FASTT Math NEXT GENERATION

Student Experience

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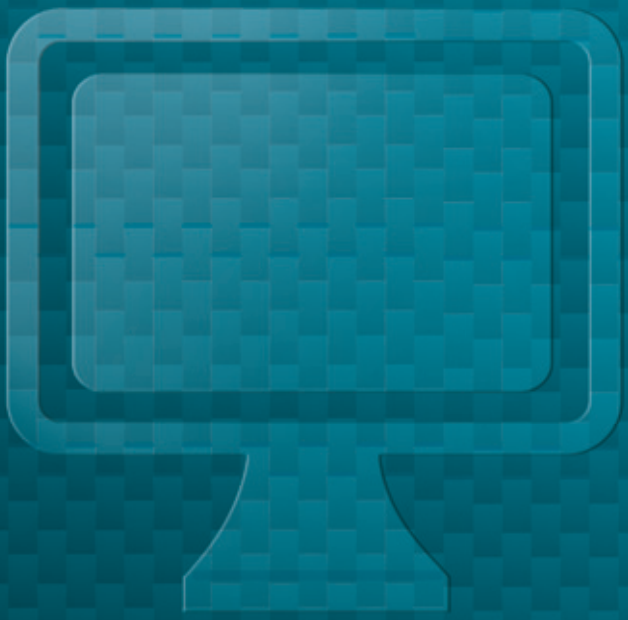


Teacher's Guide

Student Experience

Student Experience

FASTT Math Next Generation student software consists of two sections: the *FASTT Math* Instructional Software and STRETCH-To-Go.

Instructional Software

The *FASTT Math* Instructional Software is designed to help a student develop fluency with basic math facts in addition, subtraction, multiplication, and division in number ranges 0–9 or 0–12. The program first assesses the student's current fluency of facts (correct and fast answers). It then provides adaptive instruction to help build a memory relationship between a problem and its answer and to increase the speed at which the student responds.

The student receives one lesson per day (or two lessons per day depending on program settings defined by the teacher). Each lesson takes about ten minutes to complete, and students can spend the remaining time in the session playing fluency or STRETCH-To-Go games. If the daily lesson or lessons are completed and the student logs in a second time during the same day, he or she may play fluency games.

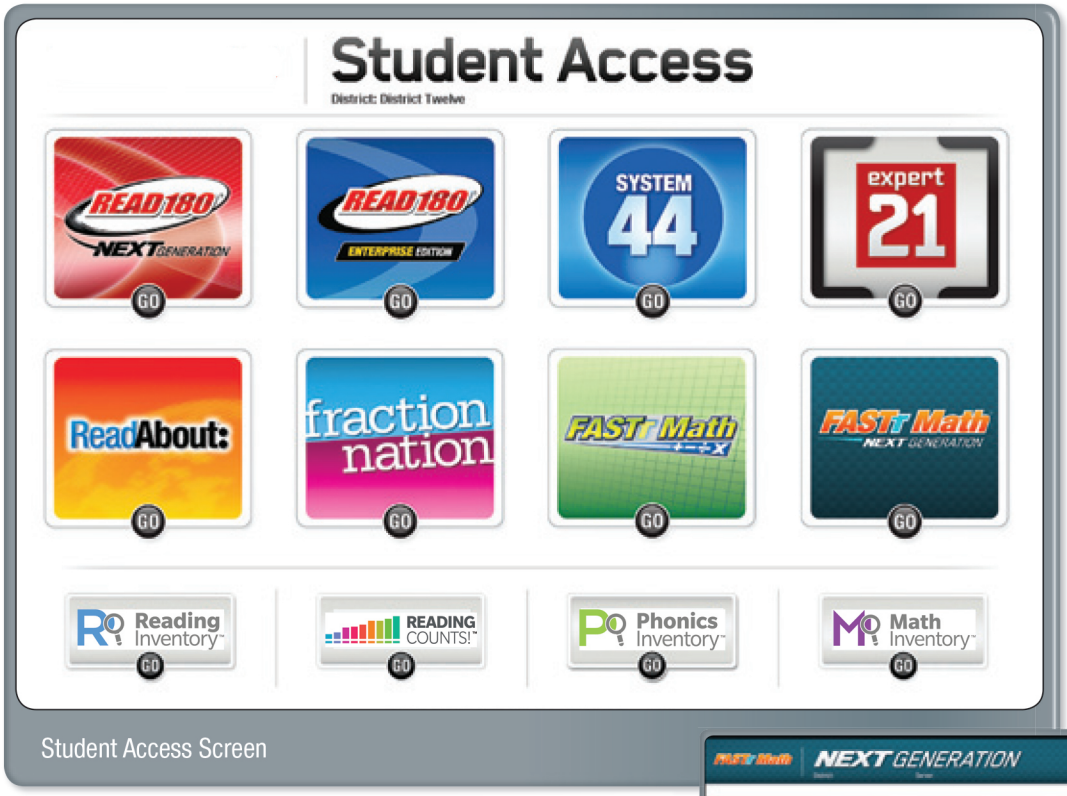
STRETCH-To-Go

FASTT Math STRETCH-To-Go is designed to extend students' learning and deepen understanding of fluent and near-fluent facts. The six STRETCH-To-Go games provide meaningful practice with facts while also building connections among facts and higher level mathematics concepts such as properties of operations. The games also extend use of basic facts to multidigit and multistep calculation to increase computational flexibility.

Student Login

Accessing *FASTT Math*

Students are enrolled in *FASTT Math* Next Generation through the Student Achievement Manager (SAM). Once students are enrolled, they may log in to the program through the Student Access screen on the student workstation. To open the Student Access screen, open the workstation's browser program and use the Student Access screen bookmark. The Student Access screen displays icons for all Scholastic products on the server. To open *FASTT Math*, click the *FASTT Math* icon on the screen. Students can then click to choose to start the *FASTT Math* Instructional Software or the STRETCH-To-Go games.



Student Access Screen

Note: *All students may access STRETCH-To-Go games at www.fasttmath.com/stretch. In some schools, students may be able to access the instructional software also. See the district administrator for login information.*

Student Access Screen for Instructional Software and STRETCH-To-Go

To Log In

At the Login screen, the student types in his or her username and password, then clicks GO ON or presses the Enter/Return key on the keyboard.

Student Login Screen

Students return to the Login screen after they finish the daily lesson. They may either then quit the program or leave the screen up for other students to use.

