

**GLENCOE
MATHEMATICS**

New Jersey Guide to Daily Intervention



For use with
Glencoe Algebra 1
Glencoe Algebra 2

**Mc
Graw
Hill** **Glencoe**

New York, New York
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*Glencoe Algebra 1 and Algebra 2
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.

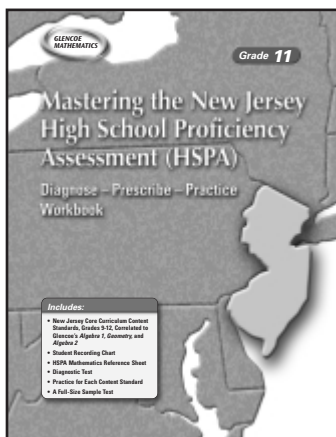
The *Glencoe Algebra* program includes tools for daily intervention in the Student Edition, the Teacher Wraparound Edition, the Teacher Classroom Resources, the Internet, and other products. Using these tools can help you help your students realize mathematical success. The following pages detail each resource available and the correlation shows how they are used in each lesson of *Glencoe Algebra 1* and *Glencoe Algebra 2*.

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 High School Proficiency Assessment (HSPA), including correlations between lessons in *Glencoe Algebra 1* and *Algebra 2* and the New Jersey Core Curriculum Content Standards for Mathematics, Grade 12.

In addition, this booklet contains correlations between the Student Editions of *Glencoe Algebra 1* and *Glencoe Algebra 2* and the following workbook.



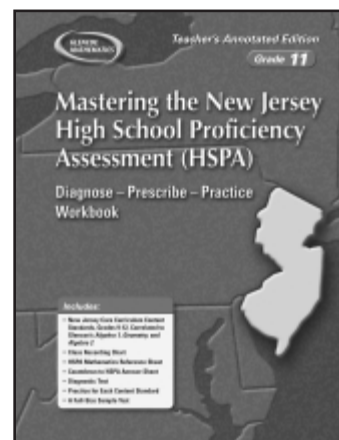
Mastering the New Jersey HSPA: Diagnose-Prescribe-Practice Workbook, Grade 11, Student Edition

This workbook includes a diagnostic test, practice for each New Jersey Core Curriculum Content Standards for Mathematics, Grade 12, and a sample test. Each item in the diagnostic test is also referenced by New Jersey Content Standards so students can track their proficiency using the Student Recording Chart. This chart allows students to pinpoint standards where they need additional practice. Correlations of the New Jersey Core Curriculum Content Standards for Mathematics, Grade 12, to *Glencoe Algebra 1* and *Glencoe Algebra 2* are also included.

*Mastering the New Jersey HSPA:
Diagnose-Prescribe-Practice
Workbook, Grade 11, Student Edition*

Mastering the New Jersey HSPA: Diagnose-Prescribe-Practice Workbook, Grade 11, Teacher's Annotated Edition

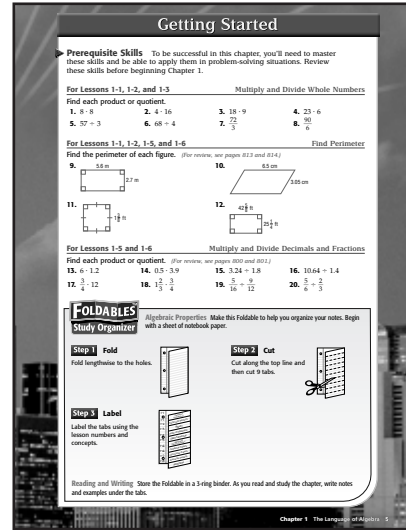
In this Teacher's Annotated Edition, answers are printed full-size in place on the student pages of the diagnostic test, practice, and sample test pages. Each item in the sample tests is also referenced by New Jersey Core Curriculum Content Standards for Mathematics, Grade 12. A correlation of the standards to *Glencoe Algebra 1* and *Glencoe Algebra 2* is also included. A Class Recording chart allows you to record diagnostic test scores to quickly see on which standards your students need additional practice. A Countdown to HSPA answer sheet is also included.



*Mastering the New Jersey HSPA:
Diagnose-Prescribe-Practice
Workbook, Grade 11,
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 algebra.



Algebra 1 Student Edition, p. 5

Example 3 Use Algebraic Expressions

ARCHITECTURE The Pyramid Arena in Memphis, Tennessee, is the third largest pyramid in the world. The area of its base is 360,000 square feet, and it is 321 feet high. The volume of any pyramid is one third of the product of the area of the base and its height V .

a. Write an expression that represents the volume of a pyramid.

b. Find the volume of the Pyramid Arena.

Check Your Understanding

Concept Check

1. Describe how to evaluate $6(2^2 - 3) + 5$. $-8 + 3$.

2. **OPEN ENDED** Write an expression involving division in which the first step is evaluating the expression in addition.

3. **FIND THE ERROR** Latoria and Chase are evaluating $3(4 + (2^2 - 3)^2)$.

Latoria	Chase
$3(4 + (2^2 + 3)^2 + 3(4 + 9)^2)$	$3(4 + (2^2 + 3)^2 + (9 + 9)^2)$
$+ 3(4 + 8)$	$+ 3(16)$
$+ 3(64)$	$+ 3(64)$
$+ 155$	$+ 157$

Who is correct? Explain your reasoning.

Guided Practice

Evaluate each expression.

4. $4 + 6^2$ 5. $50 - (15 + 9)$ 6. $29 - 3(9 - 4)$

7. $(7(2) - 4) + (9 + 8(4))$ 8. $\frac{15 \cdot 20}{3} - 5$ 9. $\frac{3 \cdot 2^2}{9}$

Evaluate each expression if $g = 4$, $h = 6$, $j = 8$, and $k = 12$.

10. $k - g$ 11. $2h + g^2 - j$ 12. $\frac{3(6 - j)}{k^2 - j}$

Application

SHOPPING For Exercises 13 and 14, use the following information.

A computer store has certain software on sale at \$1 for \$20.00, with a limit of 3 at the sale price. Additional software is available at the regular price of \$9.95 each.

13. Write an expression you could use to find the cost of 5 software packages.

14. How much would 5 software packages cost?

Algebra 1 Student Edition, p. 13

In the back of the Student Edition,

- **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 HSPA.

Lesson 4-3 (pages 205–211)

Express each relation as a table, a graph, and a mapping. Then determine the domain and range.

1. $\{(5, 2), (0, 3), (-9, -1)\}$ 2. $\{(-4, 2), (-2, 0), (0, 2), (2, 4)\}$

3. $\{(7, 5), (-2, -3), (4, 0), (5, -7), (-1, 2)\}$ 4. $\{(3, 1), (-1, -4), (7, 3), (4, -3), (-9, -12), (2)\}$

Express the relation shown in each table, mapping, or graph as a set of ordered pairs. Then write the inverse of the relation.

5.

x	y
1	3
2	4
3	5
4	6
5	7

6.

x	y
-4	1
-2	3
0	1
2	3
4	1

7.

8.

9.

10.

Lesson 4-4 (pages 212–217)

Find the solution set for each equation, given the replacement set.

1. $y = 3x - 1$; $\{0, -1, 1\}$; $\{4, 2\}$; $\{2, 4, 2, 5\}$ 2. $3y = 7$; $\{1, 8\}$; $\{0, 7, 2, 3, 6, 4\}$

3. $4x = 9$; $\{2, 0, 4, 0, 2, 1, 4, 12\}$ 4. $3x = 10 - 4y$; $\{(3, 0.25), (-10, 5), (2, 1), (5, 5)\}$

Solve each equation if the domain is $\{-2, -1, 0, 1, 2\}$.

5. $x + 7 = 3$ 6. $y = x$ 7. $y = 5x + 1$

8. $4x + 3y = 13$ 9. $5y = 8 - 4x$ 10. $2x + y = 4$

11. $y = 4 + x$ 12. $2x + 3y = 10$ 13. $2y = 3x - 1$

Solve each equation for the given domain. Graph the solution set.

