



Primary Source Activity: What if the Mosquitos Disappeared?

Type of Teacher Tool: Whole Class, Individual/Differentiation

Targeted Grade Level(s): 9-12

Targeted Curriculum Areas: Life Science / Ecology

Essential Question: Why do nuisance animals exist?

Learning Objectives:

The learner will:

1. research the pros and cons of mosquitos in our environment using primary source materials.
2. create a judgement supporting either the pro or the con based upon research findings.
3. write an argumentative essay that defends the judgement.
4. show evidence of standard research methods and documentation.

Featured National Standards:

1. Missouri Grade Level Expectations
Science 9-12.LS2.C.2.
Design, evaluate, and/or refine solutions that positively impact the environment and biodiversity.
2. Common Core State Standards
 - CCSS.ELA-LITERACY.WHST.9-10.1
Write arguments focused on discipline-specific content.
 - CCSS.ELA-LITERACY.WHST.9-10.1.A
Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence.
 - CCSS.ELA-LITERACY.WHST.9-10.1.B
Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns.
 - CCSS.ELA-LITERACY.WHST.9-10.1.E
Provide a concluding statement or section that follows from or supports the argument presented.

Resources/Materials Needed:

1. Videos from Educate.Today
 - a. [Nature 14: Ways to Control Mosquitos](#)
 - b. [Nature 12: Do Mosquitos do any good things for the environment?](#)
 - c. [Nature 10: Identifying a Male from a Female Mosquitos](#)
 - d. [Nature 11: Do all Mosquitos spread diseases to humans?](#)
 - e. [Nature 13: The Life Cycle of a Mosquito](#)
 - f. [Nature 19: The Effectiveness of Mosquito Repellants](#)
2. Access to Primary Source databases such as Infotrac, Science Reference Center

Teacher Instructions:

1. Pose the problem and explain the assignment. Mosquitos are a nuisance, causing uncomfortable bites and possible illness. But what would happen if we found a way to eradicate them completely? Explain to the students that they are to research the issue using primary sources, including the videos from Educate.Today and journal articles they access on Primary source databases.
2. If this assignment will be graded as a research paper, then students need the framework for that, and possible pre-teaching on the use of databases and visual primary source information.
3. If the assignment will be an introduction to using primary sources, the students need a framework for analyzing different types of resources. More information can be found here <http://www.loc.gov/teachers/usingprimarysources/guides.html>
4. Give the students ample time to gather information. This type of assignment lends itself to blended learning (students could watch the video outside of class time).
5. Construction of the formal essay using MLA standard citations and guideline is the main objective of this lesson. Length is set by your standards.

Extension Activity

1. Brainstorm solutions to the ‘Mosquito Problem’ that maintains their valuable contributions to our environment while minimizing their nuisance factor.

Assessment/Evaluation Option

1. Consider using a rubric such as this sample to guide students while they are writing as well as to grade their final project. https://lsa.umich.edu/content/dam/sweetland-assets/sweetland-documents/teachingresources/GivingFeedbackonStudentWriting/Sample_EssayGradingRubric.pdf
2. Research evidence, notecards and notes, could be part of the grade or formative assessment before the students begin the final essay.