Login Errors

A student may be unable to log in if

- he or she types the username or password incorrectly. The program prompts the student to retype the information.
- he or she is not enrolled in *FASTT Math* Next Generation.
- he or she did not complete the Placement Assessment.

TEACHER ACCESS

Teachers may not log in to the *FASTT Math* student program with a teacher username and password. To use the student program, teachers must create a student account in SAM, enroll that student in *FASTT Math*, and then assign an operation.

Student Dashboard

The Student Dashboard is a private setting where students view the progress they are making each day. In the Student Dashboard, students see the status of their math facts, their progress and growth over time, and a real-time news feed of awards and recognition. This personalized learning experience helps motivate students to take ownership of their learning.

> *Motivation is perhaps the indispensable element needed for school success.*
>
> —Sternberg, 2005, page 19

Home Tab

After logging in to *FASTT Math*, the Student Dashboard opens on the Home tab. The Home tab gives students a real-time news feed about their progress in the current operation, data about their fact mastery status, and information about session times, personal bests, and awards. It also is the access point to *FASTT Math* Instructional Software.

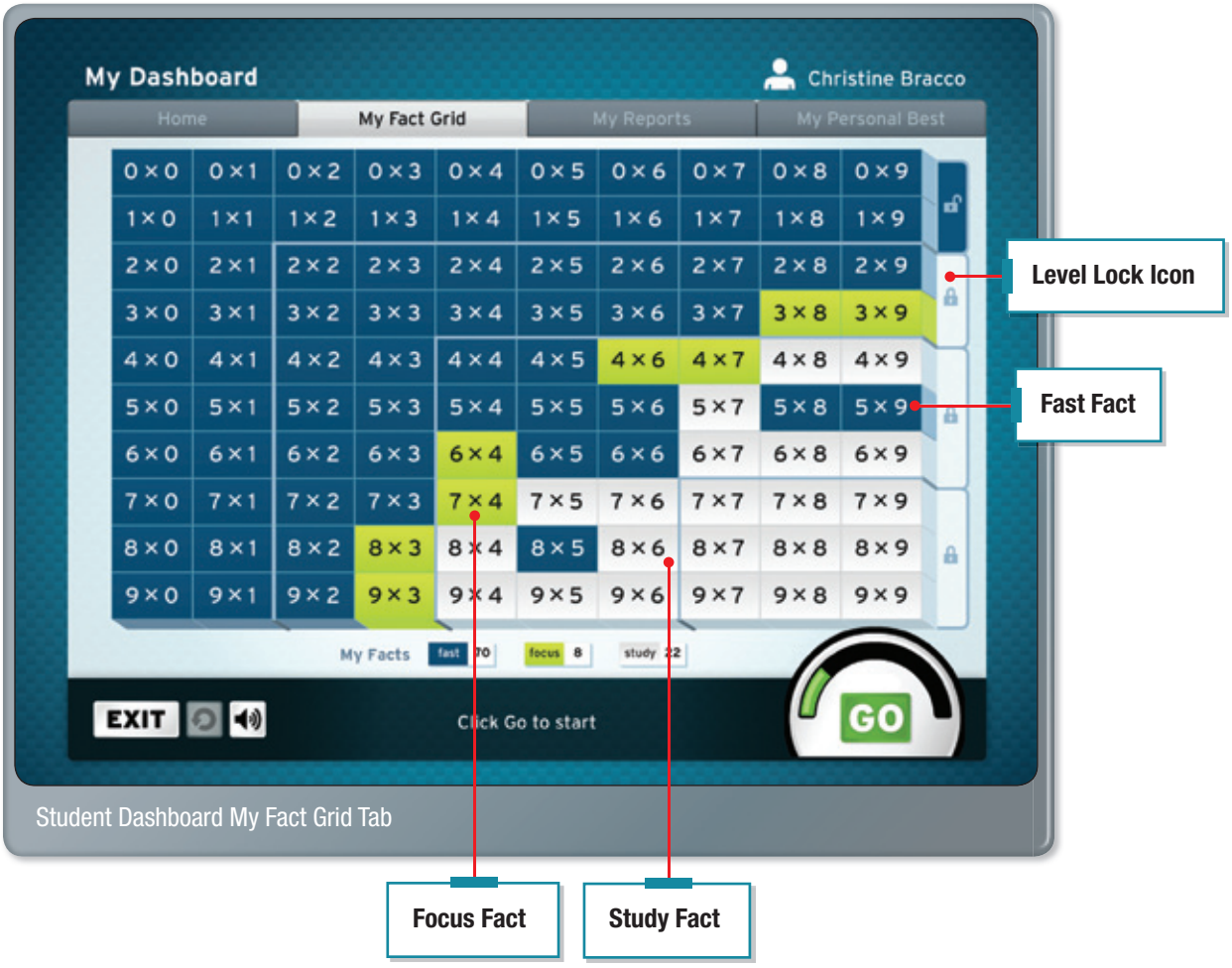
From the Home tab, the student may access actionable data to support learning. The student is allowed to spend two minutes on the Student Dashboard to review his or her work.

Student Dashboard Home Tab

Click to access the Instructional Software and games.

My Fact Grid Tab

My Fact Grid displays the facts for the current operation that the student has mastered (Fast Facts), the facts the student is currently learning (Focus Facts), and the facts the student has not mastered (Study Facts). The Fact Grid is divided into different levels, which are separated by heavy dividing lines. When a level becomes available, the lock icon unlocks. The Fact Grid is updated with the most current fact status each time the student enters the Student Dashboard.

