

Glencoe Science

Florida Science



Grades 6–8



Pine Forrest in Hobe Sound, FL



Glencoe

New York, New York Columbus, Ohio Chicago, Illinois Peoria, Illinois Woodland Hills, California



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Send all inquiries to:
Glencoe/McGraw-Hill
8787 Orion Place
Columbus, OH 43240

ISBN 0-07-873382-0
Printed in the United States of America
1 2 3 4 5 6 7 8 9 10 047 09 08 07 06 05

Florida Teacher Handbook

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**Wooden pier and post
in Islamorda, FL**

8-Step Process

The Florida Continuous Improvement Model: Implementing the 8-Step Instructional Process for *Glencoe Florida Science*

The Continuous Improvement Model provides a structure for improving student achievement. Its implementation in the science classroom can improve student mastery of the Sunshine State Standards and aid in student preparation for the FCAT.

The backbone of the Continuous Improvement Model is the 8-Step Process:



Disaggregate Data



Provide Tutorials for Non-Mastery Students



Develop Timeline and Instructional Focus Calendar



Provide Enrichments for Mastery Students



Deliver Focused Benchmark Lessons



Monitor Instructional Delivery

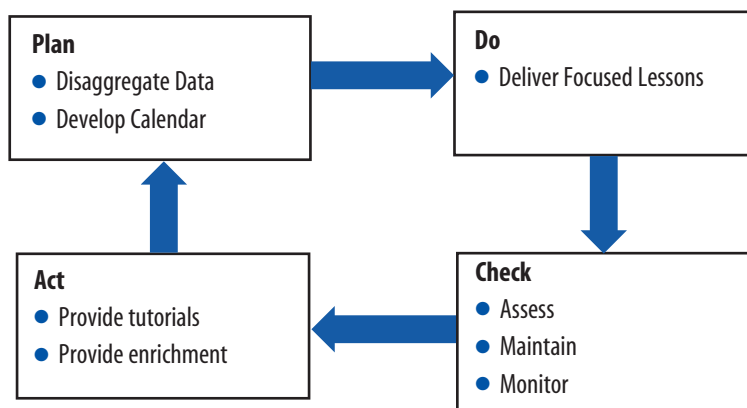


Administer Mini-Assessments of Benchmarks



Maintain Efficacy of the Process

The cyclical Plan-Do-Check-Act nature of the 8-Step Process provides continuous feedback and results data that can be used to determine the effectiveness of instruction and allow for modification as needed.



The following pages will describe how *Glencoe Florida Science* helps you work through each step.

8-Step Process



Disaggregate Data

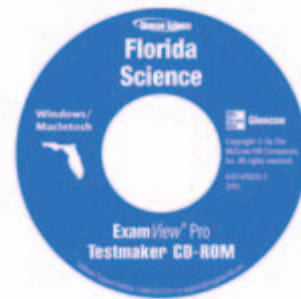
Analyze Results

The foundation of the Continuous Improvement Model is the determination of student strengths and weaknesses at the beginning of the school year. With this information, a plan will be formulated to address student needs.

In addition to data provided by your district or the state, *Glencoe Florida Science* offers these data collection tools:

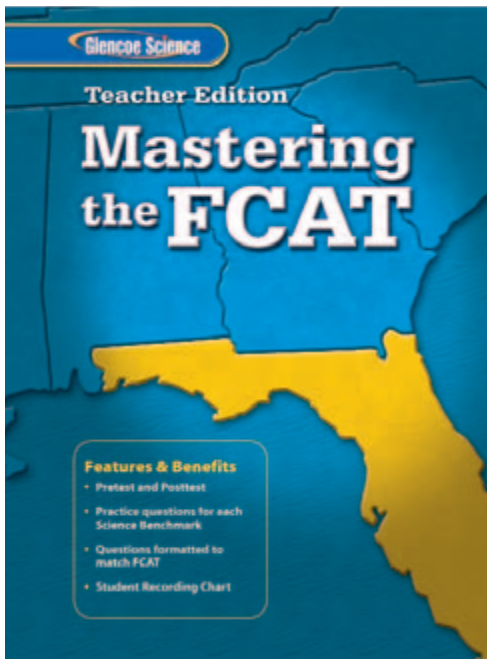
ExamView® Pro Testmaker CD-ROM

- Contains editable Pre-tests for each chapter of the text
- Allows you to build Benchmark-specific tests
- Provides disaggregated data by student or Benchmark, when students test online



