



Invasive Species Webquest

Designed by

Jaime Avila [javila79 at yahoo dot com]

Background

This activity is a webquest that guides students through background information on *Mytilus galloprovincialis*. Students will focus *Mytilus galloprovincialis* in order to gain a better understanding of its. They will also investigate one other invasive species.

Description of Audience:

This activity is designed for use in a high school Biology, AP Biology, Biotechnology, or equivalent course.

State Standards:

This activity fulfills the following State of California Science Standards:

Biology: Grades 9-12: 6a, 6b, 6c, 7d

Investigation and Experimentation: Grades 9-12: 1d

National Science Standards:

This activity fulfills the following National Science Standards:

Content Standard A: Science as Inquiry

Content Standard C: Life Science

Content Standard E: Science and Technology

STEM Connection:

This is a precursor to a unit on biotechnology and bioinformatics. These skills gained in these areas of science can be applied in marine science, biotechnology, bioinformatics, and industry.

Technology Integration:

Students will be using the internet to investigate *Mytilus galloprovincialis*.

Goals

The goals of this lesson are to:

- Clarify the what an invasive species is
- Show students the basic background information on *Mytilus galloprovincialis*

Learning Objectives

Upon completion of this lesson, students will be able to:

- Use the global invasive species database to find *Mytilus galloprovincialis*.
- Use the global invasive species database to acquire information on the ecology, distribution, and impacts of *Mytilus galloprovincialis*.
- Explain what an invasive species is and why they are harmful to an ecosystem.

Purpose/Rationale

I am teaching this lesson using a webquest so all students have hands-on access to technology and have a foundation of what an invasive species is and why it is important to understand them.

Materials/Resources

In order to complete this lesson, the following materials are needed:

- Student access to computers with internet (ideally, 1 computer per student)
- The following websites:
<http://www.issg.org/database/welcome/>
<http://alic.arid.arizona.edu/invasive/index.shtml>
- Invasive Species Handout (1 per student)

Teacher Preparation

Before this lesson, the teacher should make sure that all of the links to the websites listed are still live (active).

This lesson assumes that students are just starting an ecology unit OR are going to start a unit centered around *Mytilus galloprovincialis*.

3-Step Procedure

#1 Introduction

- Students will be working relatively individually following the directions on the webquest and answering the questions that go along with it. They are welcome to work together, but must submit their own paper.

#2 Application

The last part of the student worksheet requires students to use the data base to focus on another invasive species.

- With some knowledge of invasive species the students will use the data base to research one other established marine invasive species in California.

Assessment

- The teacher will examine their webquest and evaluate their responses. The teacher will also comment and give feedback on their findings.
- If there are similar items that all students had problems with the teacher can address them in an entire class discussion.

Teachers' Self Evaluation

After delivery of the lesson there are two areas that clearly needed improvement.

1. Students needed constant clarification on what ballast water was. The teacher should give a word bank/vocabulary list with word the students may not recognize. It was clear that most students did not know what ballast was or what function it served.

2. Students really should be forced to find the native and invasive locations on a map. While most students were quick to find the Mediterranean as the source of *Mytilus galloprovincialis*, many had no idea where that was located. Once they realized where it was located many asked how it was able to travel so far, which goes back to #1.