the class to improve the winning tackle boxes by including walleye myths and truths from the challenge. Then help the class distribute the tackle box to a fishing club or local bait and tackle shop. Create a sign for the tackle box that encourages anglers to review the contents of the tackle box for walleye fishing tips. Anglers may also contribute by adding other fishing tips to the tackle box and build community support in the sport.

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 their 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 group worksheets and tackle boxes.

- Students can be evaluated on their presentations during Session 3.

EXTENSION ACTIVITY

Have the class use the myth-buster challenge and what they have learned about walleye fishing techniques to create a "fishing forecast" news report. The students must pick a water body nearby and create a news report that predicts the best times and places to fish while also recommending what gear and tackle to pack for the trip.

MYTHBUSTER CHALLENGE QUESTIONS

- Walleye tend to hug the bottom of water bodies. **TRUTH**

- What depths should anglers present bait? **6 inches to 2 feet from the bottom.**

- Walleyes feed all night and are not very hungry during the day. **MYTH**

- What time of day will walleye bite the most? **Dawn, dusk, night (Low-light conditions).**

- You can catch more walleye when it's windy (otherwise known as the "walleye chop"). **TRUTH**

- What is the minimum age that anglers are required to purchase a fishing license in your state? **(check your state's age requirements for fishing licenses)**

- You need big baits to catch big fish. **MYTH**

- What organisms do walleyes prey on that anglers can "match the hatch" to? **Yellow perch, minnows, crayfish, leeches, and insects.**

- Never fish for walleye with a banana in the boat. **MYTH**

- What water temperatures do walleyes prefer? **60 – 70 degrees Fahrenheit**

- You can't catch walleye the entire year because they lose their teeth in the summer. **MYTH**

- You can't catch walleyes in the shallows. **MYTH**

- Name three underwater structures walleye tend to hang out by. **Shorelines, docks, piers, sunken objects, bridges, weed beds, debris piles, rock piles, humps, inlets and outlets, holes, reefs, flats, open water.**

- You can find walleye in both turbid and clear water. **TRUTH**

- Name four possible ways to catch walleye. **Drift fishing, trolling, still fishing, jigging, slip bobbers, spinners, live bait rigs.**

- Walleye are likely to spit out the bait if they feel resistance. **TRUTH**

- What kinds of rods can walleye anglers use? **Trolling, spinning, jigging.**

- When the wind is from the east, the fish bite the least. **MYTH**

- Walleye don't bite after they spawn. **MYTH (walleye expend a lot of energy when spawning and will feed more)**

- How many walleye can an angler legally catch in a day? **(check your state's creel or bag limit)**

- The speed you present your bait depends on the water temperature. **TRUTH**

- Walleye only like shiny lures. **MYTH (will bite basic colors like purple and green)**

- What baits can be used to catch walleye? **Crankbaits, jigs, spinner baits, plugs, spoons, swimbait, live bait such as minnows, leeches, nightcrawlers, fatheads, chubs.**

- Walleyes are not very big fighters when reeling them in. **MYTH (can be aggressive in fall)**

- How long must a walleye be for you to keep it? **(check size limit in your state)**

- **Bonus Question:** Determine what depths (shallow or deep) that anglers should fish for walleye in each of the seasons. **Spring and Fall = Shallow. Summer and Winter = Deep**

RESOURCES FOR TEACHERS & STUDENT RESEARCH

- https://www.takemefishing.org/getmedia/709b0fed-faac-4c2c-9dca-3793679ae046/How-to-Walleye-Fish-Tailored-Tackle-Take-Me-Fishing-Book.pdf

- https://www.fws.gov/fisheries/freshwater-fish-of-america/walleye.html

- https://dnr.wi.gov/news/Weekly/article/?id=4234

- https://www.outdoorlife.com/articles/fishing/2007/09/walleye-playbook/

- http://www.biokids.umich.edu/critters/Sander_vitreus/

STANDARDS

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

TACKLING WALLEYE FISHING MYTHS

Grade 6:

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.6.7	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.6.6	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.7.2	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.8.2	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.6-8.2	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.9-10.4	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.9-10.2	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.9-10.2	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 …

TACKLING WALLEYE FISHING MYTHS

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.]
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.]