About Core Progress Math

The National Math Panel recommends that mathematics courses provide a “focused, coherent progression of mathematics learning, with an emphasis on proficiency with key topics.” Core Progress Math is a research-based and empirically validated math learning progression that addresses key features of the National Math Panel recommendation.

A leading expert in the field of learning progressions notes, “A well-constructed learning progression presents a number of opportunities to teachers for instructional planning. It enables teachers to focus on important learning goals in the domain, centering on what the student will learn rather than what the student will do (i.e., the learning activity). In planning instruction the learning goal is identified first, and the sequence of activities or experiences that teachers will use to enable students to meet the goal is connected to the goal.” “A progression also helps teachers see connections between what comes before and after a specific learning goal, both in the short and long term.” (Heritage 2008)

References

What Is Core Progress Math?

Core Progress Math is a learning progression that identifies the continuum of math concepts and skills needed for students to be successful in math. The continuum begins with early numeracy concepts and skills and progresses through the high-school level algebra and geometry skills required to be college and career ready.

Core Progress Math identifies core objectives—skills that are key building blocks at critical points in a student's development path—and identifies the prerequisite math skills needed for success with the core objectives. Core Progress Math includes resources to support math development and guidance to help students become successful mathematicians. Core Progress Math illuminates the progression of skills in key skill areas such as patterns, whole numbers, fractions and decimals, variable equations and expressions, functions, and two- and three-dimensional geometry. The progression of math skills as presented in Core Progress Math is research-based and validated by student data, and was developed in consultation with leading experts in the field of mathematics instruction and learning progressions.

Core Progress Math gives you guidelines and information for providing your students with coherent, progression-based mathematics instruction and practice that emphasizes key math strategies and skills.
Key Features of Core Progress Math

Key features of Core Progress Math work together to identify the continuum, clarify the connections of concepts and skills, and support the development of mathematics learning. These key features are described below.

- **Skill areas**—Twenty-six skill areas of mathematics knowledge and understanding are identified. Each skill area presents the progression of skills within the specified area, such as Expressions and Equations, to more readily show the growth continuum in a specific area of math development.

- **Grade-level skill statements**—Specific statements identify the skill expectation from early numeracy through high-school level math.

- **Focus skills**—Focus skills are the most critical math skills for a student to learn at a grade level. They are key building blocks in a student’s mathematics ability. Students need to have proficiency with the focus skills to be successful at their grade levels and to progress in the grades that follow.

- **Skill elements table**—Each skill has information that supports teaching about and learning the skill. The information provided varies from one skill to another, and includes such elements as:
  - **Cluster**—Identifies the Common Core State Standard cluster associated with the skills.
  - **Standards for Mathematical Practice**—Identifies the mathematical practices that most notably apply to the skill.
  - **Skill Area**—Identifies the area of mathematics the skill is associated with. Use this information to understand the full range of skills associated with a particular area of mathematics learning.
  - **Terminology and concepts**—Identifies the terms and concepts your students need for understanding the objective. Before assigning an objective, ask yourself, “Does my student understand these terms and concepts?”
  - **Skills needed for this objective**—Identifies the skills your students need for working with the objective. Before assigning an objective, ask yourself, “Is my student ready to practice these skills?”
  - **Prerequisite terminology, concepts, and skills**—Identifies the prerequisite terminology, concepts, and skills your students are expected to know before practicing this objective. Before assigning an objective, ask yourself, “Are these terms, concepts, and skills already part of my student’s math foundation?”
  - **ELL Support**—Provides strategies and suggestions for supporting students with English language learning needs.
  - **Prerequisite Skills**—Identifies the prerequisite skills for the core skills. Use this information to understand the prior learning a student needs and to focus re-teaching for students who may need intervention.
How does Core Progress Math learning relate to state standards?

The skills in Core Progress Math are not an additional set of skills to teach in addition to the skills in state standards. Generally, the skills identified in the progression are already indicated in your standards and curriculum materials. Core Progress Math provides a different view, a continuum of interrelated development of concepts and skills. Thus, Core Progress Math leads to an understanding of mathematics concepts and skills from their least to most sophisticated manifestation. Additionally, the identification of core objectives pinpoints key areas at each grade level.

