



MEGA:BITESS Lesson Plan

Lesson plans related to Medical Entomology & Geospatial Analyses:
Bringing Innovation To Teacher Education & Surveillance Studies

<https://www.megabiteess.org/>

Lesson plan title: Mosquito Basics

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Lesson plan school(s): Bearden Middle School

Required background

All needed materials will be housed within this website.

<https://sites.google.com/view/clubbiteess/home>

Students can work their way through each lesson independently or as directed by an instructor as a part of a club, group, or organization.

Before leading this lesson, the instructor should become familiar with basic information about mosquitoes. It can be found in the google slide show on the above linked website.

It is recommended that the instructor work through lesson one on the website so that they are familiar with the materials and activities students will be completing.

There is a google form quiz to test understanding of the materials in the Google Slides. This is set up to give a score and automatic feedback.

Objectives

I can....

- Use vocabulary in proper scientific context such as vector, host, and pathogen
- Identify mosquitoes found locally
- Recognize the life cycle of local mosquitoes
- Describe how mosquitoes communicate
- Identify the species of mosquitoes that impact our study
- Explain which species of mosquito is invasive and how it might be impacting native mosquito behavior and populations

Standards addressed

Tennessee Science Standards

6.LS2.2 Determine the impact of competitive, symbiotic, and predatory interactions in an ecosystem.

6.LS2.2.5 Analyze existing evidence about the effect of a specific invasive species on native populations in Tennessee and design a solution to mitigate its impact.

6.LS2.2.6 Research the ways in which an ecosystem has changed over time in response to changes in physical conditions, population balances, human interactions, and natural catastrophes.

6.LS2.2.7 Compare and contrast auditory and visual methods of communication among organisms in relation to survival strategies of a population.

7.LS3.1 Hypothesize that the impact of structural changes to genes (i.e., mutations) located on chromosomes may result in harmful, beneficial, or neutral effects to the structure and function of the organism.

NGSS

MS-LS2-1 Ecosystems: Interactions, Energy, and Dynamics: Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem.

MS-LS2-2 Ecosystems: Interactions, Energy, and Dynamics

Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.

MS-LS1-5 From Molecules to Organisms: Structures and Processes

Construct a scientific explanation based on evidence for how environmental and genetic factors influence the growth of organisms.

Primary task

This lesson will give students general information about mosquitoes, vectors, and the spread of mosquito-borne illness.

Other activities

Videos

Google Slides

Google Form quiz

Digital breakout

Assessment

- Google Form quiz
- Digital Breakout

Materials/links

<https://sites.google.com/view/clubbitess/home>

Potential limitations/issues to anticipate

Internet access may not be available for all students and they may need to access the content asynchronously.

Teachers may want to set up virtual meetings with their club members if they are unable to meet in person. When there are bandwidth issues, having students turn off their camera can help them hear and see others in the meeting.