Succeeding on the FCAT CD-ROM

- Allows students to practice by Benchmark
- Generates data reports by Benchmark, for the class, and for individual students
- Allows the teacher to set a mastery threshold
- Generates NCLB data and reports



Mastering the FCAT

- Offers an additional pre-test that can be taken with paper and pencil, or edited and taken online through ExamView® Pro
- Contains a Student Tracking Chart to record student progress

8-Step Process



Develop Timeline and Instructional Focus Calendar

Make a Plan

Once student needs are determined, it's time to plan. Typically, a district or school time line will be developed based on this step. Once such an overall strategy is in place, you can plan your focused lesson instruction.

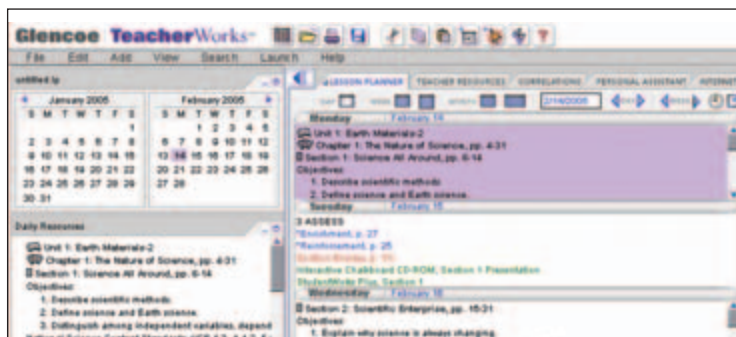
FCAT Pacing Guide

The Pacing Guide details a 22-week sequence of single-session classes for teaching the *Student Edition* to cover all in-depth Benchmarks. This guide also includes scheduling for block classes. Both schedules allow time for review and practice before the FCAT in the spring. The guide then details what to cover for the remainder of the school year.

Chapter 9: Electromagnetic Waves						
45-minute period						
Day 37	Day 38	Day 39	Day 40	Day 41	Day 42	Day 43
Launch LAB Section 1 MiniLAB	Section 2 MiniLAB	Section 2 1-page LAB	Section 3	Section 3 2-page LAB	Section 3 2-page LAB	Chapter Review FCAT Test Practice
90-minute period						
Day 22	Day 23	Day 24	Day 25	Day 26	Day 6	
Launch LAB Sections 1-2 MiniLAB	Section 2 MiniLAB	Section 2 1-page LAB	Section 3 2-page LAB	Section 4 FCAT Test Practice	Chapter Review	

TeacherWorks™ CD-ROM

- Lists Benchmarks for each chapter and section
- Contains Interactive Teacher Edition
- Provides editable Florida Planning Guide for Continuous Improvement with Benchmark correlations and a list of all Teaching Resources. Pick and choose what you need when you need it.
- Each lesson is available in three versions, (for three ability levels)—L1, L2, and L3.



8-Step Process



Deliver Focused Benchmarks Lessons

Teach the Lesson

With your teaching plan developed, you are ready to focus on lessons that are structured around the Sunshine State Standards. Lessons should concentrate on covering required Benchmarks, some FCAT focus, and meeting students' needs.