How will you benefit from using the Core Progress Math learning progression?

Each day you are faced with decisions on how to help your students increase their proficiency with math skills. What area of learning should you focus on next? Are your students prepared for that new learning? What if a student is not successfully meeting grade-level expectations? What skills is the student missing? What if a student is capable of working ahead? Core Progress Math provides the information you need for making effective instructional decisions and differentiating for the needs of students at different achievement levels.

How to View Suggested Core Progress Skills in STAR Math Enterprise

Once students have taken a STAR Math Enterprise test, you can view suggested skills from the Core Progress Learning Progression within the Record Book.

For a single student, the suggested skills are based on the student’s Scaled Score; for an instructional group of students, the skills presented are based on the median Scaled Score of the students in that group.

Follow these steps to see the suggested skills:

1. On the Renaissance Place Home page, under STAR Math, click Record Book. You can also get to the Record Book from the STAR Math Enterprise Home page by clicking Record Book in the Important Features section at the top of the page.
2. If you want to view suggested skills for one student, click the student's name in the Record Book 🛡️. Then, on the Student Details page, click View Suggested Skills 🛡️.

3. If you want to view suggested skills for an instructional group that you have set up in the Record Book, click the Sort By drop-down list 🛡️ and choose Instructional Groups. Then, click View Suggested Skills above the table 🛡️ for a specific group. (When you sort by instructional groups, the View Suggested Skills link is not available for students who are not in an instructional group 🛡️.)
The View drop-down list shows the student or instructional group these skills are for. You can use the drop-down list to choose a different student or instructional group.

When one student is chosen, that student's Scaled Score is shown here. When an instructional group is chosen, the median Scaled Score for the students is shown.

Trend scores can be used (instead of a student's most recent Scaled Score) to determine which skills are shown.

The suggested skills from the Core Progress Learning Progression are shown here, sorted by grade. Focus skills have a double-angle quotation mark (») in front of them.

Click Go to suggested skills to see the skills the student or instructional group is most likely to be ready to learn (they will be highlighted in blue on the screen).

Click View Performance Tasks for a list of extended activities (arranged by grade) you can use to measure a student's ability to integrate knowledge and skills across multiple standards—a key component of college and career readiness.

When you click the description of a skill, you will see information about that skill, such as instructional resources, terminology, prerequisite skills, and so on (the amount and type of information presented varies from one skill to another). If Instructional Resources are available, click the links to see worked examples, skill probes, and other resources to help you teach the skill effectively.

Click the printer icon to print the list of suggested skills. The icon also appears on instructional resources, allowing you to print them as well.

Click Done when you are finished.

### Alternative View of Core Progress Skills

The previous section described how to use the Record Book to search for a particular student or instructional group and then view the suggested core progress skills for that student or group.

It is possible to view information about the skills (such as terminology, prerequisite skills, and so on) without going through the Record Book. When you do this, you will see all the skills and additional information about them, but none of them will be highlighted as a suggested skill for a specific student or group.

There are two ways to get to the alternative view:

#### Method 1

On the STAR Math Enterprise Home page, click Enter Core Progress in the Important Features section at the top of the page.
Method 2

On the Renaissance Place Home page, click Resources A under STAR Math Enterprise; then, on the Resources page, click Enter Core Progress for Math B.

The Suggested Skills page opens. It is identical to the Suggested Skills page opened via the Record Book, but some of the features are not present.

C The skills from the Core Progress Learning Progression are shown here, sorted by grade. Focus skills have a double-angle quotation mark (») in front of them.

D When you click the description of a skill, you will see information about that skill, such as instructional resources, terminology, prerequisite skills, and so on (the amount and type of information presented varies from one skill to another). If Instructional Resources are available, click the links to see worked examples, skill probes, and other resources to help you teach the skill effectively.

E Click the printer icon to print the list of suggested skills. The icon also appears on instructional resources, allowing you to print them as well.

F Click Done when you are finished.