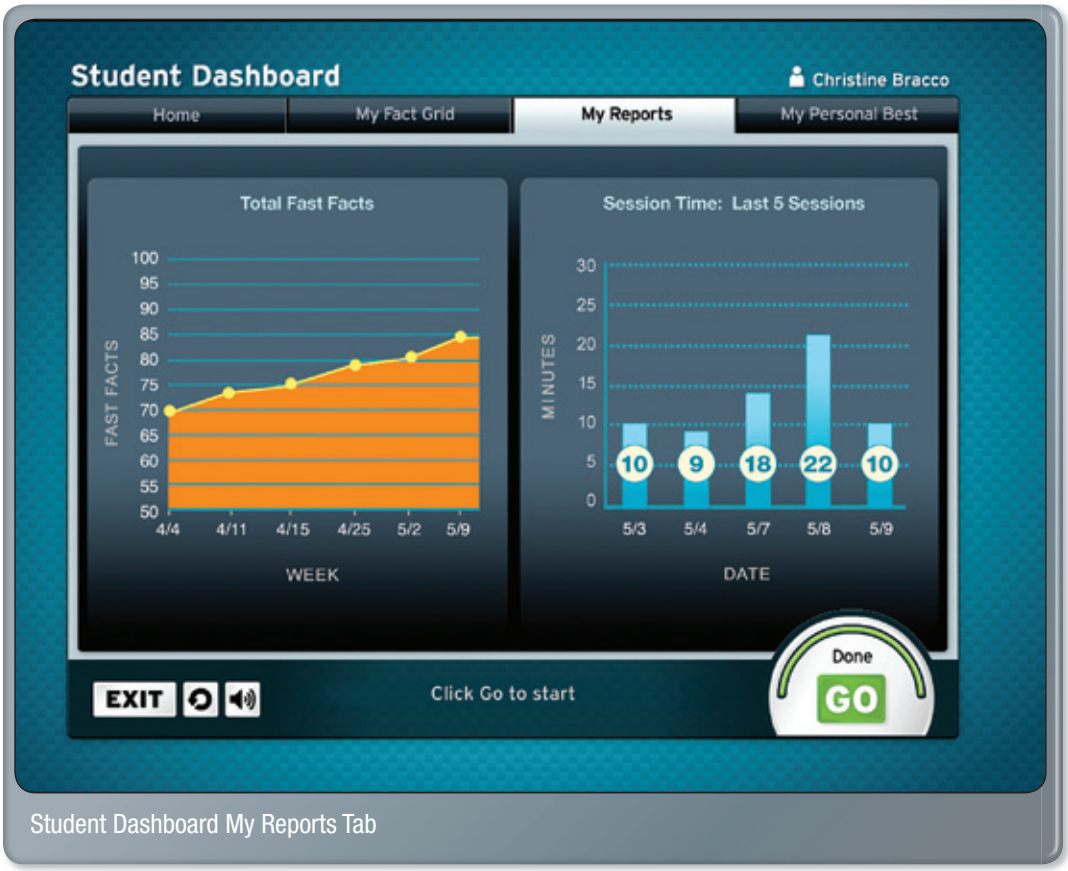


Student Dashboard My Fact Grid Tab

My Reports Tab

My Reports shows accurate and timely data to the student in clear, useful, and actionable formats. The reports help the student identify strengths and challenges, as well as set goals to improve work and have a better understanding of his or her achievements. Using the information in this section, students can set goals to improve work and fact mastery.

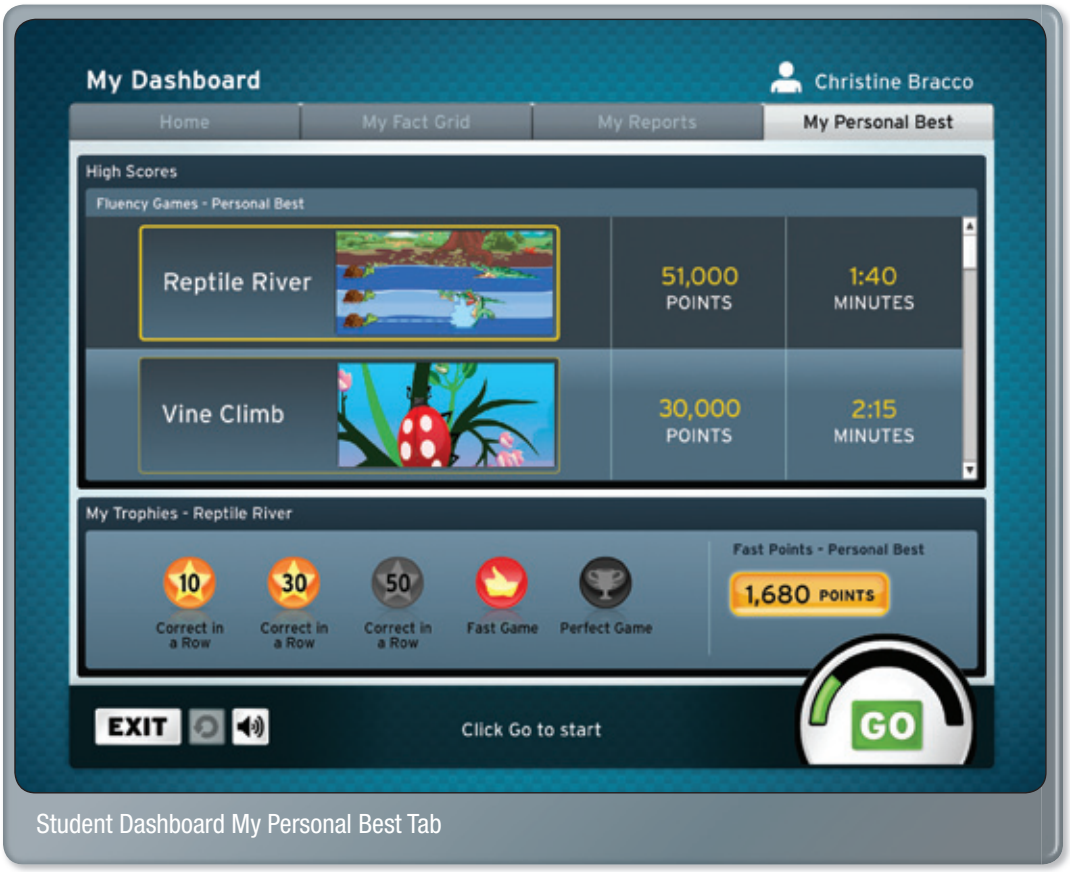
The reports in this tab focus on key elements of the student's performance including Total Fast Facts and Session Time. Reports are updated at the end of each session.



Student Dashboard My Reports Tab

My Personal Best Tab

My Personal Best allows students to see their achievements over time, including high scores, scores on each game, best times, and trophies, so he or she may compete against previous performances, as well as track and compare results. The data in My Personal Best augments the student's ability to self-monitor and helps to build motivation and achievement.



Student Dashboard My Personal Best Tab

Overview of Activities and Lessons

As the student begins *FASTT Math* Instructional Software, he or she is presented with an initial Placement Assessment. On subsequent days, the student is presented with different activities. These activities manage the pace of instruction, reassess learning that has happened outside the program, review problem areas, and measure proficiency. The activities, although similar in function and appearance, have very specific goals, and each daily lesson is determined by the student's progress.