Interactive Chalkboard™ CD-ROM

- Includes editable Microsoft® PowerPoint® presentations for each section of every chapter
- Contains *Concepts in Motion* animations with audio
- Provides an extensive image bank

Glencoe Florida Science Student Edition

- Lists all Benchmarks covered within each chapter and section
- Provides correlations to Benchmarks for labs, features, and assessment questions
- Includes correlations to Sunshine State Standards for language arts and mathematics

Glencoe Florida Science Teacher Wraparound Edition

- Shows chapter components at a glance on the Chapter Organizer pages at the beginning of each chapter
- Includes resources for Assessment, Tutorials, and Enrichment

chapter 15 Organizer		
Section/Objectives	Standards	Labs/Features
Chapter Opener 1. Use the Chapter Opener to develop a time line for recent Benchmarks. For a description of the Florida Continuum Improvement Model and the 8-Step Process see p. 112.	National See p. 10-117 for a key to standards.	Launch Lab: Model a Chemical Synthesis, p. 433 Video Lab: Fertilizers, p. 432
Section 1: The Endocrine System 2 lessons 1.3 blocks 1. Define how hormones function. 2. Identify different endocrine glands and the effects of the hormones they produce. 3. Describe how a feedback system works in your body.	National Content Standards: UCFS, A.1, A.2, C1, C.2	Applying Math: Glucose Levels, p. 436 Visualizing the Endocrine System, pp. 436-437
Section 2: The Reproductive System 2 lessons 1.3 blocks 4. Identify the function of the reproductive system. 5. Compare and contrast the major structures of the male and female reproductive systems. 6. Sequence the stages of the menstrual cycle.	National Content Standards: UCFS, A.1, A.2, C1, C.2	Science Online, p. 441 MiniLAB: Graphing Hormone Levels, p. 442 Lab: Interpreting Diagrams, p. 444
Section 3: Human Life Stages 3 lessons 1.3 blocks 7. Describe the fertilization of a human egg. 8. List the major events in the development of an embryonal fetus. 9. Describe the developmental stages of infancy, childhood, adolescence, and adulthood.	National Content Standards: UCFS, A.1, A.2, B.2, C1, C.3, C.5	Integrate Science, p. 446 MiniLAB: Interpreting Fetal Development, p. 448 Science Online, p. 449 Integrate Physics, p. 452 Lab: Changing Body Proportions, pp. 454-455 Science State Facts About Infants, p. 456

Lab Materials	Reproducible Resources	Section Assessment	Technology
Launch Lab: Filter paper, metric ruler, glass, baking soda, salt, dropper, vinegar	Chapter Focus Resources Fertilization Worksheet, p. 13 Directed Reading Overview, p. 17 Note-taking Worksheets, pp. 31-33	Assessment Performance	StudentWorks Plus includes: • Interactive Student Edition • Lesson Planner with calendar • Access to all program • Skillbanks • Correlations to standards • Web links • Video Lab
MiniLAB: graph paper Lab: paper, pencil	Chapter Focus Resources Transparency Activity, p. 42 Enrichment, p. 28 Reinforcement, p. 25 Directed Reading, p. 18 Lab Activity, pp. 8-11 Transparency Activity, pp. 45-46	Portfolio Visual Learning, p. 437 Performance Applying Math, p. 436 Directed Reading, p. 18 Content Section Review, p. 438	Section Focus Transparency Teaching Transparency Interactive Chalkboard CD-ROM StudentWorks Plus
MiniLAB: graph paper Lab: tape measure, erasable pencil, graph paper	Chapter Focus Resources Transparency Activity, p. 44 MiniLAB, p. 4 Enrichment, p. 27 Directed Reading, pp. 19, 20 Lab Worksheet, pp. 7-9 Lab Activity, pp. 13-14 Lab Management and Safety, p. 70	Portfolio Cultural Diversity, p. 432 Performance MiniLAB, p. 448 Applying Math, p. 435 Content Section Review, p. 435	Section Focus Transparency Interactive Chalkboard CD-ROM StudentWorks Plus Section Review, p. 435 Teaching Transparency Interactive Chalkboard CD-ROM StudentWorks Plus FCAT Transparency Assessment Transparency

