



A FAMILY THAT FISHES TOGETHER...
PEER-DRIVEN HIGH SCHOOL DISCUSSION GUIDE

DEVELOPED BY ANDY MEDDAUGH

In This Activity...

Students will research and debate different family perspectives in developing a comprehensive fishing plan for preserving the sanity of a family out on a camping trip. Their plan will consider the needs of humans, natural resources, and the behavior of the fish in a freshwater lake.

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GRADE LEVELS

High School - Grades 9-12

CONTENT AREAS

Environmental Science, Natural Resource Science

UNIT THEME

Outdoor Recreation, Aquatic Wildlife Behavior, and Social Construct

TOPICS

Natural Resources Ethics, Environmental Preservation, Social Dynamics

TIME REQUIRED

Four, 45-minute sessions

OVERVIEW

Today's family is busier than ever. Mom and Dad are both working, saving for the future, paying for food, clothes and shelter... it's no wonder that people have trouble finding time to spend as a family. Going fishing with your family can be a great way to enjoy some time together, create incredible memories, and bond through an activity that everyone can enjoy. Quality time with the family is a wise investment and a day on the lake catching fish is a great way to accomplish that.

In this lesson, students will assume the roles of members of a family planning out a day of fishing while out on a camping trip. These groups all have the goal of family bonding in mind, but they may also have conflicting needs and wants for their day on the water. Researching, presenting, and debating, these family members will eventually come to a conclusion about when this trip will take place. The various groups will set the stage for peer-driven learning and debate, where the entire class will ultimately vote on a time of day and weather forecast that they feel best serves their entire family.



CONCEPT Outdoor Recreation Planning

ENDURING UNDERSTANDING:

Students will understand the differences between managing outdoor resources for the benefit of human recreation versus the long-term health of recreational ecosystems.

CONTENT OBJECTIVES:

Students will be able to evaluate the environmental and social considerations that determine what makes for a successful day of family bonding and fishing success, and will be able to develop a plan and debate the plan's benefits to the recreational health of their family and the ecosystem where they recreate.

LEARNER OBJECTIVES:

Students will use online research to determine what solutions and strategies best represent the needs of the group they belong to in the lesson. Students will use other online research, group discussions and debate to develop their own angling plan that combines social, environmental, and recreational resource considerations.

PROCESS OBJECTIVES:

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

MATERIALS NEEDED (each group, each student):

- Access to computers and the Internet
- video and background information at; <https://intothetheoutdoors.org/topics/weather-conditions-and-fish-behavior/>
- Pre-lesson Worksheet with questions to fill in while watching the video
- Four (4) Student Group Recreational Planners Worksheets;

PROCEDURES

Session 1 – A Family That Fishes Together...

Before watching the video, or reading the website background information, ask students about the fundamental concepts of outdoor ethics. Also ask students how they may have practiced certain outdoor ethics during their recreational pursuits. Lead a short discussion on what students have learned about their role in their family dynamic.

Have students download, or print and distribute the Pre-Lesson Student Worksheet (free PDFs on 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 viewing the video, review and discuss the answers to the questions as a class. Encourage discussion.

Next, divide the class into these four (4) groups:

1. **Jamie**
2. **Alex**
3. **Casey**
4. **Lane**

Inform students they will be working together as teams within their

PROCEDURES *(continued)*

stakeholder group to achieve their assigned goals in Sessions 2, 3 and 4.

Session 2 - Team Research & Plan Development

Have the groups of students download and print their respective worksheets and review the background information on the website (free PDFs on the web link). Each of the four (4) stakeholder groups have specific and sometimes conflicting subjective goals in developing their angling plan. In their separate assigned groups, have students perform online research from the links provided, plus other sources they discover, then discuss and develop their group's plan. The worksheet provides instructions and research guidelines for students to gather information. Inform each group that two members of their group will also present their angling ethics recommendations to the class during Session 3. Their presentations should be supported by factual research and/or evidence, and presented with at least one form of art or media prepared by the group (either video, poster, graphs, charts, images, or aquatic ecosystem art). charts, images, or art).

Session 3 - Stakeholder Group Presentations & Class Debate

Have each group present their Angling Plan and supporting research and reasons for key points in their plan. Limit each group to four minutes presentation time followed by two minutes of questions by the other groups.

After all four groups present their plans, lead a group discussion on how the various members of the family might work through their differences in the best interest of the family and the successfulness of when and where they fish.

Conclude Session 3 by assigning all of the groups to consider modifying their respective Angling Plan to now include the goals and interests of at least two other groups. Inform students that two students from each group will make a final presentation of their revised plan. Their presentations should include the reasons why they changed their plans and how those changes support other groups while still protecting their key goals.

Session 4 – Modified Presentations & Class Vote on Winning Plan

Instruct the class that they will participate in a final series of presentations and class debate before voting on which group has developed the winning Angling Plan.

Have each group present their revised and final Angling Plan and supporting research and reasons. Limit each group to four minutes presentation time and limit questions to a minimum.

After all the final presentations, it's time for the "family" to decide on a day and time for their trip. Limit the debate to ten minutes. Have the students vote on the winning Angling Plan.

Conclude the discussion by challenging students who are anglers, and those interested in angling, to plan a group-fishing trip to a popular body of water to demonstrate their new angling plan.