The software is made up of the following types of activities:

Placement Assessment

The program begins with a Placement Assessment (referred to in the program as a Typing Challenge and Fact Challenge) for the assigned operation.

Adaptive Instruction

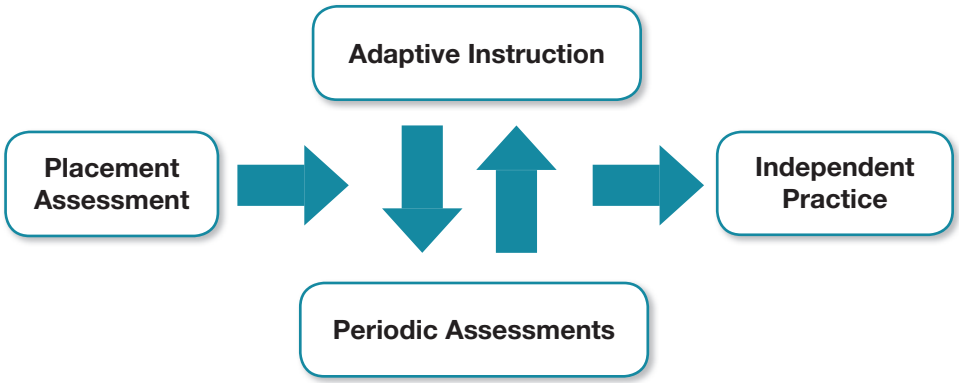
During each lesson, a student receives one of three types of instructional and practice opportunities including Learn New Facts, Review, and Practice activities.

Periodic Assessments

Periodic Assessments are presented to students periodically to evaluate fluency of math facts. These assessments include Mastery, which evaluates fluency of facts learned by using the program and Challenge, which evaluates fluency of facts learned outside the program.

Independent Practice

Independent Practice activities are fluency practice games. These fluency games are presented during each lesson (except during the Placement Assessment lesson) after the student has completed the Adaptive Instruction or a Periodic Assessment.



Lesson Structure and Requirements

After completing the initial Placement Assessment (first 1–2 days), the student begins his or her regular *FASTT Math* lessons. Each lesson has two parts that the student must complete:

Required Parts of a *FASTT Math* Next Generation Lesson

Part 1: Adaptive Instruction	Part 2: Independent Practice
An instructional activity such as • Learn New Facts • Practice • Review	A fluency practice game. Students can choose any one of the twelve games available in the program.

Periodic Assessment

An assessment such as

- Challenge
- Special Challenge
- Mastery

The student must successfully complete both parts of the lesson in order for the program to save his or her work. If the student quits the program before finishing the required game, his or her work from the first part of the lesson is not saved, and the student will have to repeat the lesson next time he or she logs in.

If the student chooses to, he or she can continue to play additional games after completing the lesson. It is recommended to play only one to two additional games per daily lesson. Encourage the student to respond fast and accurately to the facts. The program tracks performance in all activities, including games. If the student plays additional games, it is safe to quit at any time without fear of losing the work that was completed in the lesson. Students may also choose to play STRETCH-To-Go games after completing a lesson and the required fluency practice game.

If the student clicks the Exit button, the program pauses and asks the student to confirm that he or she wants to quit. This prevents the student from unintentionally quitting the program.

Teachers can use the Student Lesson Status Report to see records of any incomplete lessons. If there are many incomplete lessons, remind the student to complete the required game in each lesson and be sure to allow enough time to complete the lesson.

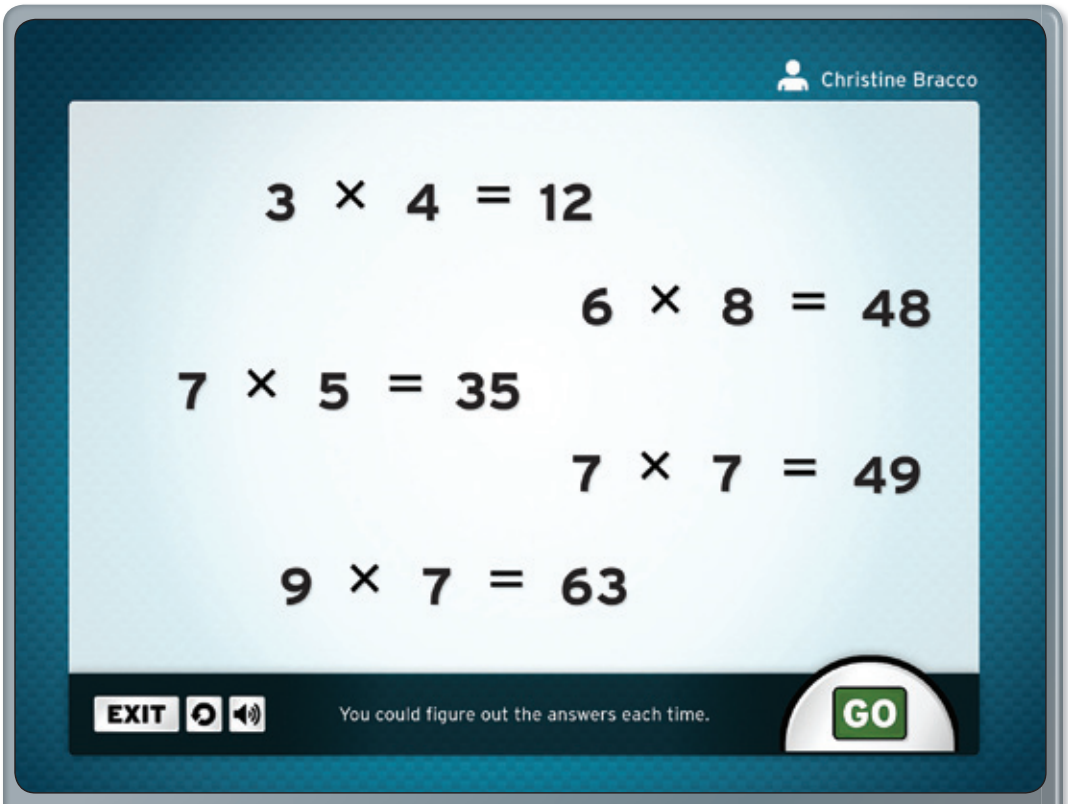
Student Introduction

During the Placement Assessment, *FASTT Math* presents an overview of the student experience with the program. A short animation explains what the student can expect and what is expected from the student. The introduction continues with specific instructions on what to do during the Typing Assessment part of the Placement Assessment. When the student finishes the Typing Assessment, he or she receives specific instructions on what to do during the Fact Assessment part of the Placement Assessment.