FCAT PREPARATION

- Succeeding on the FCAT: Benchmark-driven student feedback providing student feedback and results data
- ExamPrep™ Pro TutorMaster: Use pre-made FCAT tests or build your own
- FCAT Transparency: Daily FCAT Bell-ringer
- Mastering the FCAT: FCAT practice by benchmark
- fl.msscience.com: FCAT test practice, section and chapter quizzes

Section Resources for Continuous Improvement		
<ul style="list-style-type: none"> • Mini-Assessment • Section Review • FCAT Transparency • Performance Assessment in the Science Classroom • More Section Review 	<ul style="list-style-type: none"> • Directed Reading for Content Mastery • Science Notebook • Study Guide and Reinforcement • StudentWorks Plus • Succeeding on the FCAT • Interactive Tutor 	<ul style="list-style-type: none"> • Challenge Activity • Enrichment Worksheet • Critical Thinking/Problem Solving • Cultural Diversity • Science Inquiry Lab Manual • Probeware Lab Manual

8-Step Process

Differentiated Instruction

The following resources provide materials for use with diverse student needs.

Glencoe Florida Science Teacher Wraparound Edition

- Each chapter's Resource Manager pages show reduced worksheets and transparencies, including options for reading and mathematics support. The following labels are used to help you decide which activities are appropriate for your students:

- L1** appropriate for students with learning difficulties
- L2** within the ability range of all students
- L3** designed for students who have mastered the content

- Features in the margins of the *Teacher Wraparound Edition* are labeled with the above learning levels and the following:

- ELL** appropriate for English-language learners
- COOP LEARN** designed for a small group
- LS** strategies that address different learning styles
- P** students produce work appropriate for their portfolios

StudentWorks™ Plus CD-ROM

- StudentWorks™ Plus is ideal for auditory learners, English-language learners, or reluctant readers. It combines the *Student Edition* on CD-ROM with a full audio reading of the text in English so that students can simultaneously read and listen to the book. Spanish and Haitian Creole summaries are available for each chapter. It also includes *Concepts in Motion* animations with audio.

Reading Essentials: Florida Interactive Student Textbook

- This workbook contains the content of the *Student Edition* written at a reading level two to three grades lower than the *Student Edition*. It is appropriate for struggling readers and ELL students. To make the content accessible to all learners, it includes additional reading strategies and extra *Foldables* projects.

Additional Components

- Dinah Zike's *Foldables*™ are found in each chapter and provide a kinesthetic study organizer that students can use throughout the chapter.
- The Glencoe Professional Series component *ELL Strategies for Science* helps meet the needs of English-language learners.
- At fl6.msscience.com, fl7.msscience.com, and fl8.msscience.com, you will find a multilingual science glossary that lists key science terms in English, Spanish, Haitian Creole, and seven other languages. You also will find tools for differentiation including an Interactive Tutor, Vocabulary PuzzleMaker, and WebQuests.
- Virtual Labs provide application and enrichment opportunities for students as interactive simulations.

8-Step Process



Administer Mini-Assessments of Benchmarks

Check Progress

Assessment is the heart of the Florida Continuous Improvement Model. Assessments will tell you how successful your instruction was and what adjustments need to be made. Using different assessment techniques will help you meet the diverse learning styles of your students.

