

Attainment's

# Explore **Life Science** Instructor's Guide

Alex Bastian

Attainment's

## Explore **Life Science** Basics of Biology



Alex Bastian

## Explore Life Science Disc

The disc contains the following Explore Life Science printable PDF files:

- **Student Book Pages**
- **Lab Components** (*Environment Cards, Organism Cards, Natural Selection Cards, Images on the microscope slides, School Cards, Organelle Cards, Pulse Chart, Food Cards, Nutrient Chips, and MyPlate Card*)
- **Image Library**
- **Term Tests** (*with and without images*)
- **Quizzes** (*without images because the student book has images*)
- **Write About It Reference Guide**

PDF reader software is required to view the PDFs.

Acrobat® Reader® software is included on the disc.



# Explore Life Science Instructor's Guide

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# Preface

The Explore Life Science curriculum is a full-year biology course for middle and high school students with limited reading abilities, including those with intellectual disabilities or autism. It has two primary components: a Student Book and this Instructor's Guide.

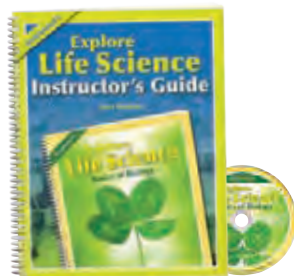
- The **Student Book** has 11 chapters. The first chapter functions as an introduction to the book itself, familiarizing the students with terms and concepts they will see throughout. The next ten chapters are grouped into 4 themes: Ecology (Chapters 2–3), Evolution (Chapter 4), Cells (Chapters 5–6), and Human Body Systems (Chapters 7–11). The Student Book covers crucial biological concepts, regardless of complexity, but presents them in a graspable manner. Each page is picture heavy with only about 60 words so it can easily be read aloud to nonreaders. Each chapter (excluding Chapter 1) follows the same template: title page, 4 Big Ideas, major illustration, eight vocabulary words, chapter overview, several (6–8) topic pages, In Focus topic, hands-on lab lesson, and a quiz. Important concepts learned in the book are often reinforced in many places to increase understanding.



## Student Book Chapters

- Exploring Life Science
- Living Things
- Environments
- Evolution
- Looking at Cells
- Inside a Cell
- Musculoskeletal System
- Respiratory System
- Circulatory System
- Digestive System
- Nervous System

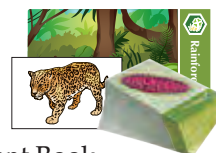
- This **Instructor's Guide** provides detailed lesson plans for all 79 lessons. Each lesson covers two to four pages in the Student Book. The Instructor's Guide gives talking points that relate to the topics. These add more information to a topic and ensure the lesson takes an appropriate amount of time. Ideally, a talking point leads to a small conversation or spurs other ideas. The student benefits from extra exposure to a topic when several talking points are used. This guide also provides an explanation of how to perform each lab. Thumbnails of the corresponding Student Book pages are included, adjacent to the lesson plan page.



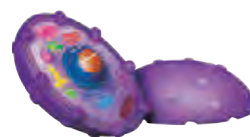
- **Lab Materials**, such as cards, dowels, microscope slides, and more, are used for the Lab lesson in each chapter. Most labs have some component that is provided in the lab materials.



- **Study Cards** for every vocabulary word and Big Idea help with review. Vocabulary cards can be used for quiz review and whenever the word is emphasized in the Student Book.

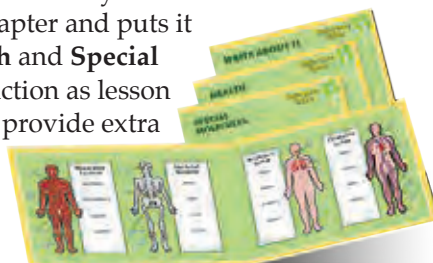


- A high-quality **Animal Cell Model** is a great hands-on tool to teach about cells. It is durable and scientifically accurate. It can be used throughout the curriculum.



Five ancillary components complete the curriculum: Reference Guides, Lab Materials, Study Cards, Animal Cell Model, and a PDF Disc.

- Four **Reference Guides** are included and serve different purposes. **Write About It** functions as a lesson adaptation for a component of the quiz. **Human Body Systems** serves as a study tool that combines information from a chapter and puts it all in one place. **Health and Special Molecules** mainly function as lesson extensions. They both provide extra information on topics mentioned in the Student Book.



- A **PDF Disc** provides PDFs of most materials included in the curriculum. All Student Book pages, many lab materials, an image library, and term tests can be found on the disc. The image library contains all the illustrations created by Attainment Company or images from a public domain source that are included in the Student Book.



- **GoWorksheet Quizzes** can be accessed with the GoWorksheet Maker app. Within the app, tap the Settings icon, then tap "Store." Tap "Curriculum Resources" and select "Explore Life Science Quizzes."





# Introduction

The lesson plans outlined in this Instructor's Guide fall into six categories described below. Each lesson of a certain category is outlined in the same way. Each lesson focuses on the images and then the text. Talking points are included at the beginning of a chapter. All lessons are outlined in a grid. A star next to an objective indicates it is one of the four Big Ideas. A lightbulb icon is located in every lesson with at least one Big Idea. The lesson outlines provide an organized way to present the material, but any adaptations, additions, or omissions can be made to appropriately fit each student.