The introduction to the program and instructions for the Placement Assessment are narrated. The text is also displayed at the bottom of the screen for hearing impaired students and for students who turned the audio off.

Note: *The introduction is no longer presented upon logging in after the student has finished the Placement Assessment.*

A student can click the Go button to skip the introduction and assessment instructions.



Student Introduction Screen

Placement Assessment

During the Placement Assessment, the program evaluates which facts in the assigned operation the student is currently fluent with (correct and fast answers).

Activity Type	Placement Assessment
Presentation	First lesson for each operation
Purpose	To determine the student's baseline fluency with all facts in the operation
Description	The Placement Assessment has two parts: the Typing Assessment and the Fact Assessment.

Two-Part Assessment

The Placement Assessment has two parts: the Typing Assessment (referred to as a Typing Challenge) and the Fact Assessment. The Typing Assessment records the student's speed in typing given numbers that are answers to facts in the assigned operation. Each number is presented multiple times and the program calculates the median typing time.

The Fact Assessment (referred to in the program as a Fact Challenge) measures the student's full response time in answering facts. When the student answers the fact correctly, the program subtracts typing speed from the full response time to find the difference. The difference is the actual response time and is the critical measurement for determining if a student is recalling a fact from memory or finding the answer some other way, such as finger counting. A fact is considered fluent if the student's actual response time is 0.8 seconds or less. Measuring actual response time ensures that a student who types slowly is not penalized. The program offers a true measure of fact fluency.

		Student A	Student B
Typing Speed	**Type the number 21**	1.35 seconds	0.15 seconds
Full Response Time	**Answer: 3 × 7**	1.75 seconds	4.95 seconds
Actual Response Time	**Difference**	0.4 seconds—fluent fact	80 seconds—nonfluent fact

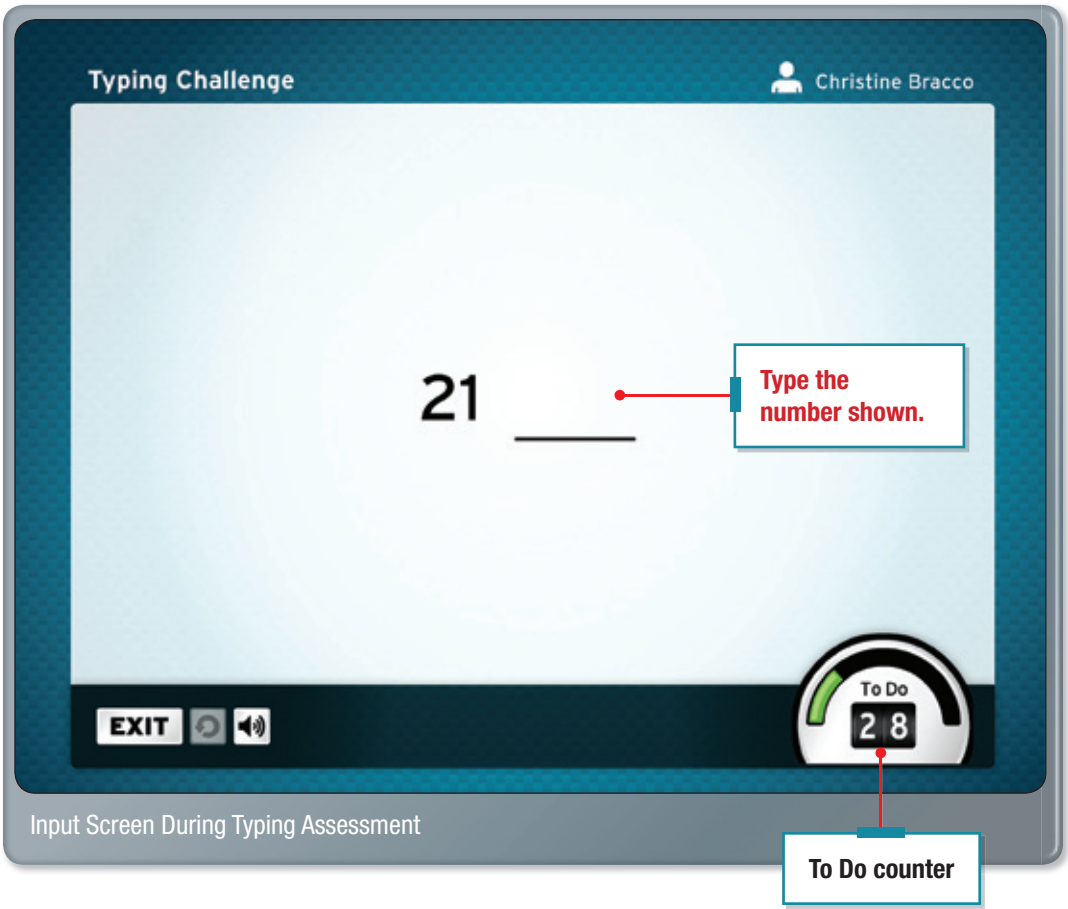
Typing Assessment

The Typing Assessment is broken up into sets of numbers. There are two to four sets, each of which includes up to 46 numbers depending on the operation. The Typing Assessment is completed during the Placement Assessment and may take longer than 10 minutes. If a student quits in the middle of the Typing Assessment, his or her typing times are not saved and the assessment is presented again when the student next logs in.

Typing Assessment Input Screen

Once the student clicks Go, the software begins presenting numbers on the screen, one by one. The student types the number and then presses the space bar on the keyboard. That number disappears and the next one appears. The To Do Counter indicates how many more numbers the student is required to type.

