Food Chain

Learning Laboratory in Environmental Science

Learning is most exciting when there is opportunity to experience and discover what happens. Food Chain offers a practical way to conduct experiments and investigate a simple lake ecosystem. Students deepen their understanding of natural systems as they learn by doing.

Biology and Environmental Science classes at all levels, from middle school through high school and introductory college courses, use Food Chain to explore a virtual lake ecosystem and conduct computer simulation-based experiments to test hypotheses.

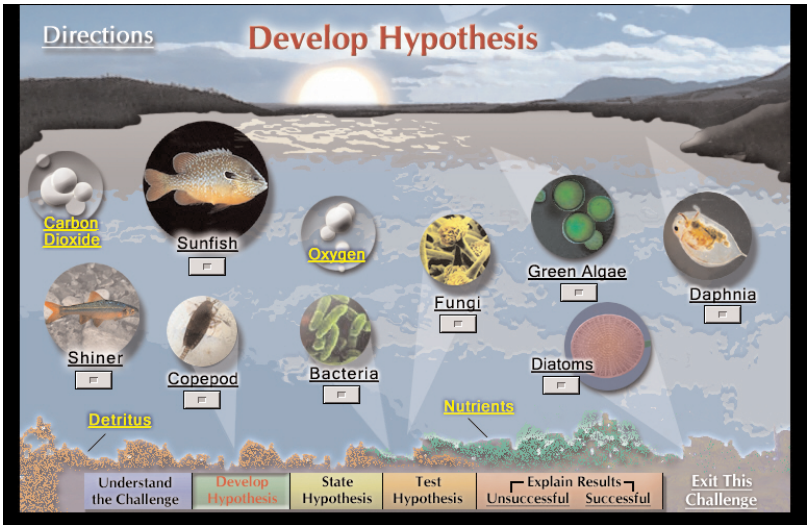
Students build a sound understanding of ecosystem relationships like:

- Interdependencies between the four trophic levels
- Factors that affect population, births, deaths and carry capacity
- Dynamics of oxygen, carbon dioxide, detritus, and nutrient levels

Inquiry-Based Approach

Using an inquiry-based approach to learning, Food Chain presents specific challenges for students to design their own experiments and test their hypotheses through simulation. Challenges pose questions such as:

- Which two species can survive in the lake by themselves for 90 days?
- What is the minimum number of species needed to keep sunfish alive?
- How will housing development proposals impact the lake ecosystem?



Students are presented with challenges to formulate their own hypotheses

Customer List

These are just a few of the schools using Food Chain to teach Environment Science:

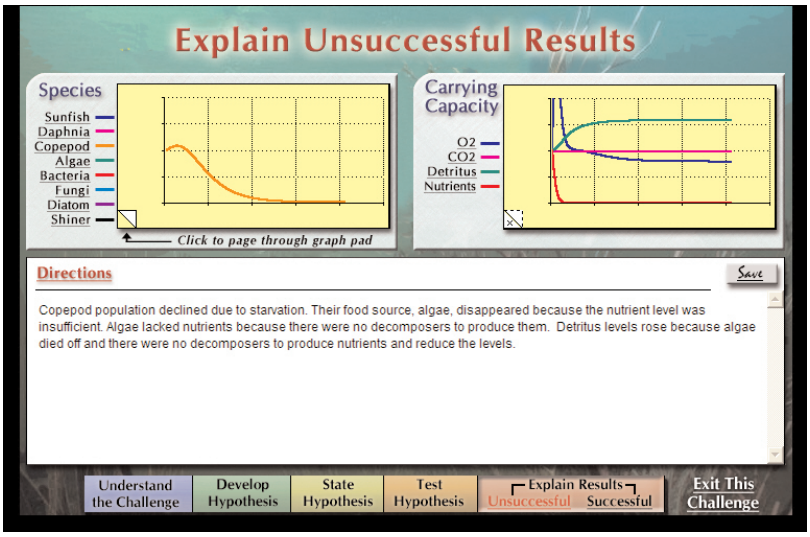
Ann Arbor Public Schools
Bartlesville Public Schools
Berwick Academy
Boston Urban Academy
Brigham Young University
Carlisle Public Schools
Center High School
Central Catholic High School
Centreville High School
Christchurch School
Colby Sawyer College
Colorado Academy Middle School
Concordia University
Cornell University
Coventry High School
East Brunswick Public Schools
Episcopal Collegiate School
Falls Church High School
First Avenue School
Gwynedd-Mercy Academy
Hammond High School
James Logan High School
James Madison University
Jefferson High School
Mason Middle School
McDonogh School
Nevada State College
Odyssey Middle School
Paramus Public Schools
Penn State Great Valley
Purdue University
Ramapo College of New Jersey
Rensselaer Polytechnic Institute
Shasta Union High School
South Dakota State University
St. John's International School
Tutt Middle School
University of Alaska at Fairbanks
University of South Florida
University of Texas San Antonio
University of Wisconsin - Madison
Valley High School
Vanderbilt University

"To say that I was impressed with Food Chain is an understatement. Not only does the program reinforce the concepts of the interconnectedness of natural systems, it also challenges students to think critically."

— Dr. Dean Goodwin,
AP Environmental Science Teacher
KUA, Meriden, NH

Critical Thinking Skills

Food Chain challenges students to think critically as they hone their skills in applying the scientific method. Students are guided through the steps of formulating and testing hypotheses, interpreting data, analyzing graphs, and suggesting reasons for the results.



Outcomes of experiments must be explained even if they were not successful. Graphical output and data analysis help students rationalize their results

Systems Thinking Skills

Systems Thinking concepts introduced while exploring a lake ecosystem are reinforced in an optional Generalizing section. Students are challenged to apply concepts like "feedback loops" and "unintended consequences" to issues in their own life.

Meets National Science Education Standards

Challenges presented by Food Chain meet the following National Science Education content standards:

- Content Standard A — Science as Inquiry
- Content Standard C — Life Science
- Content Standard E — Science and Technology
- Content Standard F — Science in Personal and Social Perspectives

Package Includes:

- Teacher's Guide
- Food Chain Learning Laboratory CD (May be installed on teacher's computer and computers intended for student use.)

System Requirements

Windows:

Microsoft Windows™ 2000/XP
128 MB RAM
70 MB hard disk space
16-bit color
Soundblaster-compatible sound card
QuickTime

Macintosh:

Mac OS 10.2.8 or higher
128 MB RAM
70 MB hard disk space
Thousands of colors
Quicktime

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More than a software company, isee systems has become a Systems Thinking resource, providing classroom and online training, printed books and teaching materials, and links to articles and organizations.