

Addison Wesley

SCIENCE

in Action **8**



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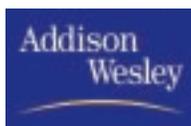
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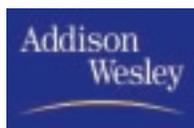
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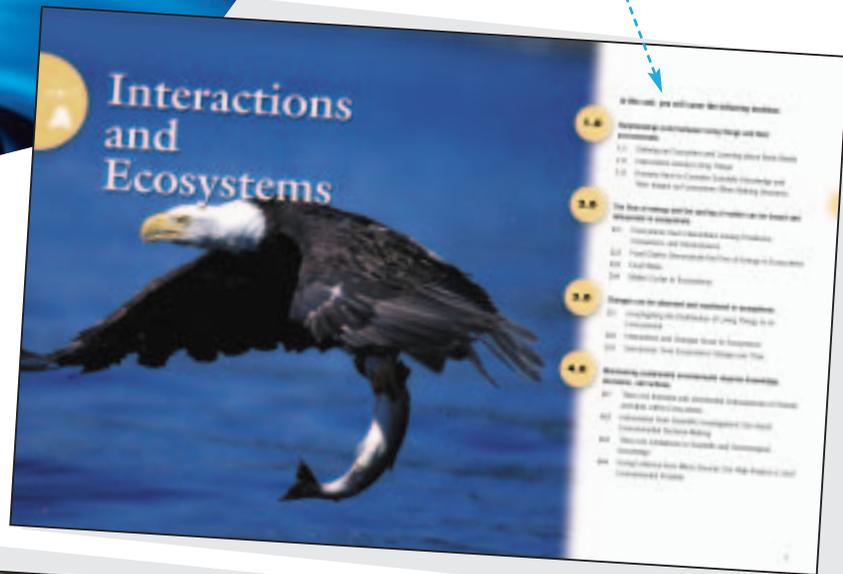
WELCOME TO SCIENCE in Action 8

You are about to begin a scientific exploration using *Science in Action 8*. To assist you in your journey, this book has been designed with the following features to help you.

An outline gives you an overview of what you will be learning. You may want to use this as a guide to help you study.

1 Unit Outline

The book is divided into five units. Each unit opens with a large photograph that captures one of the ideas that will be covered in the unit.



2 Exploring

This section is an introduction. It has an interesting real-world example to introduce the unit.



The **Give It a Try Activity** is a short activity that helps introduce the topic of the unit and allows you to start thinking about what you will be exploring.

3 The Sections

Each section heading summarizes what you will learn in this section. These can be very useful to help you organize your thoughts when you have to study.

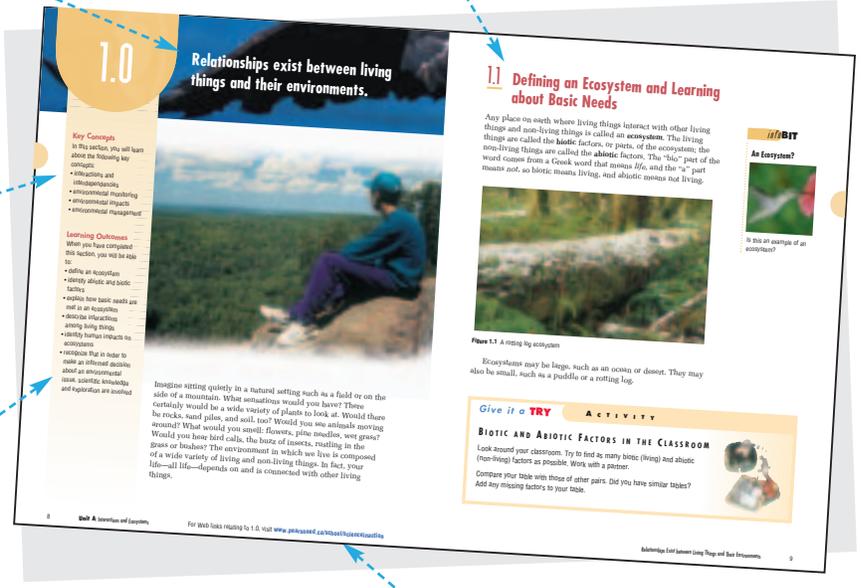
The **Key Concepts** are the main ideas you will learn in this section. By the end of the section, you should be able to describe each concept.

The **Learning Outcomes** are what you should know and be able to demonstrate your understanding of upon completing the section.

An **infoBIT** is an interesting fact relevant to what you will be investigating in the subsection.

The **Focus On** section has several questions to help you think about what you learn and how it connects to your life as you work through the unit. The questions focus on one of three areas or emphases of science: the nature of science, the relationship between science and technology, and the social and environmental situations that involve science and technology.

Each section has two to five subsections. Each subsection heading clarifies and provides more information about the statement in the section heading.

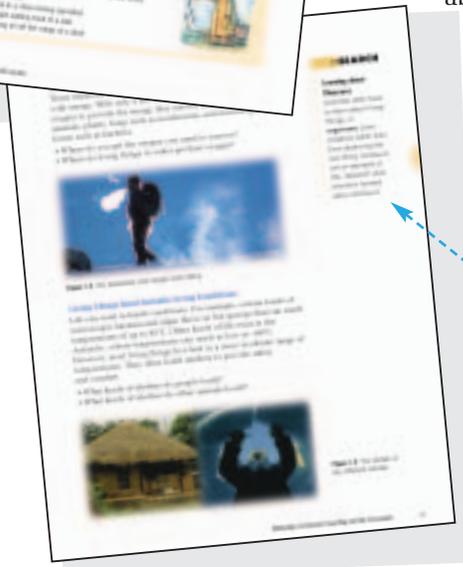


Check out this **Web site** for relevant links.

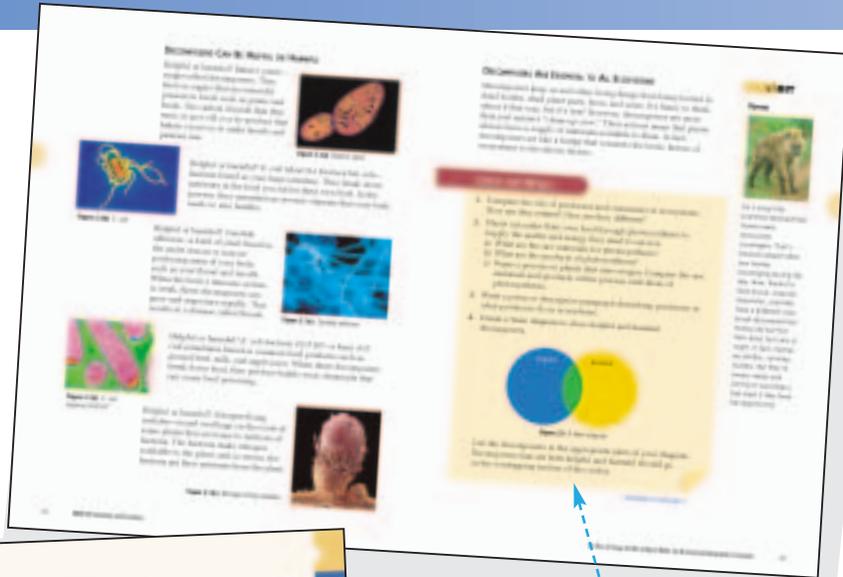
Topic subheadings make the text easier to follow.

To begin each subsection, your teacher may choose to use a short **Give It a Try Activity**. This helps you start thinking about what you will be learning.

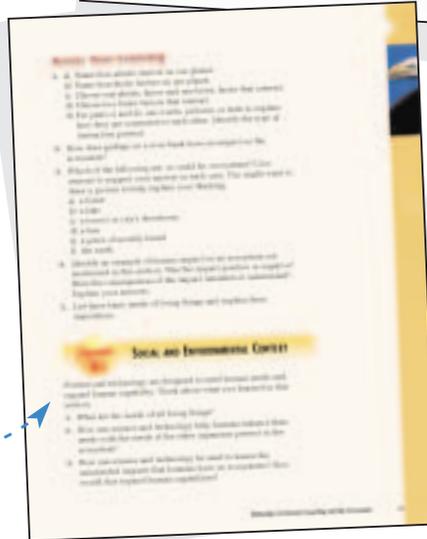
At the end of the subsection is a **reSEARCH**. This is an additional way to study one of the ideas in the subsection.