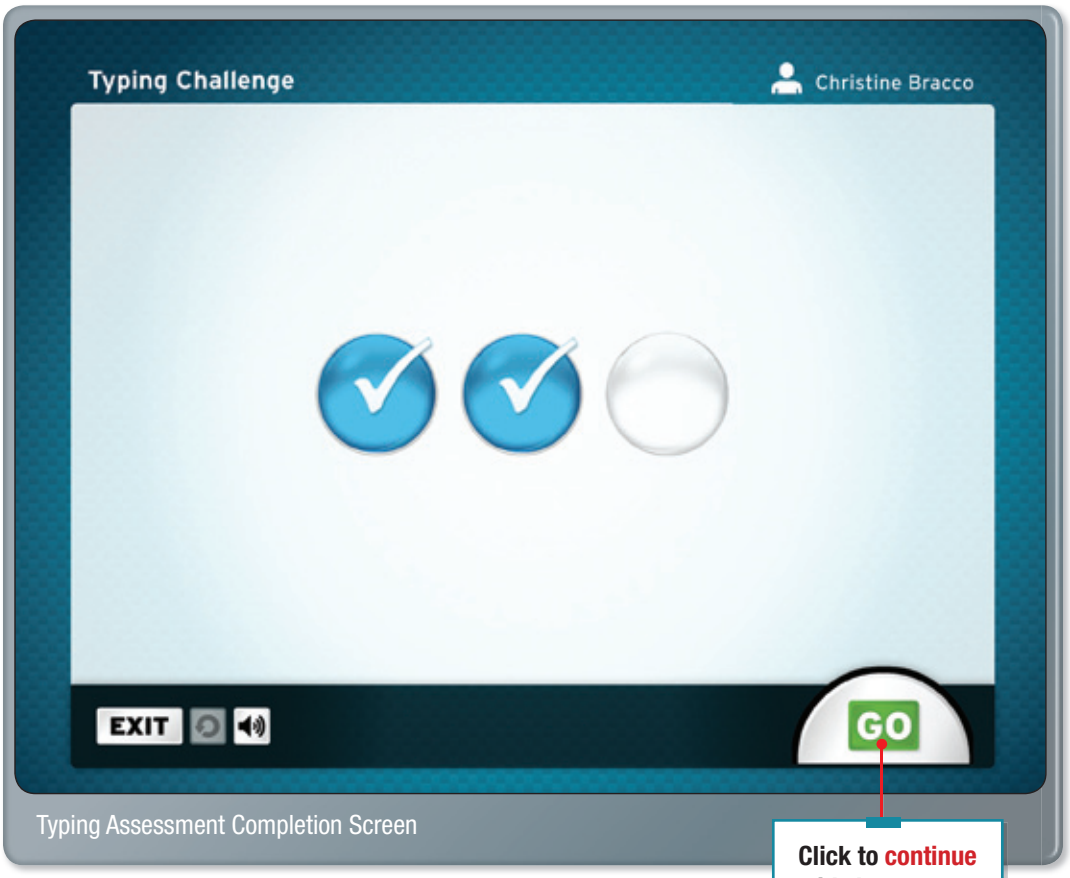
During the assessment the student has 60 seconds to type the number. If he or she exceeds that time limit, the number disappears and the next one is presented.



Input Screen During Typing Assessment

Typing Assessment Completion Screen

Between sets, the student sees a screen that shows how much of the Typing Assessment is completed. This screen gives the student a momentary break from typing numbers. Each bubble represents a set. When a set is completed the bubble fills and a check mark appears.



Typing Assessment Completion Screen

Fact Assessment

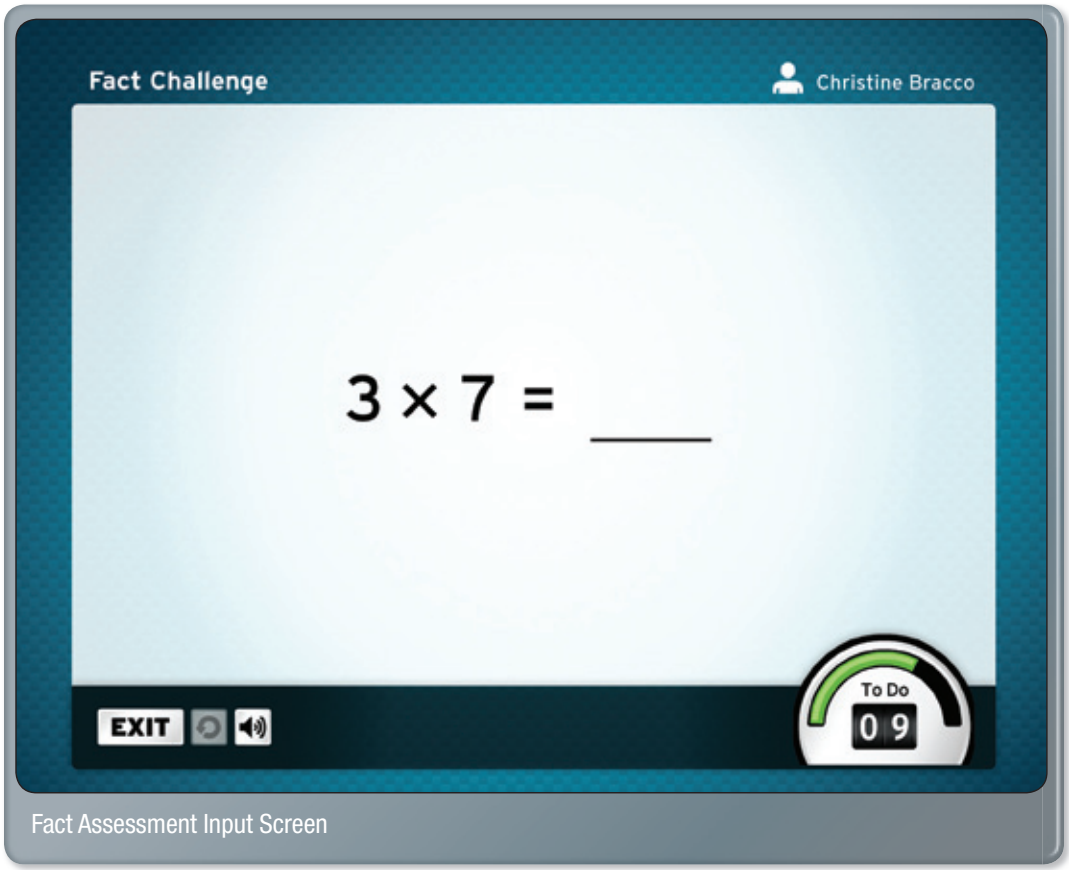
The Fact Assessment presents a different number of facts to each student based on that student's performance. For example, a student who answers all facts correctly and fast is presented with all facts in the operation. A student who is struggling to answer facts is not presented with all facts in the operation. A Fact Assessment has up to 40 problems per set. If a student answers many problems incorrectly or is not paying attention, a set may end early.

