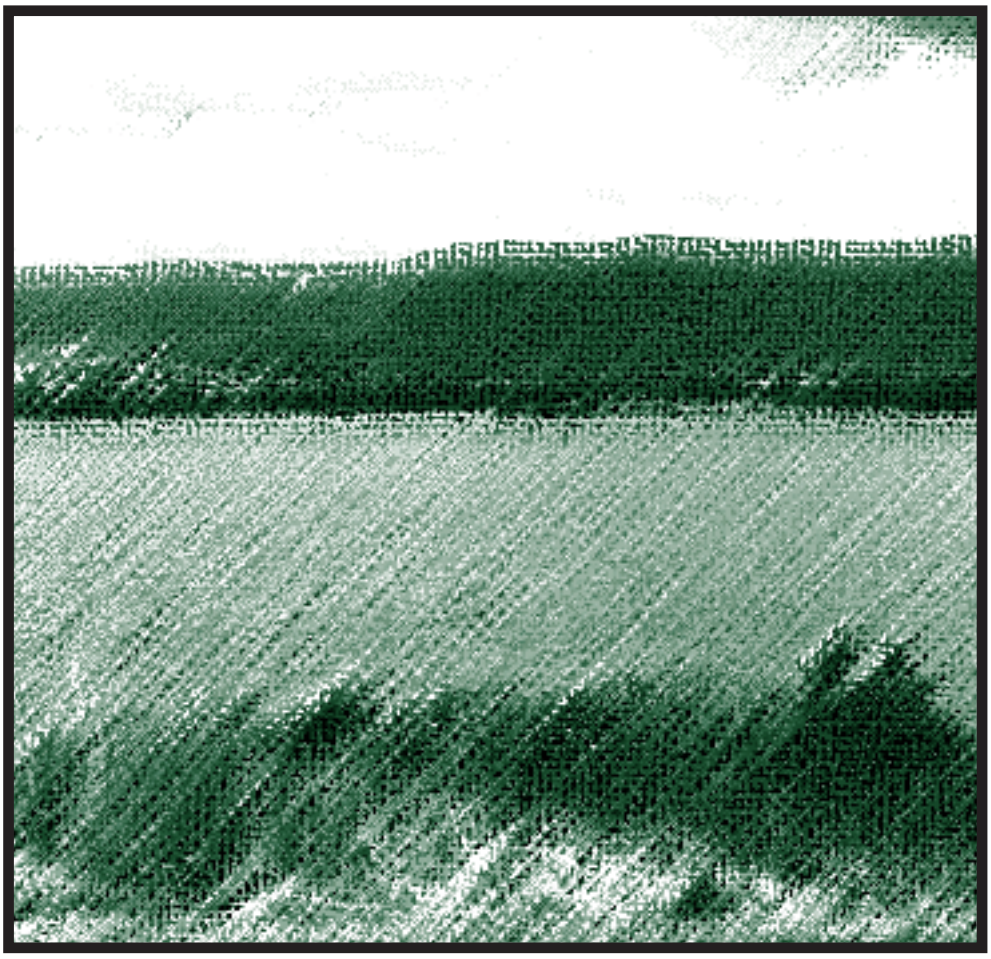
INVESTIGATING LAKE ILUKA



CLASSROOM EDITION

for Australian Schools

CREDITS
THE LEARNING TEAM

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ISBN 0 9587317 7 2
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TABLE OF CONTENTS

LAKE ILUKA CD CLASSROOM EDITION

Welcome to the Lake Iluka CD Classroom Edition. Who, why, what, how, and so what? Just as scientists ask these questions of nature, you might be wondering about the answer to these questions regarding the creation of this Classroom Edition.

Who?

You! If you teach any of the following courses in grades 5 -12, you can use all or part of the materials in the Classroom Edition: General Science, Ecology, Environmental Science, Biology, Applied Biology/Chemistry, or Biotechnology.

Why?

Time! We created the activities in the Classroom Edition to save you time. Many teachers have wonderful CD's and other resources in their classrooms. These resources may end up tucked away on a shelf if they do not have student materials.

No two classrooms are alike! Some teachers have a complete computer lab with stations for each student. Others have a single computer. By using a thematic approach with multiple activities, students can rotate through a single computer station while others complete investigations that do not require the use of a computer.

What?

Themes! The Classroom Edition includes three units that let students study the following three major themes in science using a variety of methods and tools of scientific research:

- Change
- Systems
- Patterns in Nature

Each theme consists of four activities. Four types of activities appear in the Classroom Edition:

- Introducing: Paper & pencil activities that do not require the CD.
- Examining: Activities that use the CD as a reference tool.
- Exploring: Activities that use the CD as a simulation tool.
- Investigating: Hands-on lab activities that do not require the CD.

LAKE ILUKA CHANGE ACTIVITIES

GRADES 5 - 8

Standard	Decisions, Decisions	Do Not Disturb	Blooming Problem	Facts or Feelings
A: scientific abilities	x	x	x	x
A: understanding inquiry	x	x	x	x
B: properties of matter				
B: transformation of energy				
C: structure/function living systems			x	
C: reproduction/heredity			x	
C: regulation and behavior			x	
C: populations and ecosystems	x	x	x	x
C: diversity and adaptation		x	x	
E: technological design abilities				x
E: understanding science/technology	x			x
F: personal health	x		x	
F: populations, resources & environ.	x	x	x	x
F: natural hazards	x		x	x
F: risks and benefits	x	x		x
F: science, technology, & society	x	x	x	x
G: science as a human endeavor	x	x	x	x
G: nature of science	x	x	x	x
I: order and organization		x		
I: evidence, models & explanations		x		
I: change, constancy & measurement	x	x	x	x
I: evolution and equilibrium		x	x	
I: form and function				

Activity 2 Exploring: A Blooming Problem

Learning Outcomes/Students will be able to:

- recognise an algal bloom and describe its causes
- understand the biological impact of an algal bloom
- conduct a computer-based simulation laboratory
- create a plan for reducing algal bloom

Overview

Students use the Lake Iluka CD to investigate how human activity can create changes in natural ecosystems.

Activity 3 Investigating: Do Not Disturb

Learning Outcomes/Students will be able to:

- conduct a plant survey of a given area
- measure, count, and identify native plants
- create a scaled drawing showing the location and types of plants
- understand and relate factors affecting plant diversity
- analyse and interpret individual and pooled data

Overview

Students conduct a field study of the effects of a nature trail on plant species.

Activity 4 Examining: Facts or Feelings

Learning Outcomes/Students will be able to:

- recognise that most decisions should be based on evidence and facts
- craft a persuasive paper
- edit and suggest ideas for the work of others
- understand how making tradeoffs impacts decision-making

Overview

Students use problems from the Lake Iluka CD to think about and discuss how they should make decisions, particularly those involving environmental issues.