## Getting Started

This lesson incorporates the Chapter Title Page, Big Ideas, and Major Illustration. Each chapter title page has three images, two of which have something specific in common. The Big Ideas can be taught using the corresponding Study Cards. These four main concepts are presented in the chapter. The major illustration is a large image related to the chapter. Talking points related to each page are given. This is generally the shortest lesson in a chapter.

## Vocabulary and Overview

This lesson covers the eight vocabulary words and the two-page Chapter Overview. Each vocabulary word has an image associated with it. This image appears on the corresponding study card as well. Two "Find the Word" questions are included with the vocabulary. The Chapter Overview gives a broad introduction to the material that will be covered in the chapter. Big Ideas often come from these pages. Talking points are given for the images and text in the Chapter Overview.

## Topic Sequences A, B, and C

This lesson covers two to four topic pages in the Student Book. Some topics are two pages, while others only cover one page. For two-page topics, you can choose to read all the text together or cover each page independently. Chapter 1 only has one Topic Sequence lesson, but all other chapters have either two or three. Talking points are important for Topic Sequence lessons because these lessons contain the bulk of the concepts. More talking points provide the students with more exposure to each concept. For nonreaders, these pages are image heavy, and each image depicts a concept mentioned in the text.

## In Focus and Animation

The In Focus topic is a slightly more in-depth look at a concept related to the chapter. This topic is not necessarily more difficult, it is just a little more detailed than regular topic pages. Each In Focus is two pages. Each chapter also has an animation. This can be accessed by scanning the QR code or following the link provided on the lesson page. The QR code and link to the right take you to a playlist of all the animations. Suggested stopping and talking points for the animation and In Focus passages are given.

## Lab

The lab component of any biology class is important. This reinforces a concept from the chapter in a hands-on manner. Instructions for how to set up and perform each lab are given in the lesson plan. The lab lesson mentions how the concepts from the chapter relate to the lab. It is important to reinforce these concepts when doing the lab. The amount of time a lab takes varies from chapter to chapter. Each Lab page in the Student Book has three questions about the lab for the students to answer. If you don't want students writing in the book the Lab page can be printed out from the PDF Disc. It is important to read the lab lesson plan a day ahead of time to ensure all necessary supplies not included in the lab materials can be procured.

### Study Cards



<http://player. attainment company.com /els/playlist>

## Quiz/Review

Each quiz has seven questions and a Write About It section. Four of the seven questions assess comprehension of the Big Ideas, and the other three assess comprehension of select vocabulary words. A review session should be done before the quiz. All 12 study cards for the chapter (four Big Ideas and eight vocabulary words) should be reviewed. The three vocabulary words on the quiz are mentioned in the lesson, so these cards and the Big Idea cards can be reviewed further before the quiz. The quiz is available in several formats.

1. The quiz in the Student Book which has symbols. This can be printed from the PDF Disc as well.
2. Another format with the same layout but no symbols can be found on the PDF Disc. This is more difficult.
3. A GoWorksheet quiz is available for those with Attainment's GoWorksheet Maker app. This format does not have images but is interactive. How to access this format is outlined in the Preface.

The Write About It section presents an image as a writing stimulus. Many adaptations can be made using the Write About It Reference Guide. More information on these adaptations can be found under "Lesson Adaptations."

## Word Study

Every lesson also comes with a Word Study section. **This highlights everyday words** that appear in the Student Book passages. These are not the eight vocabulary words but may still be difficult. These can be used as an additional language-based activity.

## Introductory Script

This section provides a script to follow when introducing each lesson. The script outlines what type of lesson it will be and what types will be covered. This is optional and can be changed in any way.

## Reference Guides

A box on the lesson page details which Reference Guides are associated with the lesson. This provides a slightly different way to present material but also reinforces what was taught in the chapter. These can be used during the lesson or as a review. Some lessons do not have any Reference Guide material associated with them.

## Term Tests

There are three Term Tests in Appendix A. They can be printed out from the PDF Disc. There is one version with images and one version without images. Term tests are 10–14 questions. These questions are taken from chapter quizzes. They encompass the most important concepts from the associated chapters. Term Test 1 assesses Chapters 1–4, Term Test 2 only assesses Chapters 5 and 6. Term Test 3 assesses Chapters 7–11.

**CHAPTER 6**  
**Lesson 42**

**Inside a Cell**  
**Quiz/Review**

**Lesson Type** Quiz/Review

**Procedure** Review the Study Cards for this chapter. Review all the cards first. The three vocabulary words on the quiz are DNA, energy, and molecule. These three cards can be further reviewed to help prepare for the quiz.

**Quiz, pp. 111–112**

- Choose the procedure that works for you:
  - Have the students take the quiz in the book independently.
  - Read the questions and choices to the students, and have them circle or point to their answers.
  - Use the quiz as a chapter review and not a comprehension assessment.
- The quiz is also available in two digital formats: PDF and GoWorksheet Maker.
  - Print out the quiz with symbols from the PDF for the students to write on.
  - Have the students take the quiz without symbols (PDF or GoWorksheet) after using the book quiz as a review.
  - Have the students only take the GoWorksheet Maker quiz.