For facts with 0 and 1, students are given an initial set of four problems. If a student is successful, all 0 and 1 facts are marked as fluent and the student does not receive instruction on the 0 and 1 facts. The 0 and 1 facts, however, are presented throughout practice with that operation. Students who do not successfully complete the initial set of four facts are given a full assessment of all 0 and 1 facts.

FASTT Math informs the student when the assessment is completed. If a student cannot finish the Fact Assessment during the first day, he or she completes it the next day. At the end of the Placement Assessment, the student sees the Fact Grid highlighting his or her Fast Facts.

Fact Assessment Input Screen

The software presents facts one by one. The student types the answer and then presses the space bar. That fact disappears and the next one appears. The student has 15 seconds to type the answer. If he or she exceeds that time limit, that fact disappears and the next one appears.



Fact Assessment Input Screen

Feedback During the Assessment

Just like a paper-and-pencil assessment, the student is not presented with immediate feedback about right or wrong answers during the Fact Assessment. At the end of the assessment, the student sees the results displayed in his or her Fact Grid.

Fact Assessment Completion Screen

Between sets, the student sees a screen that shows how much of the Fact Assessment is completed. This screen gives the student a momentary break from answering facts. Once the student has completed the assessment, the bubble fills in and a check mark appears.

Fact Assessment Completion Screen

Fact Grid

The Fact Grid displays all the facts in the operation and fact range that is assigned to the student. The fact range may include numbers between 0 and 9 or between 0 and 12.

Fast Fact States

Facts may be in one of three states:

Fast Facts These are facts that the student can answer correctly in 0.8 seconds or less. The student demonstrated fluency with the fact in either the Placement Assessment or a subsequent program assessment.

Focus Facts These are facts the student can answer correctly in from 0.9 to 1.25 seconds and is currently practicing. This response time is one of the adjustable program settings available through SAM. (See the Program Overview section for more details.)

Study Facts These are nonfluent facts. The student repeatedly gave slow or incorrect responses to these facts during the Placement Assessment. Study Facts have not yet been presented for instruction.

Fact Grid Screen (0–9): The Fact Grid is the first screen the student sees when starting a lesson and the last he or she sees before logging out.

Fast Fact Levels

The Fact Grid groups facts into progressive levels as follows:

Number of Facts in Level		
Level	**0–9 Range**	**0–12 Range**
0 and 1 facts	36*	48*
2 and 3 facts	28	40
4, 5, and 6 facts	27	45
7, 8, and 9 facts	9	27
10, 11, and 12 facts	not applicable	9

*Note there are fewer facts in the 0s and 1s for division since it is not possible to divide by 0.

Thick level-dividing lines visually separate each level on the student's Fact Grid. Levels that the student has completed or is currently completing are unlocked. Higher levels are locked until the student masters the previous levels.

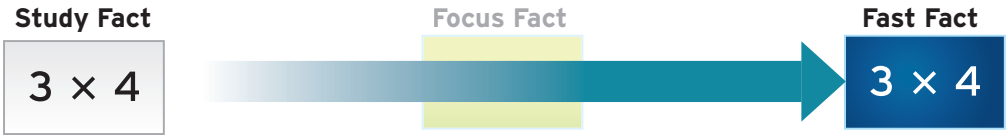
Presentation of the Fact Grid

The Fact Grid is presented for the first time when the student completes the Placement Assessment. At that point, the Fact Grid displays the student's Fast Facts and Study Facts, based on the answers given during the assessment. Study Facts are introduced for instruction and practice throughout the remainder of the program.

Examine your student's Fact Grid. If you see gaps in the 0s, 1s, and 2s, the student may have conceptual gaps on number sense and operations that should be addressed before using *FASTT Math*. Reassess the student using the interview-based Math Foundations Diagnostic Assessment to determine if the student needs one or both of the Intensive Support interventions before using the software. (See the Intensive Support section for more information.)

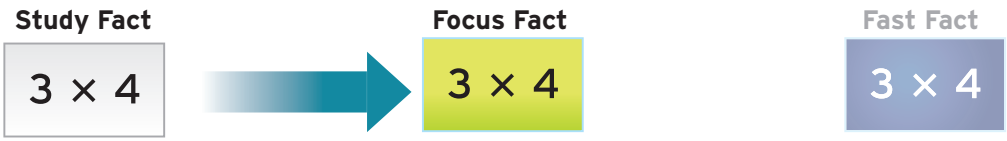
Changing Fact States

A fact is highlighted as a Study Fact, a Focus Fact, or a Fast Fact in the Fact Grid. These fact states change as the student progresses through the program. As facts change, the type of activity presented to students changes.

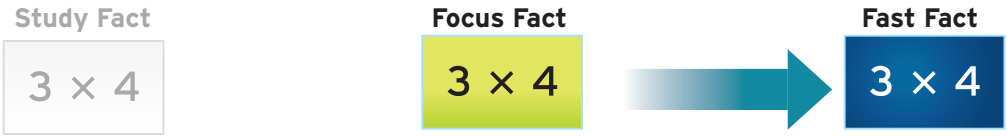


Placement Assessment: All facts begin as Study Facts until the Placement Assessment is complete. A fact changes from a Study Fact to a Fast Fact when the student provides a correct answer in 0.8 seconds or less (not including typing time).

Challenge: When all the facts in one level are either Fast or Focus Facts, the program challenges students with the facts in the next level. A fact in the next level changes from a Study Fact to a Fast Fact when the student provides a correct answer in 0.8 seconds or less (not including typing time).



Learn New Facts: A Study Fact changes to a Focus Fact when the student provides a correct answer within 1.25 seconds (not including typing time). A Focus Fact changes to a Fast Fact when the student provides a correct answer in 0.8 seconds or less during Mastery.



Mastery: Mastery is a Periodic Assessment. When the student has Study Facts remaining in the Fact Grid after 60 minutes of instructional lesson time or after six complete lessons, whichever comes first, the program presents a challenge to determine fluency on the Focus Facts. If a student provides correct answers to Focus Facts in 0.8 seconds or less, these facts become Fast Facts; if not, they remain as Focus Facts.

When the Fact Grid has only Fast and Focus Facts, Mastery is presented after every 30 minutes of instructional time or after three complete lessons, whichever comes first.

Adaptive Instruction

Fact Instruction Overview

The first part of a student's daily lesson may be adaptive instruction or Periodic Assessment, depending on his or her progress. There are three types of adaptive instruction activities.