Assessment		
	Student Edition	Technology and Online Resources
Section	<i>Reading Checks</i> throughout the text assess student comprehension.	<i>More Section Review</i> at fl6.msscience.com , fl7.msscience.com , and fl8.msscience.com provides additional section questions.
	<i>Annually Assessed Benchmark Checks</i> are questions that assess a Benchmark's content.	Unique section assessment questions correlated to Benchmarks follow each <i>Interactive Chalkboard</i> presentation.
	<i>Section Reviews</i> provide questions of different ability levels. Benchmark correlations are given.	
Chapter	<i>Chapter Review</i> pages include Using Vocabulary, Checking Concepts, Performance Activities, and Applying Math assessments. Benchmark correlations are given.	Chapter Review at fl6.msscience.com , fl7.msscience.com , and fl8.msscience.com provides additional chapter questions.
		ExamView® Pro Testmaker CD-ROM enables test generation by chapter or Benchmark.
		<i>TeacherWorks™</i> CD-ROM contains transparencies, including <i>Chapter Review</i> , <i>Chapter Test</i> , and <i>Assessment</i> , and worksheets for each chapter.
FCAT	Each chapter ends with two pages of <i>FCAT Practice</i> . These questions are written in all four FCAT formats and are correlated to Benchmarks.	FCAT Practice at fl6.msscience.com , fl7.msscience.com , and fl8.msscience.com provides additional FCAT questions.
		ExamView® Pro Testmaker CD-ROM includes a pre-test, post-test, and practice questions for each Benchmark. These questions come from <i>Mastering the FCAT</i> book.
		<i>TeacherWorks™</i> CD-ROM contains the FCAT Transparencies book. There are two transparencies for each assessed Benchmark.
		<i>Succeeding on the FCAT</i> CD-ROM is a Benchmark-driven tutorial that can provide student feedback and teacher data.

8-Step Process



Provide Tutorials for Non-Mastery Students

Provide Practice

Assessment and daily observations will help you identify students who need additional help mastering the Sunshine State Standards. The following resources will help you meet students' needs.

Tutorials for Reading and Science Skills

Teacher Classroom Resources

Florida Science Reading Essentials: An Interactive Student Textbook—a key resource for struggling and reluctant readers. Reading level is two to three grade levels below textbook.

Chapter Resources

- Note-taking Worksheets—content outlines, with blanks for students to complete
- Directed Reading for Content Mastery (English and Spanish)—consists of an overview page, two pages of review by section, and a key terms page
- Reinforcement worksheets—review chapter content
- Teaching Transparency Activity—black and white copy of teaching transparency with worksheet for students to complete

Mathematics Skills Activities—allows students to practice mathematics skills, while reinforcing science concepts; correlated to the Sunshine State Standards, Mathematics

Reading and Writing Skills Activities—offers science-based reading and writing activities; models FCAT formats; correlated to the Sunshine State Standards, Language Arts

Science Notebook—presents a step-by-step approach to improving student note-taking ability with strategies based on the Cornell note-taking model; builds scientific and academic vocabulary skills, scientific writing skills, and ability in reading for critical content; uses Bloom's Hierarchy of Learning to indicate strategy levels

Study Guide and Reinforcement—includes worksheets and study tools for each section

Performance Assessment in the Science Classroom—contains rubrics and assessment-task checklists

Technology

Succeeding on the FCAT CD-ROM—Benchmark-based tutorials

StudentWorks™ Plus CD-ROM—combines the *Student Edition* on CD-ROM with full audio reading of the text in English; includes Spanish and Haitian Creole summaries; contains student worksheets, *Reading Essentials*, and *Laboratory Activities Manual*

Video Labs—for student review, absent students, and guiding students who have difficulty with labs; one lab per chapter; VHS and DVD

fl6.msscience.com, fl7.msscience.com, and fl8.msscience.com

FCAT Practice—quizzes correlated to the FCAT

Vocabulary PuzzleMaker—create word searches, crossword puzzles, and word jumbles using chapter vocabulary

Interactive Tutor—vocabulary-based word searches, puzzles, and games; one per chapter



Provide Enrichment for Mastery Students

Provide Enrichment

Students that master content will benefit from challenging, hands-on investigations that can be done in the classroom or a computer lab.