**Write About It**

- Choose the method that works for you:
  - Have the students complete the Write About It exercise independently.
  - Read the writing ideas from the Write About It Reference Guide to the students to stimulate their writing.
  - Have the students apply sentence strips in the Write About It exercise as an alternative to writing.

**Term Test**

- After this lesson, all the material for Term Test Two has been covered. This Term Test is comprised of 10 quiz questions from Chapters 5–6. It covers material about cells. The Term Tests are available with and without images on the PDF Disc.

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**CHAPTER 6**  
**Lesson 37**

**Inside a Cell**  
**Topic Sequence A**

**Lesson Type** Topic Sequence A

**Objective**

- The student identifies what the plasma membrane's role is in the cell.

**Plasma Membrane, pp. 100–101**

Note: You can read and discuss the two passages together or separately.

- Read the title "Plasma Membrane" and the image captions. Then discuss the following points:
  - The plasma membrane protects the cell from the outside.
  - The membrane proteins in the model are not to scale. They would be much smaller in a real cell.
  - The plasma membrane allows the cell to change shape if it needs to.
- Read the passage and ask the students to "follow along in your book as I read the text to you."
- Read the passage and ask the students to "follow along in your book as I read the text to you." When finished, discuss five ideas in the two passages, for example:
  - The spots on the plasma membrane where things can get in and out are like doors.
  - The two layers interact with each other to make a great barrier.
  - The plasma membrane is necessary for cell communication.
  - Flexible plasma membranes are generally only seen in animal cells.
  - The plasma membrane helps create different environments inside and outside of the cell.
- Print out the plasma membrane on the Animal Cell Model. The entire outside is also the plasma membrane.

**Word Study**

These everyday words are highlighted in the sample pages on the right: **barrier, layers, flexible**. Say the words aloud and ask the students to repeat them. Read the sentences in which they appear, and discuss their definitions.

**Introductory Script**

//The chapter we're studying is called Inside a Cell. Today we'll read two interesting passages. They are about the plasma membrane. A plasma membrane is like a wall around the cell. Let's begin on page 100//

**Reference Guides**

Special Molecules  
Transport Proteins

94 Inside a Cell ... Chapter 6

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## Curriculum Emphasis

The following aspects should be focused on when going through the curriculum. Emphasizing these should increase student understanding of the information. Emphasizing the following may increase initial understanding of a concept as well as improve memory and recollection of the concepts moving forward.

## Vocabulary

- Vocabulary is very important to this curriculum. Vocabulary words are crucial in biology because a vocabulary word can be a concept all by itself. For example, knowing the meaning of mitochondria is equivalent to knowing what mitochondria are. Some vocabulary words are difficult because biological terms are often complicated. But in order to teach all the major concepts, all relevant terms must be used. Because of this, vocabulary is emphasized in this curriculum. Each vocabulary word is reviewed several times: in the Vocabulary and Overview lesson, when the word is first encountered in the Student Book, at the end of the lesson that it is first seen, and during the review session. The Instructor's Guide also indicates which vocabulary words from previous chapters should be revisited at the beginning of each chapter.

## Connections

- Some talking points in this Instructor's Guide point out when a concept relates to something learned or mentioned previously in the curriculum. Like vocabulary, reintroducing a previous concept helps recollection of the old concept. Additionally, connecting a concept to another may make that new concept easier to understand. Keep an eye out for other connections not mentioned in the lesson plans. These can also be mentioned.

## Images

- The images were carefully selected and created to reflect and emphasize the important content of the associated text as well as increase student understanding of the topic. Visualization is important in understanding biology at any level. Many students may understand the text if they have a visual component to look at as the text is read to them. For all students, it is important to convey how the images relate to the text.

**CHAPTER 6**  
**Lesson 36**

**Inside a Cell**

**Lesson Type**  
Vocabulary and Chapter Overview

**Objectives**

- ★ The student identifies that human cells have organelles inside.
- ★ The student identifies that each organelle has a job.

**Vocabulary, pp. 96–97**

- Read each vocabulary word and definition.
- Write the two "Find the words" on a whiteboard, and read them aloud.
- Ask the students to either (1) copy them in their *Student Book*, on the whiteboard, or on a separate piece of paper; or (2) point to the word you've written when it's spoken.
- Use the corresponding *Study Cards* when presenting the vocabulary words.
- Tell the students that "each word will be reviewed again after it's read in a lesson."
- The quiz vocabulary words are **DNA**, **energy**, and **molecule**.
- Review the previous vocabulary word that is essential to this chapter: **cell**.

**Chapter 6 Overview, pp. 98–99**


- Read the title "Chapter 6 Overview" and the image captions. Then discuss the following points:
  - The cell is a typical animal cell.
  - A cytoskeleton helps the cell keep its shape and takes up a lot of room in the cytoplasm.
- Read the passage and ask the students to "follow along in your book as I read the text to you." When finished, review the definitions of the new vocabulary words in the passage: **organelle** and **nucleus**.
- Read the passage and ask the students to "follow along in your book as I read the text to you." When finished, review the definition of the new vocabulary word in the passage: **plasma membrane**. Then, discuss four ideas in the two passages, for example:
  - Human cells have organelles inside.
  - Each organelle has a job.
  - Most microscopic organisms do not have organelles.
  - The plasma membrane is responsible for what gets in and out of the cell.
- Review the three vocabulary words in the Chapter Overview and their definitions.

