McGraw Hill

SRA

Corrective Mathematics

Boost Student Confidence by
Fostering Fundamental Math Skills

DIRECT INSTRUCTION

The results are proven, the possibilities endless.™

Direct Instruction (DI) is an explicit, intensive, teacher-directed method of teaching. Every aspect of the Direct Instruction approach to teaching is derived from these guiding philosophies:

- Every student can learn when taught correctly, regardless of past history.
- Every teacher can be successful, given effective teaching materials and presentation techniques.
- Within each module, carefully articulated lessons ensure the consistency needed to replicate high levels of student achievement in every classroom.

Build a Strong Foundation with Flexible Mathematics Intervention

Corrective Mathematics helps build computation and problem-solving skills for students in Grades 3–12 who need remediation to fill math knowledge and skill gaps. The straightforward Direct Instruction lessons in *Corrective Mathematics* drive student confidence and success, providing effective teaching strategies for:

- Learning and retaining facts.
- Understanding place value.
- Understanding fractions, decimals, and percents.
- Solving computational problems.
- Accurately translating word problems into numerical statements.

Corrective Mathematics helps at-risk students master basic math skills. This intervention solution is flexible and can be used in a variety of classrooms, including special education settings, and offers step-by-step guidance, closely aligned explanations, and problem sets. The *Corrective Mathematics* placement test allows teachers to identify the instructional needs of each student and differentiate instruction.

The *Corrective Mathematics* suite of solutions:

Proven Effective by Over 50 Years of Research and Efficacy

Corrective Mathematics is effective for teachers and students:

- Every moment of every lesson is productive thanks to clear, straightforward approach of Direct Instruction. Closely aligned explanations and problem sets, appropriate levels of scaffolding, and continuous integration and review combine to make *Corrective Mathematics* an easy-to-use solution that provides the support needed to advance students' math skills.

- Detailed lesson scripts provide carefully sequenced tasks and the structure students need to master basic math skills. The lessons include procedures for teachers to model steps in their instructional strategy, so they save planning time and make sure all students receive consistent math instruction.

- Every lesson follows a consistent pattern so students know what to expect and what's expected of them.

- All necessary pre-skills are carefully introduced to fill in gaps for students working below grade level.

- Varied exercises stress memorization of basic number facts to free up memory so students can master algorithms and tackle math applications.

The Direct Instruction program allowed our district to quickly fill holes that were not met by the core curriculum and drastically improved our math fluency rates. *Corrective Mathematics* allowed for many opportunities of practice and response that targeted mastery of the skills. Our teachers enjoyed seeing the growth from these interventions.

– Joseph Wanning, Umonhon Nation Public Schools

Practical Solutions for Every Classroom Situation

We understand teachers face a wide range of learning situations in their classrooms. *Corrective Mathematics* is designed with a modular approach to provide the flexibility needed to make it possible for every student to succeed.

Each module addresses fundamental mathematics content—the "what" and "how" of computation and problem-solving—and each tackles common problems teachers see every day. The seven modules are also appropriate for Tier 2 and Tier 3 progressive levels of intervention instruction that meet students' needs at every level of learning.

By focusing on core content and breaking it down into a series of small conceptual steps and embedded skills, teachers enable struggling students to learn more efficiently and close the achievement gap.

Modules are organized in a developmentally appropriate sequence. The Comprehensive Placement Test places students in both the optimal module and lesson:

- Addition
- Subtraction
- Multiplication
- Division
- Basic Fractions
- Fractions, Decimals, and Percents
- Ratios and Equations

Simplify Learning and Streamline Instruction

Corrective Mathematics is a series of seven modules that scaffold students' learning tasks while saving teachers planning time.

Each module consists of:

- **A Workbook**: Record student performance and award grades with daily worksheets and point summary charts.

- **An Answer Key Booklet:** Quickly and easily compare students' work with the actual calculations and word problem results.

- **A Teacher Presentation Book**: Learn how to present exercises, correct mistakes, and administer the pre-skill and placement tests. Detailed lesson plans are also included.

- **Placement Tests**: Identify which modules need to be covered.

Available as a separate purchase, *SRA 2Inform* is an online application that allows teachers to easily collect student data and monitor progress to inform instruction. This online system stores data on curriculum-embedded assessments and provides teacher, school, and district views of student data.