Teacher Classroom Resources

Differentiated Instruction, Challenge activities—in-depth strategies in the *Teacher Wraparound Edition* for mastery students

Enrichment Worksheets—activities in *Chapter Resources* that extend chapter topics or explore related topics

Science Inquiry Lab Manual—open-ended activities that develop critical-thinking in science

Probeware Lab Manual—labs that use a probe or sensor to collect data

Cultural Diversity—activities that put scientific achievements in a multicultural context

Life Science Critical Thinking/Problem Solving, *Earth Science Critical Thinking/Problem Solving*, *Physical Science Critical Thinking/Problem Solving*—three resources that help students develop higher-order thinking skills in science

Study Guide and Reinforcement—includes worksheets and study tools for each section

Performance Assessment in the Science Classroom—contains rubrics and assessment-task checklists

Technology

Virtual Labs CD-ROM—interactive lab simulations for each chapter

StudentWorks™ Plus CD-ROM—combines the Interactive Teacher Wraparound Edition, planning tools, and electronic versions of print resources

fl6.msscience.com, fl7.msscience.com, and fl8.msscience.com

FCAT Practice—quizzes correlated to the FCAT

8-Step Process



Monitor Instructional Delivery

Demonstrate Performance

School leadership support and monitoring is an integral part of the 8-Step Process. *Glencoe Florida Science* provides options to track your Benchmark coverage.

TeacherWorks™ CD-ROM

- create printable lesson plans with Benchmark correlations and resources
- customize lessons to align with various capabilities and skill levels of your students

Florida Planning Guide for Continuous Improvement

- focuses on ways teachers can intervene to help struggling students improve their performance
- contains Academic Improvement Plan, a daily assignment document that can be used to reflect and identify additional modified lessons for the diverse needs of students
- includes Monitor Benchmark Progress chart, a weekly benchmark proficiency document that provides a quick solution for each achievement level
- includes Maintenance Progress chart, a weekly benchmark review and evaluation document that records periodic reviews of each Sunshine State Standard and illustrates your Benchmark review progress
- editable version of this guide also available on *TeacherWorks™* CD-ROM

Science YES!

- professional development modules that provide additional content support for key science concepts

Curriculum Mapping for Grades 6–8

- incorporates the 8-Step Continuous Improvement Plan to prepare your students for the FCAT
- correlates each Sunshine State Standard to all available Glencoe middle school print and technology materials
- utilizes a scaffolding content approach to ensure that Benchmarks are reinforced throughout middle school



Maintain Efficacy of the Process

Help Students Retain Knowledge

Once students have mastered a skill, it is important that they retain what they have learned. Reinforcement should be an integral part of daily lesson plans. The *Glencoe Florida Science* program offers many options for skill and content reinforcement.

Science Skills

MindJogger Videoquizzes

- game show format to help students review every main idea and key term in the textbook
- VHS and DVD

ExamView™ Pro Testmaker CD-ROM

- includes questions from *Mastering the FCAT* test prep book.
- contains a pre-test, post-test, and practice questions in FCAT formats for each Benchmark

Interactive Tutor at fl6.msscience.com, fl7.msscience.com, and fl8.msscience.com

- vocabulary-based word searches, puzzles, and games
- one per chapter

FCAT Skills

Mastering the FCAT

- provides Benchmark-based practice questions in FCAT formats
- includes student recording chart

Succeeding on the FCAT CD-ROM

- Benchmark based tutorial

FCAT Transparencies

- two transparencies for each Benchmark
- can be used for pre-tests or post-tests

FCAT Practice at fl6.msscience.com, fl7.msscience.com, and fl8.msscience.com

- quizzes correlated to the FCAT

Academic Improvement Plan

Student _____ Teacher _____

Course _____ Date _____

Benchmark(s):

Problem Area	Solution Steps to Be Taken	Activities/Labs/ Resources Needed	Evaluation Status



Monitor Progress (Progress Review & Evaluation)

Benchmark(s)	1st Review	2nd Review	3rd Review	4th Review	Mastery Evaluation



Maintenance

Problem Area Identified benchmarks in content area	Solution Steps Modified Activities/Labs/Resources
	Low-level achievement:
	Mid-level achievement:
	High-level achievement: