Integrating “A Forest Insect Alphabet” and “Edge of Life: Forest Pathology Art” in Teaching Forest Insects and Diseases

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Quality Enhancement Plan:
The focus of the QEP is to improve Higher Order Thinking Skills and student success by incorporating high-impact practices into targeted undergraduate curricula
Charles Jones La Nana Creek Press

David L. Kulhavy, Arthur Temple College of Forestry and Agriculture
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Emerald Ash Borer

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Emerald Ash Borer

E is for

Agrilus planipennis,

Arrived in North America

 Millions of ash now are dead
and more will soon be lost.
Basic Knowledge

David L. Kulhavy, Arthur Temple College of Forestry and Agriculture
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Marianne Prue, Ohio Department of Natural Resources - Division of Forestry, Bugwood.org

EAB Sample Locations
- 35,000 Points within 100 miles
- 15,000 Points beyond 100 miles

U.S. Counties
- EAB Infested or Likely Infested
- Within 100 Miles of EAB Infestation
- Greater than 100 Miles from Infestation
- Ash Range

The Emerald Ash Borer (EAB) Sample Design prioritizes detection and monitoring locations based on EAB risk using a spatially balanced random sampling methodology. U.S. counties where EAB has been detected or is likely to already exist were excluded from the potential sample area. This map shows 35,000 sample locations within 100 miles of excluded counties and 15,000 samples beyond the 100 mile buffer.
Emerald Ash Borer Gallery

Basic Knowledge
Synthesis and Creativity

David L. Kulhavy, Arthur Temple College of Forestry and Agriculture
Stephen F. Austin State University
Learning Monarch Butterfly

• Comprehension of Text and Maps
• Enhanced by map, text and symbols
Learning

• Dual Coding Theory + Conjoint Retention
• Maps + Symbols
• When we view an image (e.g. map) we encode the components of the image (features + location).
• When we read, we form cognitive links that facilitate retention of information
• R. W. Kulhavy and W. Stock
The monarch butterfly, *Danaus plexippus*, migrates (moves with direction) from Canada, from the eastern United States to over wintering sites on oyemel (sacred fir), *Abies religiosa* in the Transvolcanic Plateau mountains of central Mexico. The monarch butterfly undergoes complete metamorphosis from egg to larva (caterpillar) to pupa (chrysalis) to adult. The orange and white butterfly is a strong flier and is the state insect of Texas.
M is for fluttering on the breeze
Monarch Butterflies
Traveling over three countries
Dog Vomit Slime Mold

David L. Kulhavy, Arthur Temple College of Forestry and Agriculture
Stephen F. Austin State University
Music
Creativity
Kudzu
U is for Unicorn Caterpillar
please don’t touch that spine
Caterpillars feed gregariously
EDGE OF LIFE
Forest Pathology • Art

Michelle Rozic, School of Art
David L. Kulhavy,
Arthur Temple College of Forestry
and Agriculture
Stephen F. Austin State University
Red Heart Synthesis

David L. Kulhavy, Arthur Temple College of Forestry and Agriculture
Stephen F. Austin State University
Joseph Phillips “Ghost Tree”  Edge of Life: Forest Pathology Art

David L. Kulhavy, Arthur Temple College of Forestry and Agriculture
Stephen F. Austin State University
Ganoderma lucidum
Ganoderma lucidum Varnish Conk Cancer Research
Ganoderma Lucidum Ceramics

Kira Kalondy Edge of Life: Forest Pathology Art
Miki Lynn Fryar, Charles Jones, David Kulhavy
Ladybird Beetles

L is for
feeding on aphids and scales
Migrating to overwintering sites
traveling over hills and dale
Search the rocks or the trees
upon the mountain top
A beneficial predator
Conclusions
Move from Basic Knowledge to Synergy
Add Maps and Symbols
Add Music and Creativity, Workbooks