Integrating Science and Math for Elementary Education Majors

MAC^3

Summer Institute 2007

Courses for Elementary Education Majors

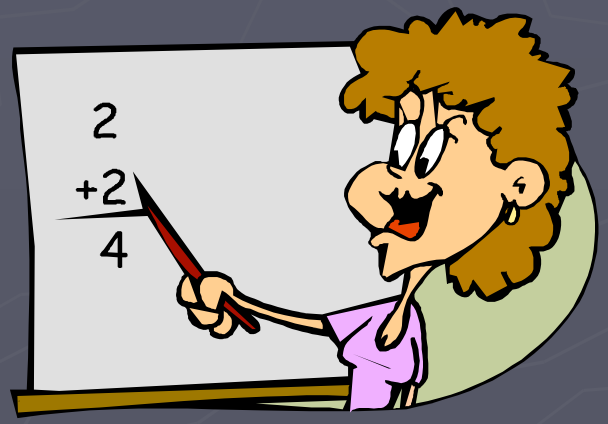
- Elements of Math II
- Integrated Science II-Life Science

Two independent classes

Spring 2008

Action Plan

- Develop modules
- Team teach modules
- Integration into the elementary classroom



Goals

As a result of their work in this class students will be able to:

- Find the ratio of surface area to volume
- Explain the importance of surface area to volume ratio in relation to cell size
- Determine if leaf size is normally distributed
- Gather data in order to answer a question
- Determine the probability of inheriting certain traits

Modules

- Know Your Trees
- Does Cell Size Count?
- Probability and Inheritance

Know Your Trees

Science

- Dichotomous Key
- Plant Identification
- Leaf Size
- Variation by Location and Species

Math

- Area using Lattices
- Pick's Theorem

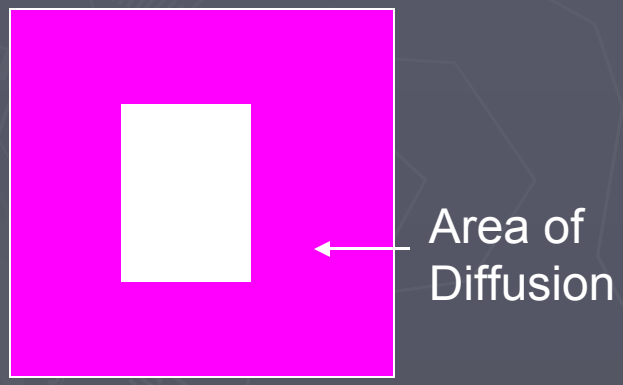
Pick's Theorem: An Interact

- Descriptive Statistics
- Normal Distribution

Does Cell Size Count?

Science

- Gelatin Cube Lab
- Diffusion



Gelatin Cube

Math

- Surface Area of a Cube
- Volume of a Cube
- Surface Area/Volume Ratio

Probability and Inheritance

Science

- Plant Genetics
- Alien Genetics
- Skin Color Case Study

Math

- Probability

Assessment

- Lab Reports
- Worksheets
- Presentations and Peer Evaluations
- Case Study Report

Contact Info

Carol Hay hayc@middlesex.mass.edu

Jessie Klein kleinj@middlesex.mass.edu

Middlesex Community College