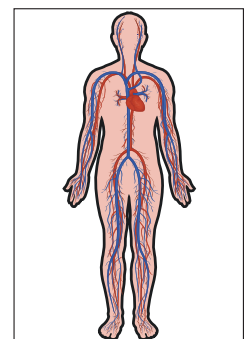
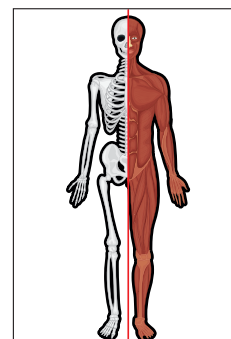
**Word Study**

These everyday words are highlighted in the sample pages on the right: **enveloped**, **crossed**, **function**. Say the words aloud and ask the students to repeat them. Read the sentences in which they appear, and discuss their definitions.

**Introductory Script**

//The chapter we're studying is called *Inside a Cell*. Today we'll review important vocabulary words like **organelle** and **molecule**. Then we'll read the Chapter Overview. Let's begin on page 96.//





## Lesson Adaptations

State and national education standards were consulted to help select appropriate topics to include in this curriculum. The content, although simplified, may be too difficult for some students to understand. Accordingly, suggestions to adapt the lessons are given below.

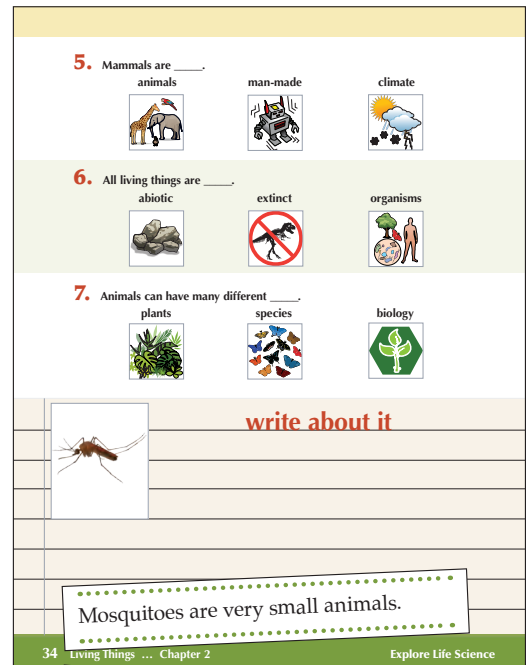
## Reading Adaptations

- Focus on the images, not the text. Each page has at least one large image, often with a caption. These images can be illustrations or photographs. The images closely reflect the information conveyed in the text. Talking points for the images on a page are given in the lesson plan. The main idea is to convey how the image relates to the topics taught by the text. This approach may be helpful to reach students who have difficulty understanding text as it is read to them.

## Writing Adaptations

- The Write About It section of the quiz is the only place that writing is used in the curriculum. Each quiz has an image from the chapter and several blank lines. There are several ways to approach this section:
  - Simply have the student use the image as a writing stimulus.
  - Read the Information given for each image in the “Write About It” Reference Guide to provide an extra writing stimulus.
  - Read the three sentence strips, and have the students copy them down.
  - Print out the sentence strips from the PDF Disc and cut them into individual strips. Sentence strips from other chapters can be integrated to serve as distractors. The student can select the appropriate sentence strips by pointing, grabbing, or eye gazing. Tape these into the book or take a picture to include in the student’s portfolio.

These adaptations give students the opportunity to show what they know through written expression. It also correlates to both national and state standards in English Language Arts.

