

New Jersey Guide to Daily Intervention



Mathematics

Applications and Concepts

Courses 1, 2, & 3



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



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Glencoe Mathematics: Applications and Concepts
New Jersey Guide to Daily Intervention

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Teacher's Guide to Using the New Jersey Guide to Daily Intervention

Today it is vital that students understand the mathematics that they are learning. Using computers on the job, making good consumer choices, evaluating information, and other life skills depend upon good mathematics skills. Since no two students are exactly the same, in every classroom there will be students of various abilities and skill levels. This booklet focuses on ways that teachers can intervene to assist the struggling student to improve his or her performance. Helping all students succeed in mathematics and develop their mathematical reasoning skills is an ambitious and worthwhile goal.

In order to ensure students' success, teachers can follow a three-step process of daily intervention.

- 1. Assessment of individual student needs** Teachers need to evaluate the needs of students in order to meet those needs.
- 2. Ongoing evaluation of student progress** Monitoring students' progress and understanding on a daily basis allows a teacher to head off trouble.
- 3. Monitoring instructional activities to strengthen students' weaknesses** Providing opportunities for students to immediately address any weaknesses ensures students' continued success.

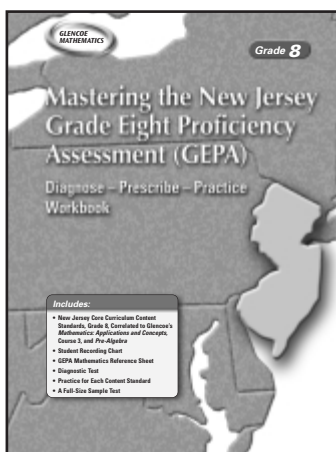
The *Glencoe Mathematics: Applications and Concepts* programs include tools for daily intervention in the Student Edition, the Teacher Wraparound Edition, the Teacher Classroom Resources, the Internet, and other products. Using these tools can help you help your students realize mathematical success. The following pages detail each resource available and the correlations show how they are used in each lesson of *Glencoe Mathematics: Applications and Concepts*.

Daily Intervention for New Jersey Students and Teachers



This booklet contains correlations to materials available from Glencoe/McGraw-Hill that can assist you in preparing your students for success on the New Jersey Grade Eight Proficiency Assessment (GEPA). Correlations of the New Jersey Core Curriculum Content Standards for Mathematics for grades 6 through 8 to *Glencoe Mathematics: Applications and Concepts*, Courses 1–3, are included for your convenience.

In addition, this booklet contains correlations between the Student Edition of *Glencoe Mathematics: Applications and Concepts*, Course 3, and the following workbooks.



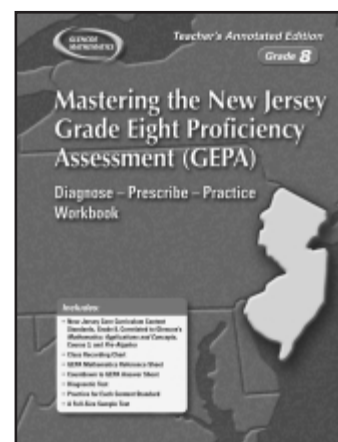
Mastering the New Jersey Grade Eight Proficiency Assessment (GEPA): Diagnose–Prescribe–Practice Workbook, Grade 8, Student Edition

Mastering the New Jersey Grade Eight Proficiency Assessment (GEPA): Diagnose–Prescribe–Practice Workbook, Grade 8, Student Edition

This workbook includes a diagnostic test, practice for each New Jersey Core Curriculum Content Standard for Mathematics for Grade 8, and a sample test. Each item in the diagnostic test is referenced by Content Standard so students can track their proficiency using the Student Recording Chart. This chart allows students to pinpoint where they need additional practice. Correlations of the New Jersey Core Curriculum Content Standards for Mathematics for Grade 8 to *Glencoe Mathematics: Applications and Concepts*, Course 3, are also included.

Mastering the New Jersey Grade Eight Proficiency Assessment (GEPA): Diagnose–Prescribe–Practice Workbook, Grade 8, Teacher’s Annotated Edition

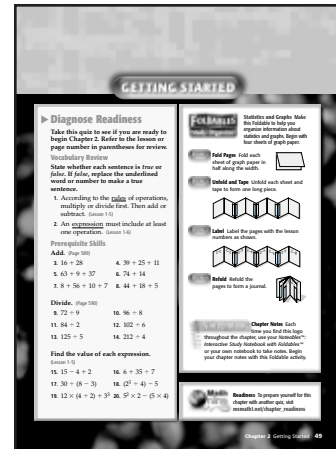
In this Teacher’s Annotated Edition, answers are printed full-size in place on the student pages of the diagnostic test, practice, and sample test pages. Correlations of the New Jersey Core Curriculum Content Standards for Mathematics for Grade 8 to *Glencoe Mathematics: Applications and Concepts*, Course 3, are also included. A Class Recording Chart allows you to record diagnostic test scores to quickly see on which standards your students need additional practice. Each item in the diagnostic and sample tests is referenced by content standard. A Countdown to GEPA answer sheet is also included.



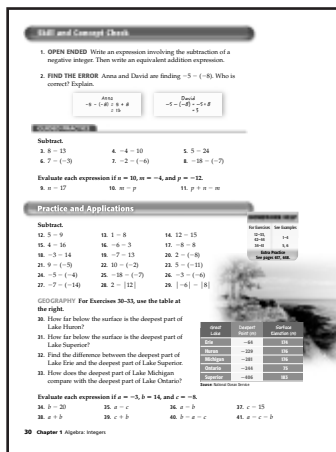
Mastering the New Jersey Grade Eight Proficiency Assessment (GEPA): Diagnose–Prescribe–Practice Workbook, Grade 8, Teacher’s Annotated Edition

Daily Intervention in the Student Edition

- In the Getting Started section at the beginning of each chapter in the Student Edition, the **Prerequisite Skills** check students' preparedness for the chapter. You can check prior knowledge by reviewing prerequisite topics and explaining how these prerequisite topics are related to the current concept.
- Additional practice of **Prerequisite Skills** is provided at the end of each lesson with page references to help students review the concepts. These exercises review concepts and skills that will be applied in the next lesson. The Prerequisite Skills section in the Student Handbook in the back of the Student Edition provides explanation and practice of skills that are needed for success in the course.



Course 1, Student Edition, p. 49

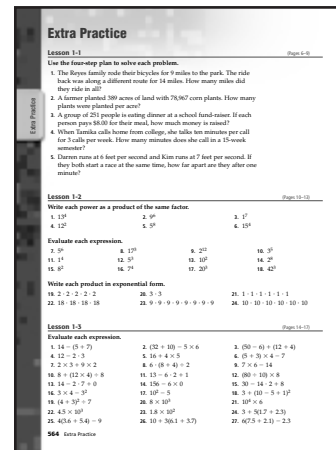


Course 3, Student Edition, p. 30

- You can use the **Skill and Concept Check** exercises in class to ensure that all students understand the concepts. Students communicate their understanding of the concepts just taught by defining, describing, and explaining mathematical concepts. **Find the Error** exercises help students identify and address common errors before they occur.
- **Guided Practice** These exercises present a representative sample of the exercises in the Practice and Apply section. A key is provided in the Teacher Wraparound Edition that correlates the exercises to the corresponding examples.
- **Application** Students have the opportunity to solve a real-world or mathematical connection problem as a check for understanding.

In the back of the Student Editions,

- **Extra Practice** provides additional, immediate practice with the skills and concepts from each lesson.
- **Mixed Problem Solving** includes numerous verbal problems for students to reinforce their problem-solving skills.
- **Preparing for Standardized Tests** reviews various strategies for resolving questions like those that appear on the New Jersey GEPA.



Course 2, Student Edition, p. 564

Daily Intervention in the Teacher Wraparound Edition



• The New Jersey Core Curriculum Content Standards for Mathematics, for Grades 6, 7, and 8, are correlated to lessons in the Student and Teacher Wraparound Editions.

- **Daily Intervention** features provide suggestions for addressing various learning styles and helping students who are having difficulty.
- The **Differentiated Instruction** suggestions are keyed to eight commonly accepted learning styles.
- **Unlocking Misconceptions** suggestions help you analyze where students make common errors so you can point these trouble spots out to them.

The screenshot shows a lesson page with two main sections: 'Convert Units of Mass' and 'Convert Units of Capacity'. Each section includes a 'Complete' box with conversion problems and a 'Think It Through' box with a word problem. A 'Daily Intervention' box at the bottom provides differentiated instruction for students who struggle with unit conversions. The page is titled 'Lesson 14 Measurement: The Metric System'.

Course 2, Teacher Wraparound Edition, p. 39

The screenshot shows a lesson page with a 'Daily Intervention' box on the left and a 'Teacher to Teacher' box on the right. The 'Daily Intervention' box contains a word problem about a garden and a table with data. The 'Teacher to Teacher' box contains a teaching suggestion about using a number line to compare fractions. The page is titled 'Lesson 14 Making Fractions'.

Course 1, Teacher Wraparound Edition, p. 69

- Each lesson ends with **Open-Ended Assessment** or **Higher-Level Thinking** strategies for closing the lesson and ensuring that students understand and can apply the concepts. These strategies for bringing closure to the lesson are addressed through writing, modeling, and speaking.

- **Teacher to Teacher** features contain teaching suggestions from teachers who are successfully teaching mathematics in their classrooms. Suggestions include content tips, techniques, and activities that can be used in intervention.

The screenshot shows a lesson page with three main sections: 'Building on Prior Knowledge', 'Learning in This Chapter', and 'Making Future Connections'. Each section contains text and mathematical examples. The 'Building on Prior Knowledge' section discusses fractions and decimals. The 'Learning in This Chapter' section discusses algebraic concepts. The 'Making Future Connections' section discusses the relationship between algebra and geometry. The page is titled 'Mathematical Content and Teaching Strategies'.

Course 3, Teacher Wraparound Edition, p. 60C

Daily Intervention in the Teacher Classroom Resources

- The **Study Guide and Intervention** masters found in the Chapter Resource Masters summarize key concepts for each objective and provide practice exercises. These masters are also available as a consumable **Study Guide and Intervention Workbook** in English and Spanish. You may wish to use these masters for additional instruction and practice with individual students, in cooperative groups, or in peer tutoring situations.

NAME _____ DATE _____ PERIOD _____

3-4 Study Guide and Intervention

The Pythagorean Theorem

The **Pythagorean Theorem** describes the relationship among the lengths of the sides of any right triangle. In a right triangle, the square of the length of the hypotenuse is equal to the sum of the squares of the lengths of the legs. You can use the Pythagorean Theorem to find the length of a side of a right triangle if the lengths of the other two sides are known.

EXAMPLE 1 Find the missing measure for each right triangle. Round to the nearest tenth.

$$c^2 = a^2 + b^2$$

$$c^2 = 24^2 + 32^2$$

$$c^2 = 576 + 1,024$$

$$c^2 = 1,600$$

$$c = \sqrt{1,600}$$

$$c = 40$$

The length of the hypotenuse is 40 feet.

$$c^2 = a^2 + b^2$$

$$c^2 = 20^2 + 15^2$$

$$c^2 = 400 + 225 + 225$$

$$c^2 = 850$$

$$c = \sqrt{850}$$

$$18.2 = b$$

The length of the other leg is about 18.2 centimeters.

EXAMPLE 2 Write an equation you could use to find the length of the missing side of each right triangle. Then find the missing length. Round to the nearest tenth if necessary.

1. $c = \sqrt{41^2 + 51^2}$
4. $a = 7 \text{ km}, b = 12 \text{ km}$

2. $c = \sqrt{9^2 + 12^2}$
5. $a = 10 \text{ yd}, c = 25 \text{ yd}$

3. $20^2 = 15^2 + b^2$
6. $b = 14 \text{ ft}, c = 20 \text{ ft}$

Course 3, Chapter 3 Resource Masters, p. 148

5-Minute Check Use with Lesson 2-4

Make a line plot for each set of data. Identify any clusters, gaps, or outliers.

1. **Bicycle Prices**

150	175	130	150	190	230	200	180
175	175	160	150	175	140	140	85

2. Use the line plot at the right that shows the number of students in each classroom throughout the school. What is the most common class size?

3. **Standardized Test Practice** Using the line plot from Exercise 3, which of the following describes a gap?

A 5-13 B 14-20 C 31-25 D 25-30

ANSWERS

1.
outlier 85; gap 85-130 and 200-230; cluster 130-200

2. 20

3. A

© Glencoe/McGraw-Hill Mathematics: Applications and Concepts, Course 2

Course 2, 5-Minute Check Transparency 2-4

• 5-Minute Check Transparencies with Standardized Test Practice

For each lesson, there is a full-size transparency with questions covering the previous lesson or chapter. Also included on each transparency is a Standardized Test Practice question. These provide an excellent ongoing opportunity for checking students' understanding of the mathematics they are learning.

Daily Intervention on the Internet

- **Online Study Tools** These comprehensive review and intervention tools are available anytime, anyplace, simply by logging on to:



nj.msmath1.net

nj.msmath2.net

nj.msmath3.net

- The **Parent and Student Study Guide** contains a one-page worksheet for each lesson in the Student Edition and a one-page review for each chapter. This online workbook offers an excellent opportunity for students and parents to work together to strengthen weaknesses and develop mathematical understanding.

nj.msmath1.net/parent_student

nj.msmath2.net/parent_student

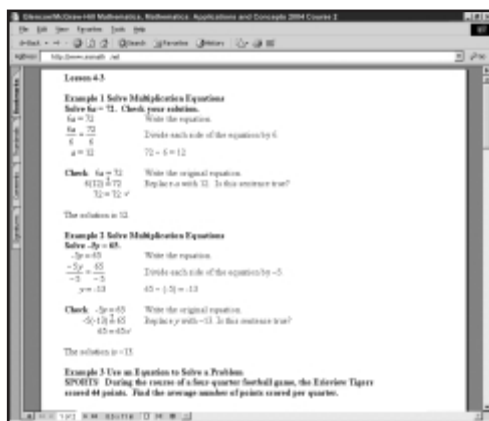
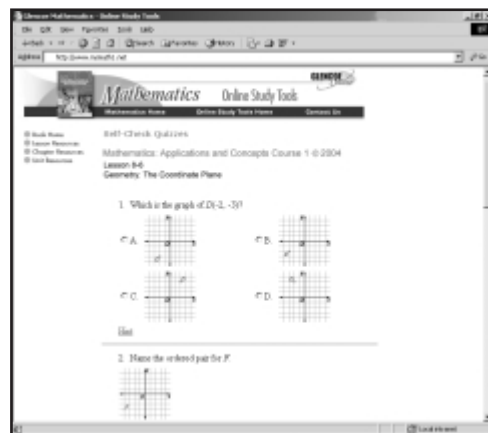
nj.msmath3.net/parent_student

- **Self-Check Quizzes** are available for every lesson. Immediate feedback lets the student know whether the answers are correct and references specific pages and examples in the Student Edition for review. Access the Self-Check Quizzes directly at:

nj.msmath1.net/self_check_quiz

nj.msmath2.net/self_check_quiz

nj.msmath3.net/self_check_quiz



- **Extra Examples** that mimic the ones in the Student Edition are completely worked out and available for students to review at:

nj.msmath1.net/extra_examples

nj.msmath2.net/extra_examples

nj.msmath3.net/extra_examples

You may wish to use these examples in reteaching or to have students review areas of weakness.

- **Vocabulary Review** lets you and your students check their understanding of the terms and definitions used in each chapter. Access this game-style review at:

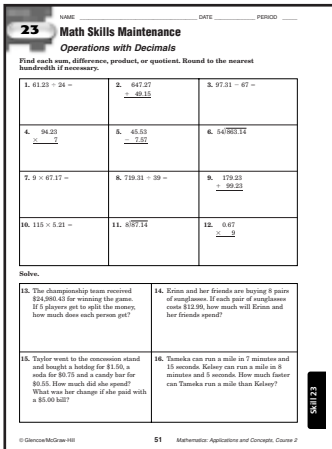
nj.msmath1.net/vocabulary_review

nj.msmath2.net/vocabulary_review

nj.msmath3.net/vocabulary_review



Daily Intervention with Other Resources



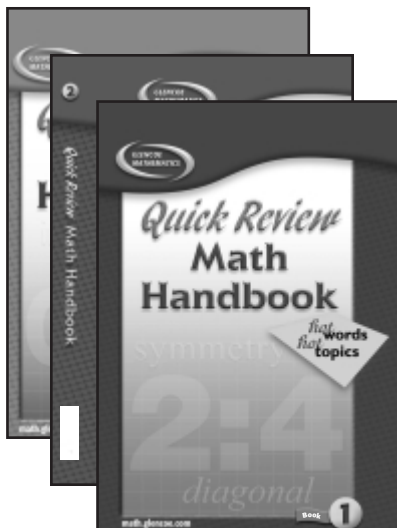
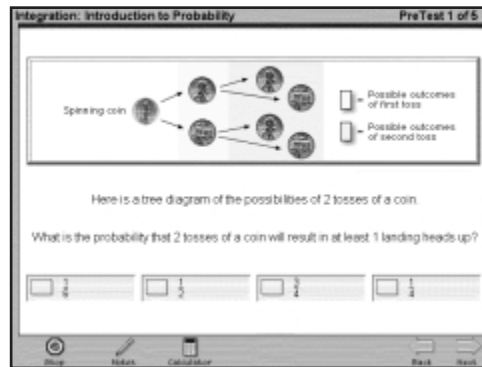
Course 2, Math Skills Maintenance, p. 51



The **New Jersey Math Skills Maintenance Masters** for Grades 6 and 7 provide extra practice on basic skills that are needed for success in the course. You may use these pages to give students an opportunity to review and refresh their skills. Topics addressed include:

- Operations with Whole Numbers
- Operations with Decimals
- Operations with Fractions
- Operations with Integers
- Estimation
- Properties
- Measures in the Metric and Customary Systems
- Graphing

- The **MathPASS Tutorial Plus** CD-ROM provides an interactive, self-paced tutorial for a mathematics curriculum. The lessons are correlated directly to *Glencoe Mathematics: Applications and Concepts*. Each lesson, or concept, includes a pretest, tutorial, guided practice, and posttest. Students' answers to the pretests automatically determine whether the tutorial is needed for that concept—without taking teacher time to grade it. This software is designed to identify and address student weaknesses.



- **Quick Review Math Handbook: Hot Words, Hot Topics**, is Glencoe's mathematical handbook for students. The Hot Words section includes a glossary of terms while the Hot Topics section consists of explanations of key mathematical concepts. An exercise set is included to check students' understanding of the concepts. This valuable resource can be used as a reference in the classroom or for home study.

Student Remediation Plan

Teacher Instructions

You can use the Student Remediation Plan template that follows to plan for students who are in need of intervention/remediation. It can be used for high stakes tests, if there is no formal remediation plan required by your school or district. It can also be used for mid-semester reviews or project-based work.

Purpose

- To identify students' specific problem areas and link them to steps that can produce attainable results.
- To provide a template to easily record remediation plans and use them to communicate with students and/or parents.

Suggested Uses

- *Involve students in their Remediation Plans.*
Hold a teacher-student conference to go over the details of the remediation plan. Make certain they understand what they are to do, and have them sign a copy of their plan as a sign of good faith.
- *Involve parents as much as possible.*
You may also wish to involve parents in the remediation plan, if the situation is appropriate. Like your students, make sure the parents understand the steps their child should take to improve his or her performance in your class.
- *Identify common steps and resources that can be used for different levels of remedial study.*
Try to identify several sets of steps and resources for at least two different levels of student need. For example, you might identify a course of action for students who need a small amount of extra work, and one for those that need a great deal of extra study in the identified academic area.

Then, as you identify students in need of intervention, you can choose their level and the appropriate remediation plan. While you will probably want to customize the plan per student, you will at least have a defined set of steps with which to begin. After the semester ends, you can then evaluate each plan's success rate and determine what can be revised to improve each set of actions or resources.

Student Remediation Plan

Student _____ Teacher _____

Course _____ Date _____

Topic/Project/Exam _____

Problem Area	Solution Steps to Be Taken	Resources Needed