14. $x = y + 1$ for $x = \{-2, -1, 0, 1, 2\}$ 15. $y = x + 1$ for $x = \{-3, -1, 0, 1, 3\}$

16. $x + 4y = 2$ for $x = \{-8, -4, 0, 4, 8\}$ 17. $y = 3 - x$ for $x = \{-5, -1, 3, 7, 9\}$

18. $x + y = -2$ for $x = \{-4, -3, 0, 1, 3\}$ 19. $2x + 3y = -5$ for $x = \{-5, -3, 0, 5, 4\}$

20. $3y = \frac{2}{3}x - 4$ for $x = \{-6, -3, 0, 1, 3\}$ 21. $-2y = 8 - \frac{2}{3}x$ for $x = \{-4, 0, 4, 6, 8\}$

Lesson 4-5 (pages 218–223)

Determine whether each equation is a linear equation. If so, write the equation in standard form.

1. $3x = 2y$ 2. $2x - 3 = y^2$ 3. $4x - 2y = 8$

4. $5x - 7y = 2x - 7$ 5. $2x + 5y = 7y + 2$ 6. $\frac{1}{2}x + \frac{3}{4}y = -4$

Graph each equation.

7. $3x + y = 4$ 8. $y = 3x + 1$ 9. $3x - 2y = 12$ 10. $2x - y = 6$

11. $2x - 3y = 8$ 12. $y = 5x - 7$ 13. $x = 4$ 14. $x = 4$

15. $y = \frac{1}{2}x + 2$ 16. $5x - 2y = 8$ 17. $4.5x + 2.5y = 9$ 18. $\frac{1}{2}x + 3y = 12$

Algebra 1 Student Edition, p. 829

Daily Intervention in the Teacher Wraparound Edition

- The New Jersey Core Curriculum Content Standard for Mathematics, Grade 12, are correlated to lessons in *Glencoe Algebra 1* and *Glencoe Algebra 2*.

- **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.

2 Teach
Divide Rational Numbers
 Find each quotient.
 a. $-40 \div (-5) = 12$
 b. $-18 \div -6 = 3$
 c. Simplify: $\frac{20}{3} \div \frac{5}{6} = 8$

Divide Rational Numbers
 Find each quotient.
 a. $-112.23 \div 8.7 = -12.9$
 b. $-\frac{2}{3} \div \left(-\frac{1}{2}\right) = \frac{4}{3}$

Practice/Apply
 Find each quotient.
 a. $-112.23 \div 8.7 = -12.9$
 b. $-\frac{2}{3} \div \left(-\frac{1}{2}\right) = \frac{4}{3}$

DAILY INTERVENTION
Differentiated Instruction
Visual
 Sketches Use index cards to make each component of a division expression as an equation. Have students model the division and then rearrange the cards to make a multiplication sentence, using the \div card as the last card.

Algebra 1 Teacher Wraparound Edition, p. 85

Assess
 Open-Ended Assessment
 Modeling Use marking tape to create a large number line on the floor in front of the classroom. Write sets of numbers on the board and have students stand on the line to "represent" the points. Also write absolute value statements on the board and have students step the "distance" equivalent to the absolute value on the number line.

Getting Ready for Lesson 2-2
 Prerequisite Skill Students will learn about adding and subtracting rational numbers in Lesson 2-2. They will apply the rules of adding and subtracting integers to computations with fractions. Use Exercises 30-37 to determine your students' familiarity with the addition and subtraction of fractions.

Answers
 35. $-\frac{1}{2}$
 36. $-\frac{1}{2}$
 37. $-\frac{1}{2}$
 38. $-\frac{1}{2}$
 39. $-\frac{1}{2}$
 40. $-\frac{1}{2}$
 41. $-\frac{1}{2}$
 42. $-\frac{1}{2}$
 43. $-\frac{1}{2}$
 44. $-\frac{1}{2}$
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 90. $-\frac{1}{2}$
 91. $-\frac{1}{2}$
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 95. $-\frac{1}{2}$
 96. $-\frac{1}{2}$
 97. $-\frac{1}{2}$
 98. $-\frac{1}{2}$
 99. $-\frac{1}{2}$
 100. $-\frac{1}{2}$

DAILY INTERVENTION
Differentiated Instruction
Auditory
 Verbal/Linguistic Have students look up the word absolute in a dictionary and read the definition. Also have them read the definitions of terms beginning with absolute, such as absolute cooling, absolute humidity, or absolute zero. Have students read aloud the definitions they found and invite students to define in their own words the mathematical meaning of absolute value based on any insights they have gained from the dictionary definition.