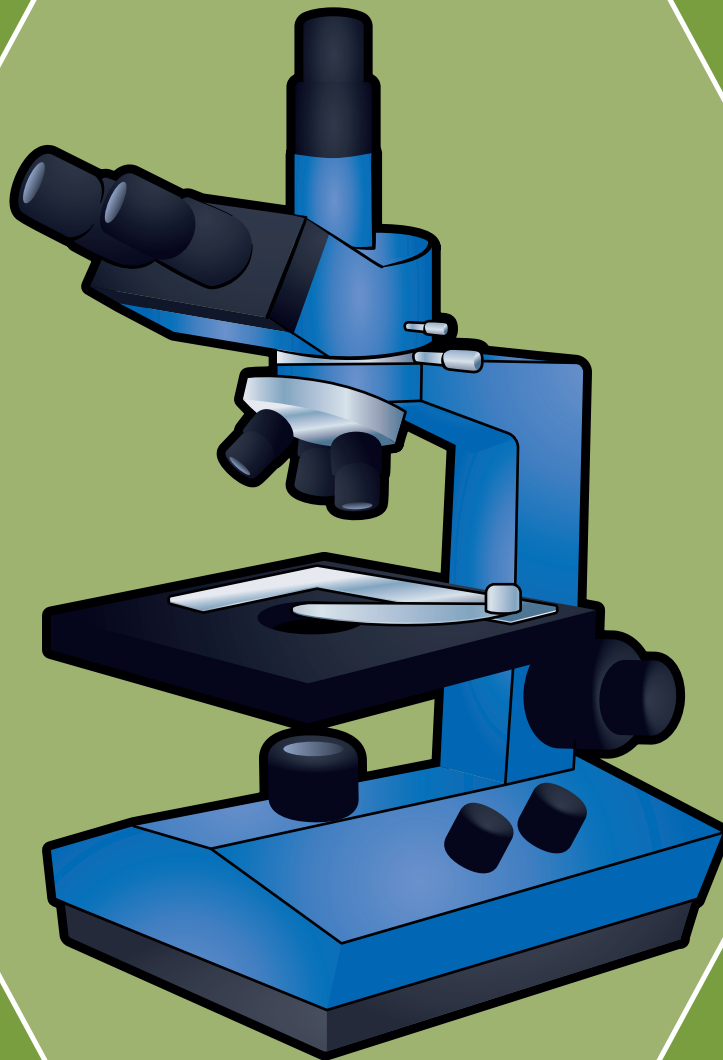




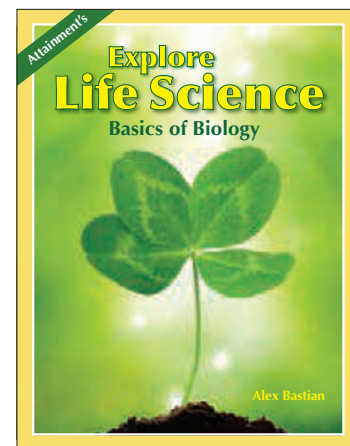
## CHAPTER

# 1

# Exploring Life Science

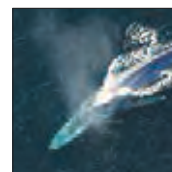
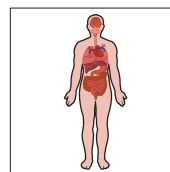
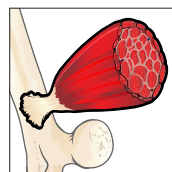
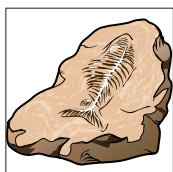
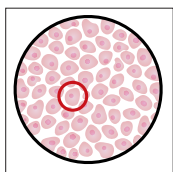
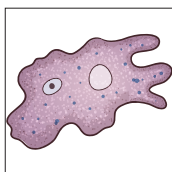
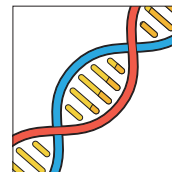
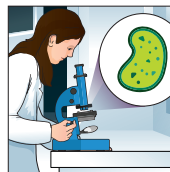
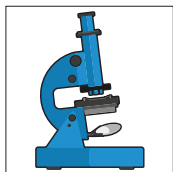
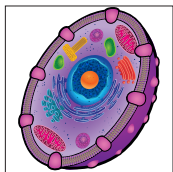


# Exploring Life Science



This curriculum covers the basics of biology. To start, it is important to understand that biology, the study of life, is a very large field. Biology, even at a basic level, can be very complicated. This curriculum uses several tools to make the learning process easier. Images, labs, and animations will be presented to the students in every chapter. A cell model is provided and will be used throughout the curriculum. This first chapter serves as both an introduction to biology and an introduction to the methods used in the curriculum.

Lesson	Type	Objective	Student Book Page	Content
1.1	Getting Started	Identify two facts about the front cover Identify two facts about the major illustration	5–7	Chapter title page, Big Ideas, Major Illustration
1.2	Vocabulary and Overview	★ Identify that biology is the study of life ★ Identify that biologists study biology	8–10	Vocabulary, What is Biology?
1.3	Topic Sequence A	★ Identify that biologists learn new things by doing experiments ★ Identify that a lab is a good way to learn biology concepts	11–14	Images, Models, Animation, Lab
1.4	Quiz / Review		15–16	Quiz



Chapter 1 sample images included in the Image Library

# Exploring Life Science

## Lesson Type

## Getting Started

### Objective

- ▶ The student identifies two facts about the cover and Major Illustration.

### Cover and Chapter Title Page, p. 5

- ▶ Ask the students, “What do you think the book will be about?”
- ▶ There is a plant on the cover.
- ▶ The three images on the title page are a cell model, a microscope, and a plant.
- ▶ Read all the text on the cover and title page, then discuss the following points:
  - Biology is a branch of science.
  - In this book, we will learn all about the science that makes us alive.
  - There will be a lot of hands-on activities to help us learn.

### Big Ideas, p. 6

- ▶ Read the text for each Big Idea, and discuss the following points:
  - Biology is a very large subject.
  - We will do some experiments to learn new things, just like biologists.
  - Labs are hands-on lessons.

### Major Illustration, p. 7

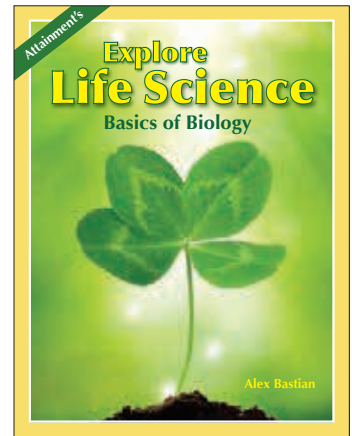
- ▶ Read the text, then discuss the following points:
  - This book teaches biology in different ways. This chapter tells us what those ways are.
  - There are many topics in biology.
  - Biology studies things small and large. DNA is very small, while trees are very large.
  - Biologists often work in a laboratory.

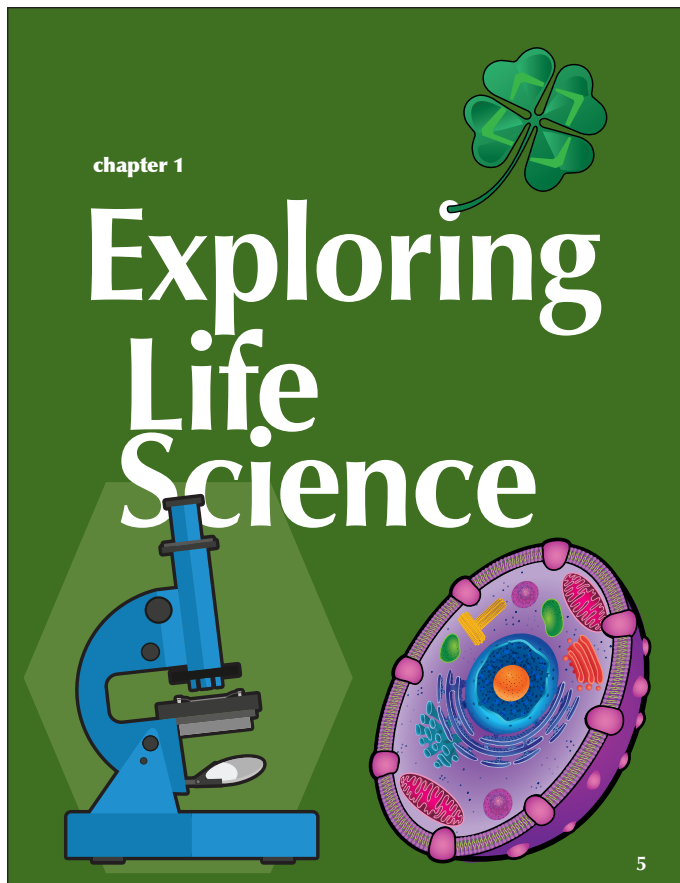
### Word Study

These everyday words are highlighted in the sample pages on the right: **concepts, exploring**. Say the words aloud and ask the students to repeat them. Read the sentences in which they appear, and discuss their definitions.

### Introductory Script

“Today we’re starting a new subject called Biology. It’s a science subject about what makes things alive. The book we are using is called *Explore Life Science*. Let’s begin on page 5.”





 **big ideas**

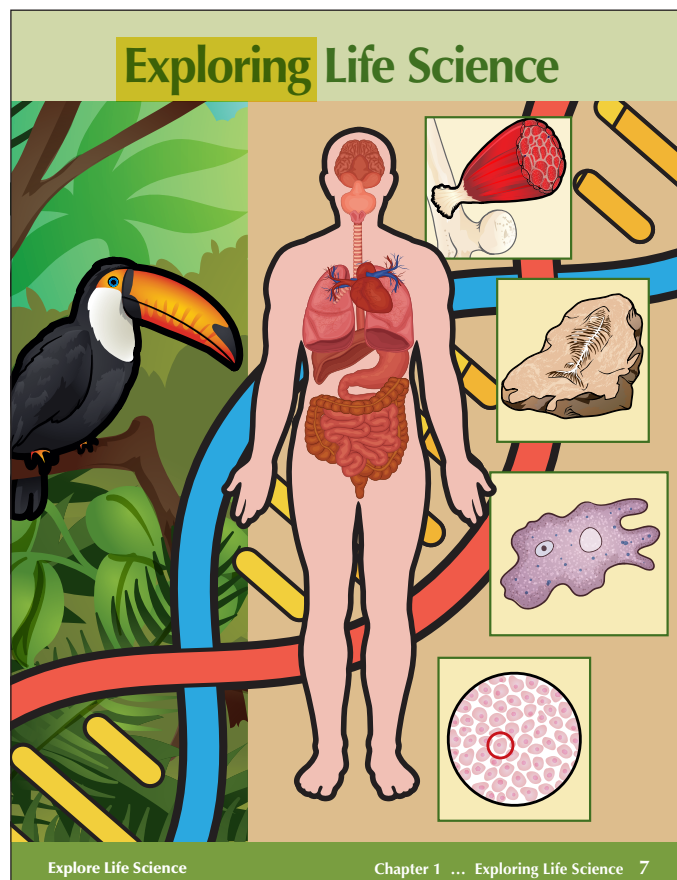
*Biology is the study of life.*

*People who study biology are called biologists.*

*A lab is a good way to learn biology concepts.*

*Biologists learn new things through experiments.*

6 Exploring Life Science ... Chapter 1 Explore Life Science





# Exploring Life Science

## Lesson Type

## Vocabulary and Chapter Overview



### Objectives

- ★ The student identifies that biology is the study of life.
- ★ The student identifies that biologists study biology.