You will find numerous photos and illustrations to help explain or clarify many of the ideas in this unit.



The **Section Review** has questions relevant to the whole section. Answering the questions will help you consolidate what you have learned in the various parts of the section. There is also a **Focus On** activity to help you connect what you have learned in this section to activities in your own life.

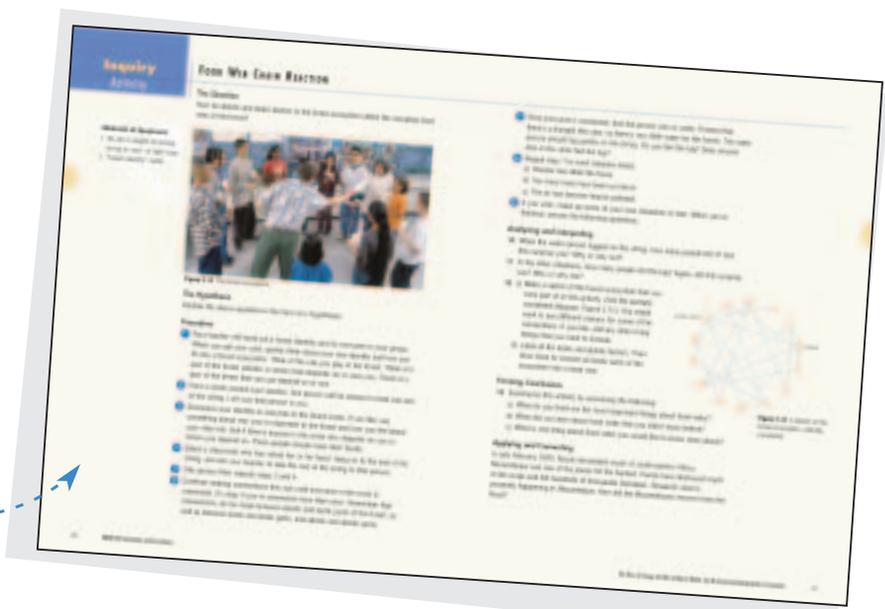


Check and Reflect questions provide opportunities for you to review the main ideas you have learned.

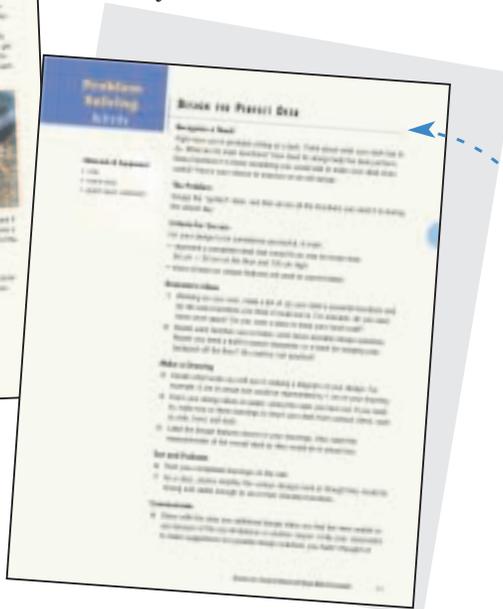
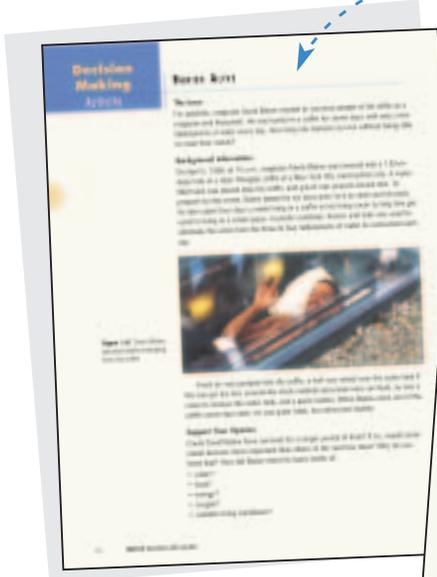
4 Science Activities

There are three main types of activities.