The Modules

Module	Organization	Content	
Addition **+**	• 65 lessons • 25–45 minutes per lesson • 14 in-program mastery tests • 27 Facts-Practice Blackline Masters	• 100 basic addition facts • Operation of addition • Reading and writing numbers into the thousands	• Column addition with three- and four-digit numbers • Addition with carrying • Word problems with distracters
Subtraction **—**	• 65 lessons • 25–45 minutes per lesson • 18 in-program mastery tests • 29 Facts-Practice Blackline Masters • 32 Cumulative Review Blackline Masters	• 100 basic subtraction facts • Operation of subtraction • Renaming (borrowing) • Reading and writing numbers into the thousands	• Subtraction word problems • Word problems that require discrimination between addition and subtraction
Multiplication **×**	• 65 lessons • 25–45 minutes per lesson • 15 in-program mastery tests • 29 Facts-Practice Blackline Masters • 32 Cumulative Review Blackline Masters	• 100 basic multiplication facts • Operation of multiplication • Reading and writing numbers into the thousands • Multiplication word problems	• Word problems that require discrimination among multiplication, addition, and subtraction
Division **÷**	• 65 lessons • 25–45 minutes per lesson • 16 in-program mastery tests • 29 Facts-Practice Blackline Masters • 32 Cumulative Review Blackline Masters	• 100 basic division facts • The long division operation (with either one- or two-digit divisors) • Word problems that require the division operation • Division story problems	• Procedures for discriminating between division word problems and word problems that require addition, subtraction, or multiplication
Basic Fractions **/**	• 55 lessons • 20 minutes per lesson • Seven review worksheets	• Write fractions from pictures • Draw pictures from fractions • Determine when a fraction is equal to 1, more than 1, and less than 1	• Add and subtract fractions with a common denominator • Change whole numbers and mixed numbers to fractions • Add, subtract, and multiply fractions and mixed numbers
Fractions, Decimals, and Percents **• %**	• 70 lessons • 30 minutes per lesson	• Add and subtract fractions with unlike denominators • Reduce improper fractions • Multiply and divide fractions • Find equivalent fractions • Find the largest in a series of fractions • Write decimals as fractions	• Use decimal notation • Add, subtract, multiply, and divide decimal numbers • Rewrite mixed fractions as mixed decimals • Convert fractions to decimals and percents
Ratios and Equations **: A/B**	• 60 lessons • 25 minutes per lesson	• Basic ratio analysis • Ratio word problems	

Conquer Common Math Challenges

Most teachers routinely see students facing these problems:

- An inability to memorize basic number facts.

- An inability to handle routine computations.

- Over-reliance on estimation at the expense of exact arithmetic calculations.

- Challenges with reasoning and problem-solving skills on word problems.

- Poorly developed skills with fractions.

Corrective Mathematics provides step-by-step solutions for addressing an array of problems for struggling students. Students receive necessary tools to more efficiently and effectively learn vital skills, rules, and strategies. The program provides systematic practice that creates steady, quick, measurable progress and helps teachers empower their students to learn to work mathematics problems accurately and confidently.

The Challenge:

Memorization of the basic number facts

Research in cognitive psychology spotlights the value of automatic recall of basic math facts. Students who do not memorize these basics will tend to fail as more complex operations are required.

The *Corrective Mathematics* advantage:

Corrective Mathematics lets teachers increase their students' proficiencies by highlighting each fact as a member of both a number family and a fact series.

Number families consist of three numbers that go together to form a basic fact. In the **Addition** and **Subtraction** modules, for example, students work with number families that look like this:

$$4 + 1 = 5 \quad 1 + 4 = 5 \quad 5 - 1 = 4 \quad 5 - 4 = 1$$

It's a way to instruct students because each number family translates into four facts.

Corrective Mathematics also highlights the relationship among various facts through fact series exercises. For example:

$$6 + 1 = 7 \quad 6 + 2 = 8 \quad 6 + 3 = 9$$

Every time a number is counted in the second addend, (1, 2, 3), the number is counted in the sum (7, 8, 9). By pinpointing these fact relationships, teachers can make it easier for students to recall basic facts.

The Challenge:

Poorly developed skills with fractions

Students who have poor fraction arithmetic skills in early grades have little hope of understanding more complex subjects such as algebra later on.

The *Corrective Mathematics* advantage:

Corrective Mathematics gives special attention to the development of fractions, guiding students through a logical, coherent progression of steps.

- The **Basic Fractions** module provides instruction into what the numbers in a fraction tell. The bottom number tells how many parts in the whole, and the top number tells how many parts are used.

- After learning the differences between parts of a whole and an entire whole, students learn to tell how many wholes a fraction equals by determining how many times bigger the top number is than the bottom number.

- Next, students learn that equivalent fractions are created by multiplying a fraction by another fraction that equals one whole. Two component skills exercises make it easy for teachers to prepare their students:

1. Students learn to identify fractions that equal one whole: $4/4 = 7/7 = 9/9 = 1$

2. Students also learn that when they multiply by 1, they start and end with equal amounts: $3/5 \times 1 = 3/5$

The Challenge:

Poor mathematical reasoning and problem-solving competency

Problem-solving is an indispensable part of learning mathematics. Students should be able to solve single-step word problems in the earliest grades.

The *Corrective Mathematics* advantage:

One of the major strengths of *Corrective Mathematics* is that it includes precise strategies for determining whether a word problem involves addition, subtraction, multiplication, or division.

Word problems are introduced in the **Addition** module through three major exercises:

- Working with pictures.
- Working with sentences in columns.
- Working with sentences in paragraphs.

Although students learn in the **Subtraction** module that certain verbs generally indicate whether to add (find, get, buy) or subtract (lose, give away, break), they quickly learn that they cannot rely solely on the verb to determine the appropriate operation. For example, the following problem calls for addition, even though "give away" would seemingly call for subtraction:

Bill gives away 4 toys. John gives away 2 toys. How many toys did the boys give away?

Harness the Power of *Corrective Mathematics* in Your Classroom

Our effective solution offers:

- Clearly articulated steps for teaching standard algorithms.
- Direct, explicit methods for teaching problem-solving.
- A systematic approach to boost computation skills.

Ready for Student Success?

Scan to learn more about *Corrective Mathematics* or visit:
mheducation.com/dicorrectivemath