### Vocabulary, pp. 8–9

- ▶ Read each vocabulary word and its definition.
- ▶ Write the two “Find the words” on a whiteboard, and read them aloud.
- ▶ Ask the students to either (1) copy them in their **Student Book**, on the whiteboard, or on a separate piece of paper; or (2) point to the word you’ve written when it’s spoken.
- ▶ Use the corresponding **Study Cards** when presenting the vocabulary words.
- ▶ Tell the students that “each word will be reviewed again after it’s read in a lesson.”
- ▶ The quiz vocabulary words are **model**, **animation**, and **dynamic**.

### What is Biology? p. 10

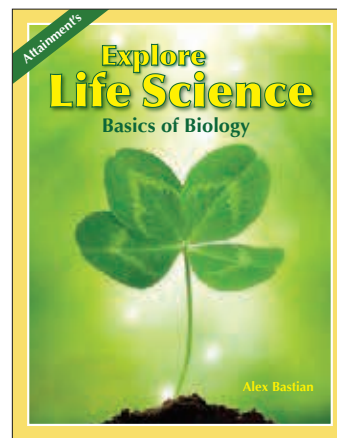
- ▶ Read the title “What is Biology?” Then discuss the following points:
  - There are so many living things in the world to study.
  - The science behind life is very complicated.
- ▶ Read the passage and ask the students to “follow along in your book as I read the text to you.” When finished, review the definitions of the new vocabulary words in the passage: **biology** and **biologist**. Then discuss four ideas in the passage, for example:
  - A biologist is a type of scientist that studies biology.
  - Biology is the study of life.
  - Biochemistry and ecology are just two examples of areas of biology; there are many others.
  - There is still a lot to learn about life on Earth.
- ▶ Review the two vocabulary words in the Chapter Overview and their definitions at the end of the lesson.

### Word Study

These everyday words are highlighted in the sample pages on the right: **life**, **hands-on**, **subject**. Say the words aloud and ask the students to repeat them. Read the sentences in which they appear, and discuss their definitions.

### Introductory Script

“The chapter we’re studying is called Exploring Life Science. Today we will read about what biology is and learn some important vocabulary words. Let’s begin on page 8.”





## vocabulary



**biology**

The study of **life** and living things.



**biologist**

A scientist who studies *biology*.



**image**

Any type of picture.



**model**

Shows what something looks like in real life.



A picture of any type.

\_\_\_\_\_



## vocabulary



**animation**

Changing images that show changes and movement.



**dynamic**

Always changing or moving.



**lab**

A **hands-on** way to learn about *biology*.



**experiment**

A procedure done to learn new things.



A hands-on way to learn about biology.

\_\_\_\_\_

## What is Biology?



**Biology** is the study of life and living things. Though it may sound simple, life is actually very complicated. Because life is so complicated, biology is a very large **subject**. There are many areas of biology, and different types of **biologists** study all of them. Studying all areas of biology is important to better understand the amazing existence of life.

# Exploring Life Science

## Lesson Type

## Topic Sequence A



### Objectives

- ★ The student identifies that biologists learn new things by doing experiments.
- ★ The student identifies that a lab is a good way to learn biology concepts.

### Images, p. 11

- ▶ Read the title “Images” and the image labels. Then discuss the following point:
  - There are many types of images.
- ▶ Read the passage and ask the students to “follow along in your book as I read the text to you.” When finished, review the definition of the new vocabulary word in the passage: **image**. Then discuss ideas in the passage, for example:
  - Pictures help us learn about biology.

### Models, p. 12

- ▶ Read the title “Models.” Then discuss the following point:
  - A model can show what the inside of a cell looks like.
- ▶ Read the passage and ask students to “follow along in your book as I read the text to you.” When finished, review the definition of the new vocabulary word in the passage: **model**. Then discuss ideas in the passage, for example:
  - Models usually show very small things, but not always. This means sometimes models are a guess.

### Animation, p. 13

- ▶ Read the title “Animation.” Then discuss the following point:
  - Animations are like mini movies.
- ▶ Read the passage and ask the students to “follow along in your book as I read the text to you.” When finished, review the definitions of the new vocabulary words in the passage: **animation** and **dynamic**. Then discuss two ideas in the passage, for example:
  - Animations are helpful to see things that change in biology.
  - Cartoons are made with animation.

### Lab, p. 14

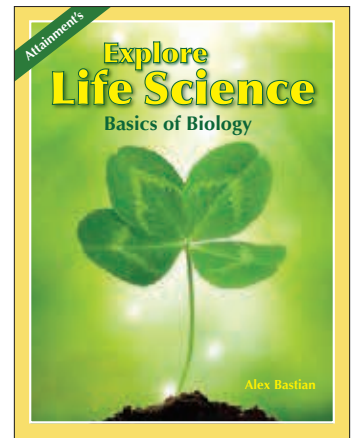
- ▶ Read the title “Lab.” Then discuss the following point:
  - This symbol appears at the top of every Lab page in the book.
- ▶ Read the passage and ask students to “follow along in your book as I read the text to you.” When finished, review the definitions of the new vocabulary words in the passage: **lab** and **experiment**. Then discuss two ideas in the passage, for example:
  - Biologists learn new things by doing experiments.
  - A lab is a good way to learn biology concepts.
- ▶ Review all six vocabulary words in the lesson and their definitions.