Inquiry Activity: These activities provide the opportunity for you to work in a lab setting. You will develop scientific skills of predicting, observing, measuring, recording, inferring, analyzing, and much more. In these activities, you investigate many different phenomena found in our world.



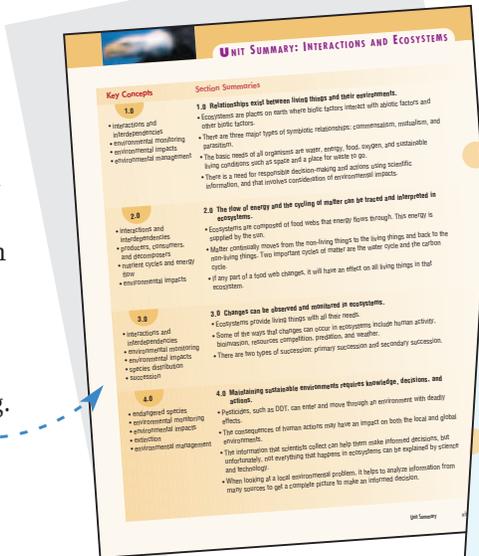
Decision Making Activity: These activities present issues or questions related to everyday life. You will need to develop an opinion based on the evidence you collect and make a decision. Be prepared to present your decision to your classmates.



Problem Solving Activity: These are open-ended activities that allow you to be creative. You will identify a problem and make a plan and then construct a solution. These activities tend to have very little set-up and there is usually no one correct solution.

5 Unit Summary

At a glance, you can find out all the key concepts you have learned within the unit. You can also read the summary of ideas in each section of the unit. This is a good page to help you organize your notes for studying.



6 Unit Project

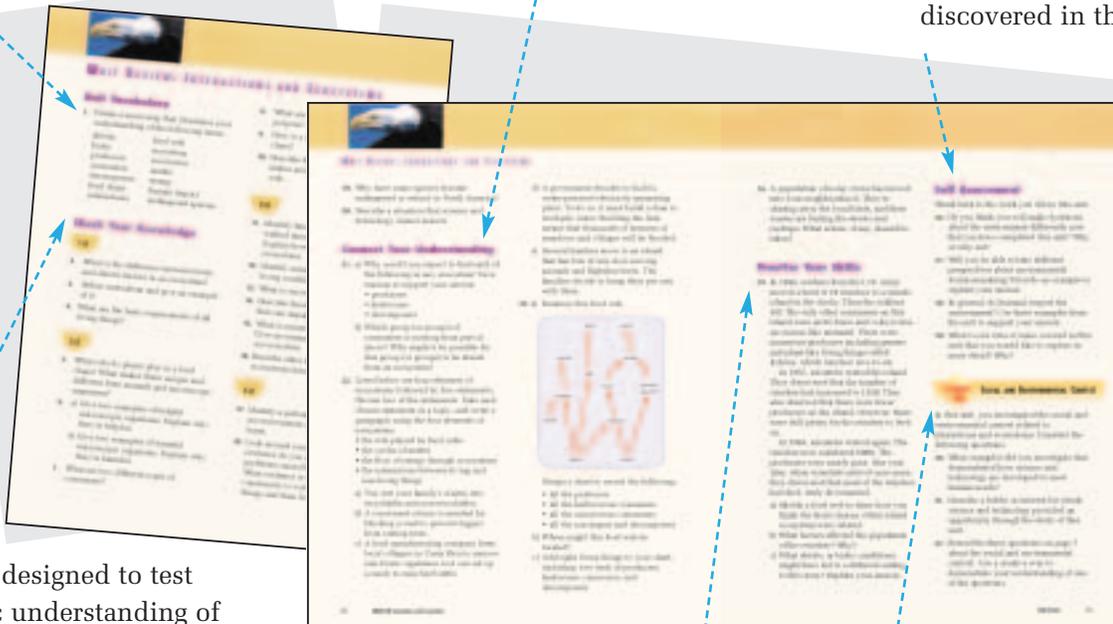
A project at the end of each unit presents a hands-on opportunity for you to demonstrate what you've learned. You'll work both in a group and individually. The project requires you to apply some of the skills and knowledge that you've acquired to a new situation.



7 Unit Review

The Unit Review presents:

- a chance to review the important terms in the unit
- questions that require you to use the ideas in more than one section in the unit to answer
- opportunities to express your thoughts about ideas you have discovered in the unit
- questions designed to test your basic understanding of the ideas in each section of the unit
- questions that are related to specific skills you have learned in the unit
- questions that relate to the specific emphasis of the unit



8 Other Features

Here are other features you will find in each unit. Each one has a different purpose and is designed to help you learn about the ideas in the unit.

Science World

This feature is a case study related to an issue that can have more than one solution or opinion.

Careers and Profiles

Here you will find profiles or interviews with people whose careers use the science and technology you study in the unit.



Try This at Home

This is an activity you can try at home on your own.



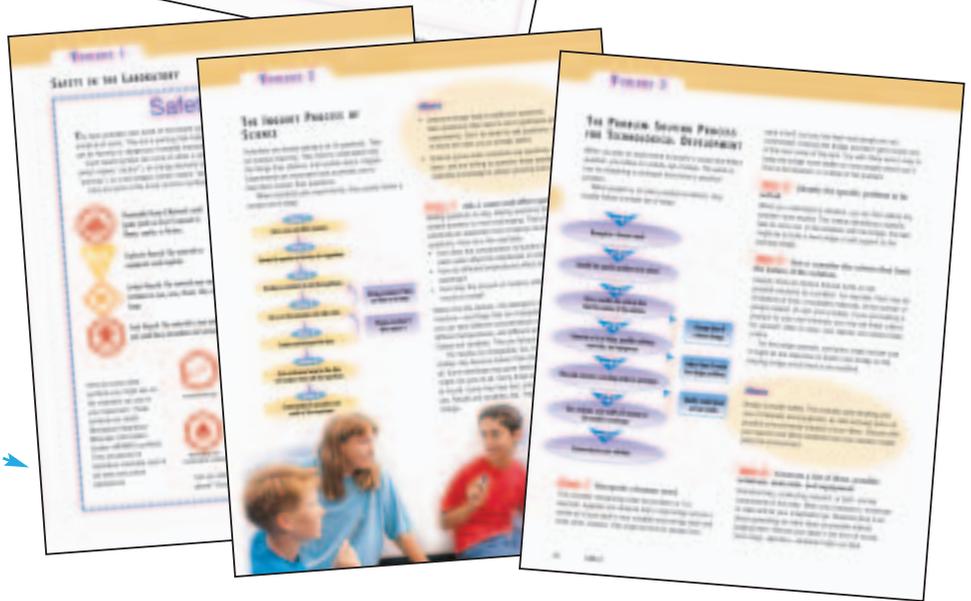
mathLink These are opportunities for you to apply some of your math skills.

Experiment on Your Own

This is your chance to design your own experiment to check out a hypothesis or to solve a problem.

9 The Toolbox

These pages provide references to lab safety and other basic scientific skills that will help you as you do the activities. Remember to check the toolbox when you need a reminder about these skills.



10 Icons



means you will be working with toxic or unknown materials and should wear safety goggles for protection or precaution



means you should wear a lab apron to protect clothing



means you should wear rubber gloves for protection when handling the materials



means you will be working with glassware and you should exercise caution to avoid breakage



reminds you that you can find more information in the Toolbox section of the book

11 Glossary

The Glossary provides a comprehensive, alphabetical list of the important terms in the book and their definitions.



Now it's time to start. We hope you will enjoy your scientific exploration using *Science in Action 8*!