

Asian Longhorned Beetle Sample Lesson Plan

Below is a sample lesson plan that can be used to teach children about Asian Longhorned Beetle. You can adapt this to your needs, or contact MDAR and we will work with you to develop your own plan.

Goals

Students should...

- Understand why we need trees and how their loss would impact the environment, the economy and the students themselves
- Be aware of and be able to recognize Asian Longhorned Beetle (“ALB”) and the damage it causes

Objectives

Students will...

Cognitive

- List three “services” provided by trees that we would lose if ALB is allowed to spread
- Correctly identify three types of host trees
- Identify the three main characteristics of ALB:
 1. shiny black with white spots
 2. long banded antennae
 3. blue feet
- Identify three signs that ALB is damaging a tree:
 1. exit holes
 2. oviposition sites
 3. frass
- List three actions being taken to ensure eradication:
 1. survey
 2. infested tree removal
 3. delimiting restricted areas
- Explain why it is important not to move wood out of these areas and describe other actions they can personally take to prevent the spread of ALB

Emotional

- Feel a connection to and a sense of ownership of the trees in their lives and the contributions that trees make to us and to our ecosystem
- Be inspired to further explore invasive species and what they can do to help curb their spread

Behavioral

- Perform a tree survey (maybe in conjunction with other activities) at least once more after this lesson
- Understand why not to move firewood and discourage others from doing so
- Call the hotline or go online to report a suspicious beetle or tree damage

Massachusetts Standards Addressed (Biology Strand)

- PreK– 2: 1, 3, 7
- 3-5: 2, 3, 7, 10
- 6-8: 13, 17
- High School: 6.1, 6.2
- Additional standards will depend on activities chosen

Prerequisites (May be covered in lesson if no prior knowledge)

- Knowledge of ecosystems and the impact invasive species have on them
- Knowledge of the manner of spread of invasive species

Materials

- Interactive PowerPoint presentation, or printed illustrations/visuals
- Mounted or acrylic case specimens of ALB
- Wood samples and photos of ALB damage
- ID Cards, bookmarks, temporary tattoos, buttons, etc.
- Bag with “Metaphor-ests” items
- “Lurking in the Trees” DVD

Procedure

Lesson

1 min: Introduction

- MDAR, ALB Outreach Coordinator

5 min: Solicit prior knowledge

- Review of ecosystems and invasive species, as needed
- Discuss what students may know about ALB already

35-40 min: PowerPoint presentation or interactive lesson

- What is “ALB”?
Discuss invasive species, ALB and the damage it causes, and how to identify it. Show specimens of ALB and hand out ID cards & bookmarks.
- Why should you care?
Do “Metaphor-ests” Activity: Students pull items out of a bag and tell how they represent trees/forests or something trees do for people, animals or the environment.
- What are the origins of ALB?
Briefly explain how ALB arrived in the USA (in solid wood packaging material like crates and pallets) and how it has spread (movement of infested wood)
- What is the beetle’s biology?
Review the life cycle of the beetle and damage it causes at different stages.
- What are the host trees of ALB, and how do you recognize tree damage?
Present further information on tree damage; pass around samples of damaged wood.

Procedure (cont.)

- What are some examples of look-alike species and look-alike tree damage?
POP QUIZ! Look at photos and determine which ones actually show ALB or ALB tree damage
- What is the Massachusetts ALB Eradication Program?
Outline what the government is doing to eliminate the beetle.
- How can you report a possible sighting?
Brainstorm about how students can prevent the spread of ALB, then explain how to do a tree survey and outline other actions students can take.

Activities

Choose an age-appropriate activity from the ALB Educational Activities document, as time allows.

Assessment/Follow Up

- 5 min: Do a “ball toss” to spot-check student knowledge for facts about host trees, tree damage, and ALB identification. May be done outside. Pass out worksheets or additional materials for students.
- Give students “homework” of organizing a tree survey or informally surveying trees near them. Provide a time frame and check back when they should be complete.
- Forest Exchange box – See Project Learning Tree teacher handout. Please use contact info below to let MDAR know if you participate.
- Make a mnemonic device for remembering the types of host trees (MDAR would love to hear from you if you do!)
- Watch the ALB documentary “Lurking in the Trees” (if you did not receive a copy, you can order one free of charge using the contact info below). You may also be interested in the movie “BUGGED” (visit www.buggeddocumentary.com for details).

For more information, contact:

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