### Word Study

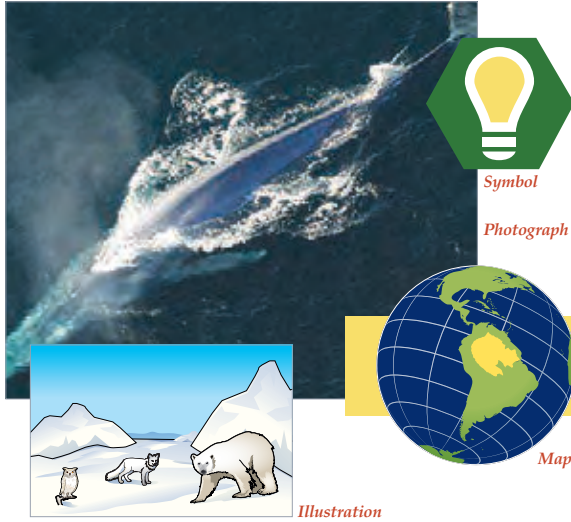
These everyday words are highlighted in the sample pages on the right: **visual**, **processes**, **represent**. Say the words aloud and ask the students to repeat them. Read the sentences in which they appear, and discuss their definitions.

### Introductory Script

“The chapter we’re studying is called Looking at Cells. Today we’ll read four interesting passages. They are all about tiny cells. Cells make up all living things. Let’s begin on page 11.”

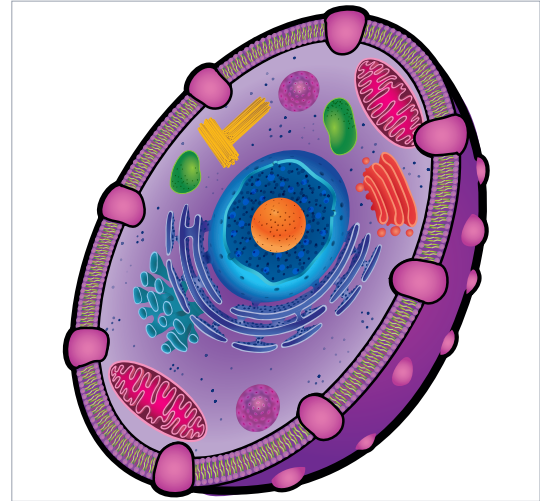


## Images



**Images** are one of the most common and useful types of study tools. **Visual** images are very helpful when learning biology. Photographs, illustrations, symbols, and maps are examples of images that help us learn about biology. Viewing different images when studying helps us remember what we learn.

## Models



**Models** are created to help us see what very small things in biology look like. A model can be an image or an object. A model of a microscopic cell could be large enough to hold in your hands. Models **represent** biologists' ideas of how something looks. Larger things like the human body can also be made into a model.

## Animation

**Animations** are like mini movies made with a computer. In biology, animations are used to show microscopic **processes** that cannot be seen otherwise. Everything in biology is **dynamic**, and animations help us visualize these changes. Faster computers and better software have made the use of detailed animations in learning more common.



## Lab



A **lab** is a hands-on way to learn about different areas of biology. Biologists perform **experiments** to help answer questions about the world around them. Most of what has been learned by biologists was discovered by performing experiments. Labs could consist of watching a plant grow or looking at a model. Labs and their results make biology easier to understand.



# Exploring Life Science

## Lesson Type

## Procedure

## Quiz, pp. 15–16

## Write About It

## Quiz/Review

- ▶ Review the **Study Cards** for this chapter. Review all the cards first. The three vocabulary words on the quiz are **model**, **animation**, and **dynamic**. These three cards can be further reviewed to help prepare for the quiz.
- ▶ Choose the procedure that works for you:
  - Have the students take the quiz in the book independently.
  - Read the questions and choices to the students, and have them circle or point to their answers.
  - Use the quiz as a chapter review and not a comprehension assessment.
- ▶ The quiz is also available in two digital formats: PDF and GoWorksheet Maker.
  - Print out the quiz with symbols from the PDF for the students to write on.
  - Have the students take the quiz without symbols (PDF or GoWorksheet) after using the book quiz as a review.
  - Have the students only take the GoWorksheet Maker quiz.
- ▶ Choose the method that works for you:
  - Have the students complete the Write About It exercise independently.
  - Read the writing ideas from the Write About It **Reference Guide** to the students to stimulate their writing.
  - Have the students apply sentence strips in the Write About It exercise as an alternative to writing.



**quiz**

(Circle) the correct answer.

- Biology is the study of \_\_\_\_\_.
- \_\_\_\_\_ study biology.
- Biologists learn new things by doing \_\_\_\_\_.
- A \_\_\_\_\_ is a good way to learn biology concepts.

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- A \_\_\_\_\_ shows what something looks like in real life.
- Movement can be shown with \_\_\_\_\_.
- Something is \_\_\_\_\_ if it is always changing or moving.

**write about it**

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