Algebra 1 Teacher Wraparound Edition, p. 72

Practice and Apply
 One coin is randomly selected from a jar containing 74 nickels, 100 dimes, 80 quarters, and 50 dollar bills. Find each probability.
 14. P(nickel) = $\frac{74}{204}$
 15. P(dime) = $\frac{100}{204}$
 16. P(quarter or dime) = $\frac{174}{204}$
 17. P(quarter or nickel) = $\frac{174}{204}$
 18. P(nickel greater than dime) = $\frac{74}{100}$
 19. P(nickel less than dime) = $\frac{26}{100}$
 20. P(nickel at least 60/20) = $\frac{74}{100}$
 21. P(nickel at most 10/20) = $\frac{26}{100}$

Teacher to Teacher
 Sherry Moore Jasper Community HS, Jasper, IL
 I have my students count the number of jelly beans in a jar and compare that to the probability and odds of drawing a specific color. I also have my students collect the data and represent their findings through charts and graphs.

Algebra 1 Teacher Wraparound Edition, p. 99

- Each lesson ends with **Open-Ended Assessment** 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 Algebra I or Algebra II in their classrooms. Suggestions include content tips, techniques, and activities that can be used in intervention.

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 _____

1-4 Study Guide and Intervention

Identify and Equality Properties

Identify and Equality Properties The identity and equality properties in the chart below can help you solve algebraic equations and evaluate mathematical expressions.

Additive Identity	For any number a , $a + 0 = a$.
Multiplicative Identity	For any number a , $a \cdot 1 = a$.
Multiplicative Property of 0	For any number a , $a \cdot 0 = 0$.
Multiplicative Inverse Property	For every number $\frac{a}{b}$, $a \neq 0$, there is exactly one number $\frac{b}{a}$ such that $\frac{a}{b} \cdot \frac{b}{a} = 1$.
Reflexive Property	For any number a , $a = a$.
Symmetric Property	For any numbers a and b , if $a = b$, then $b = a$.
Transitive Property	For any numbers a , b , and c , if $a = b$ and $b = c$, then $a = c$.
Substitution Property	If $a = b$, then a may be replaced by b in any expression.

Example 1 Name the property used in each equation. Then find the value of n .

a. $8n = 8$
Multiplicative Identity Property
 $n = 1$, since $8 \cdot 1 = 8$

b. $n - 3 = 1$
Multiplicative Inverse Property
 $n = \frac{1}{5}$, since $\frac{1}{5} \cdot 5 = 1$

Example 2 Name the property used to justify each statement.

a. $5 + 4 = 5 + 4$
Reflexive Property

b. If $n = 12$, then $4n = 4 \cdot 12$.
Substitution Property

Exercises

Name the property used in each equation. Then find the value of n .

1. $6n = 6$ 2. $n - 1 = 8$ 3. $6 \cdot n = 6 \cdot 9$

4. $9 = n + 9$ 5. $n + 0 = \frac{3}{8}$ 6. $\frac{3}{4} \cdot n = 1$

Name the property used in each equation.

7. If $4 + 5 = 9$, then $9 = 4 + 5$. 8. $0 + 21 = 21$

9. $0(15) = 0$ 10. $(1)(4) = 4$

11. If $3 + 3 = 6$ and $6 = 3 \cdot 2$, then $3 + 3 = 3 \cdot 2$.

12. $4 + 3 = 4 + 3$ 13. $(14 - 6) + 3 = 8 + 3$

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Algebra 1 Chapter 1 Resource Masters, p. 19

5-Minute Check

Transparency 5-1
(over Chapter 4)

Consider the relation $\{(0, -3), (1, 4), (1, -3)\}$.