ASSESSMENT

Students will be informally assessed based on their participation within their groups and during class presentations and discussions. Teachers could collect the discussion notes students took during the video to check for completion.

Students can be formally assessed using their Student Worksheets. Students can be assessed on meeting the formal learning objectives on how thoroughly students completed their respective worksheets.

SPECIAL CONSIDERATIONS:

This activity is richest when completed in groups with answers shared to a whole class. The student worksheet is not a typical worksheet as it encourages students to construct knowledge as they answer questions. The questions build off of each other.

RESOURCES

- **Research the resources offered on this topic's web page** <https://intotheoutdoors.org/topics/weather-conditions-and-fish-behavior/>
- **How to catch fish** <https://www.takemefishing.org/how-to-fish/>
- **Find fishing waters and boat rentals.** <https://https://www.takemefishing.org/how-to-fish/>
- **Get kids fishing.** <https://kidsfishing.us/>
- **How weather affects fishing** <https://fishingbooker.com/>



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

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.RI.9-10.7 Compare and contrast a text to an audio, video, or multimedia version of the text, analyzing each medium's portrayal of the subject (e.g., how the delivery of a speech affects the impact of the words).

CCSS.ELA-LITERACY.RI.9-10.8 Trace and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient to support the claims.

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.9-10.4 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.9-10.5 Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).

CCSS.ELA-LITERACY.RST.9-10.7 Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.

CCSS.ELA-LITERACY.RST.9-10.8 Assess the extent to which the reasoning and evidence in a text support the author's claim or a recommendation for solving a scientific or technical problem.

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.9-10.4 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.

CCSS.ELA-LITERACY.WHST.9-10.10 By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.

Grades 11-12:

CCSS.ELA-LITERACY.RI.11-12.1 Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain.

CCSS.ELA-LITERACY.RI.11-12.4 Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze how an author uses and refines the meaning of a key term or terms over the course of a text (e.g., how Madison defines faction in Federalist No. 10).

CCSS.ELA-LITERACY.RI.11-12.7 Integrate and evaluate multiple sources of information presented in different media or formats (e.g., visually, quantitatively) as well as in words in order to address a question or solve a problem.

CCSS.ELA-LITERACY.W.11-12.1 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.11-12.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

CCSS.ELA-LITERACY.W.11-12.5 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.11-12.6 Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.

CCSS.ELA-LITERACY.W.11-12.7 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.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.

CCSS.ELA-LITERACY.W.11-12.9 Draw evidence from literary or informational texts to support analysis, reflection, and research.

CCSS.ELA-LITERACY.SL.11-12.1 Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11-12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.

CCSS.ELA-LITERACY.SL.11-12.2 Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.

CCSS.ELA-LITERACY.SL.11-12.3 Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.

CCSS.ELA-LITERACY.SL.11-12.4 Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.

CCSS.ELA-LITERACY.SL.11-12.5 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.11-12.6 Adapt speech to a variety of contexts and tasks, demonstrating a command of formal English when indicated or appropriate.

CCSS.ELA-LITERACY.L.11-12.1 Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

CCSS.ELA-LITERACY.L.11-12.2 Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.

CCSS.ELA-LITERACY.L.11-12.3 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.11-12.4 Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grades 11-12 reading and content, choosing flexibly from a range of strategies.

CCSS.ELA-LITERACY.L.11-12.5 Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.

CCSS.ELA-LITERACY.L.11-12.6 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.11-12.1 Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.

CCSS.ELA-LITERACY.RST.11-12.2 Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.

CCSS.ELA-LITERACY.RST.11-12.4 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 11-12 texts and topics.

CCSS.ELA-LITERACY.RST.11-12.5 Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.

CCSS.ELA-LITERACY.RST.11-12.6 Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved.

CCSS.ELA-LITERACY.RST.11-12.7 Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.

CCSS.ELA-LITERACY.RST.11-12.8 Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.

CCSS.ELA-LITERACY.RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.

CCSS.ELA-LITERACY.RST.11-12.10 By the end of grade 12, read and comprehend science/technical texts in the grades 11-CCR text complexity band independently and proficiently.

CCSS.ELA-LITERACY.WHST.11-12.1 Write arguments focused on discipline-specific content.

CCSS.ELA-LITERACY.WHST.11-12.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

CCSS.ELA-LITERACY.WHST.11-12.5 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.11-12.6 Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or

information.

CCSS.ELA-LITERACY.WHST.11-12.7 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.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.

CCSS.ELA-LITERACY.WHST.11-12.9 Draw evidence from informational texts to support analysis, reflection, and research.

CCSS.ELA-LITERACY.WHST.11-12.10 Write routinely over extended time frames (time for 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:

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-LS2-7. Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity.* [Clarification Statement: Examples of human activities can include urbanization, building dams, and dissemination of invasive species.]

HS-LS2-8. Evaluate 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.]

HS-LS4-5. Evaluate the evidence supporting claims that changes in environmental conditions may result in (1) increases in the number of individuals of some species, (2) the emergence of new species over time, and (3) the extinction of other species. [Clarification Statement: Emphasis is on determining cause and effect relationships for how changes to the environment such as deforestation, fishing, application of fertilizers, drought, flood, and the rate of change of the environment affect distribution or disappearance of traits in species.]