- Graph the relation.
- State the domain and range of the relation.
- Determine if the relation is a function. Explain.
- Suppose the graph of the relation were reflected over the x -axis. Write the ordered pairs of the points after the reflection.
- Find the next two terms in the arithmetic sequence, $-7, -4, -1, 2, \underline{\hspace{1cm}}, \underline{\hspace{1cm}}, \dots$

6. **Standardized Test Practice** Which equation represents the pattern shown in the table?

x	y
-2	9
-1	7
0	5
1	3
2	1

Ⓐ $y = 2x + 5$ Ⓑ $y = -2x + 5$
 Ⓒ $x = y + 2$ Ⓓ $-x + 7 = y$

ANSWERS

1.

2. $D = \{0, 1\}$, $R = \{-3, 4\}$

3. No; there are two values of y for $x = 1$ in the domain.

4. $\{(0, 3), (1, -4), (1, 3)\}$

5. 5, 8

6. B

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- 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.

Algebra 1 5-Minute Check Transparency 5-1

Daily Intervention on the Internet

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

 nj.algebra1.com nj.algebra2.com

- The **Parent and Student Study Guide** for Algebra 1 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.

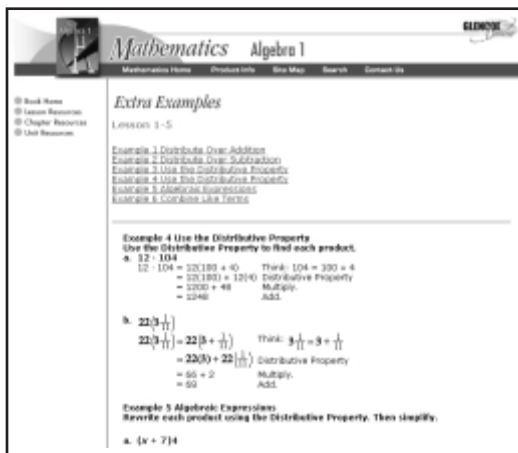
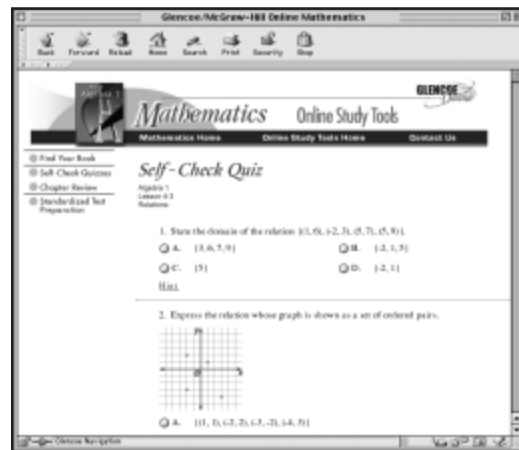
nj.algebra1.com

- **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.algebra1.com/self_check_quiz

or

nj.algebra2.com/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.algebra1.com/extra_examples

or

nj.algebra2.com/extra_examples

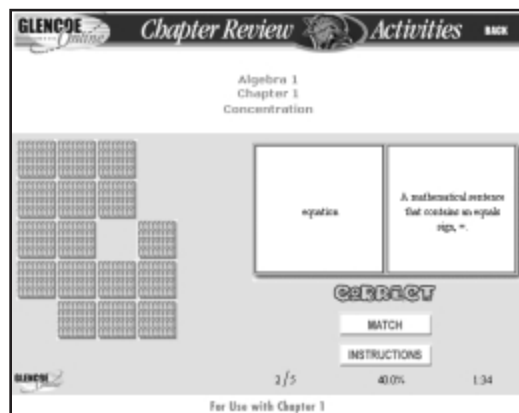
You may wish to use these examples in reteaching or to have students review areas of weakness.

- **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.algebra1.com/vocabulary_review

or

nj.algebra2.com/vocabulary_review



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