Activity Type	Learn New Facts	Review	Practice
Presentation	Every day unless another instruction activity or a challenge has been triggered. Learn New Facts is the most common type of activity.	If the student's retention level (accurate recall of learned facts) falls below 80% as determined by the Mastery.	Practice activities are presented periodically. These activities are usually triggered when the student masters a 7s fact (e.g., 7 + 3).
Purpose	To build a memory relationship for up to three (usually two) Study Facts from the student's Fact Grid.	To repeat focused instruction on already-learned facts that the student is having trouble remembering.	To provide periodic rest from learning new facts, ensuring that the student is not overwhelmed by new information.
Description	The program selects the next available fact pair from the student's Fact Grid for instruction.	The program selects the two or three facts on which the student has repeatedly made slow or incorrect responses. These facts are presented for instruction exactly like in a Learn New Facts activity. At the end of the activity, the student's retention level is evaluated again to see if another Review activity is necessary. Facts do not change state during a Review activity.	A Practice activity does not present any new facts for instruction. Instead it focuses practice on the most recently learned facts.

Fact Instruction Process

Learn New Facts and Review are instructional activities. The goal of an instructional activity is for the student to be able to recall new facts from memory on a consistent basis in less than 1.25 seconds. (This response time is adjustable through program settings accessible in SAM. See the Program Overview for more details on program settings.)

Students receive instruction in one, two, or three (usually two) facts per activity. If a student logs in a second time after completing an instructional activity and the required game, no more instruction is presented, and the program allows the student to play additional fluency games.

There is a four-step process in the Learn New Facts and Review activities to help the student create a memory association. In the Practice activity, only Step 4 is presented.

STEP 1: Fact Selection and Presentation

The program selects a fact pair, for example 4×6 and 6×4, from the Fact Grid and presents each fact to the student. During fact presentation, the student sees and hears the facts, and is asked to say them aloud.

STEP 2: Fact Model Screen

The student has the option to see and hear an animated model that represents the fact.

STEP 3: Fact Typing Screen

The program asks the student to type each presented pair of commutative facts and the answer from memory.

STEP 4: Fact Practice Screen

The pair of facts is presented in the expanding recall model to solidify the memory relationship and develop students' quick recall of the facts. Students are required to type the answer from memory.

STEP 1: Fact Selection and Presentation

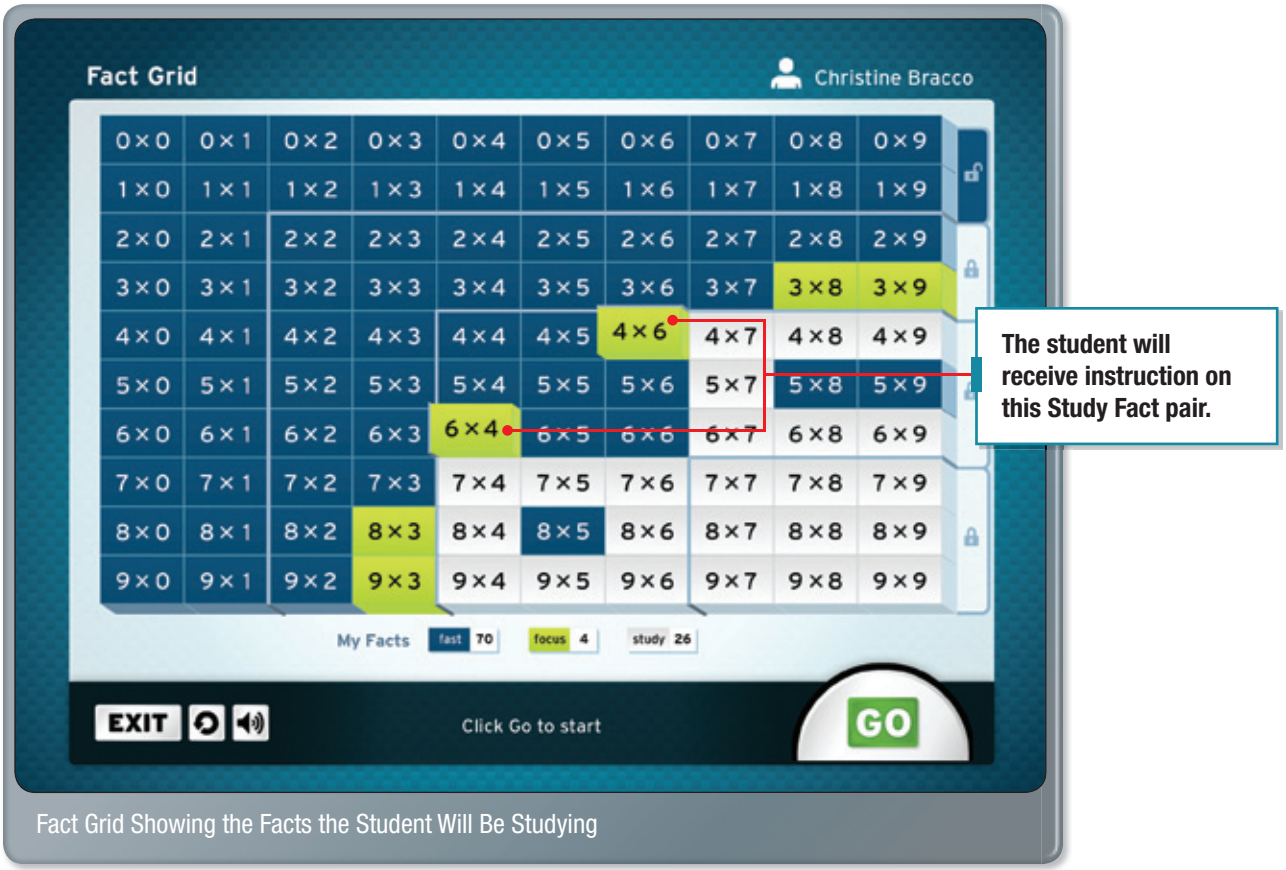
Once the Placement Assessment is complete, the student sees his or her Fact Grid when logging in to the Instructional Software. The student's Focus Facts are highlighted on the Fact Grid as the narrator explains the assignment.

During a Learn New Facts activity, the program selects a fact pair (for example, 4×6 and 6×4) from the Fact Grid for instruction. If a given fact does not have a pair (because one of the facts is already a Fast Fact), the program looks for the next available single fact or pair.

Facts are selected based on the following conditions:

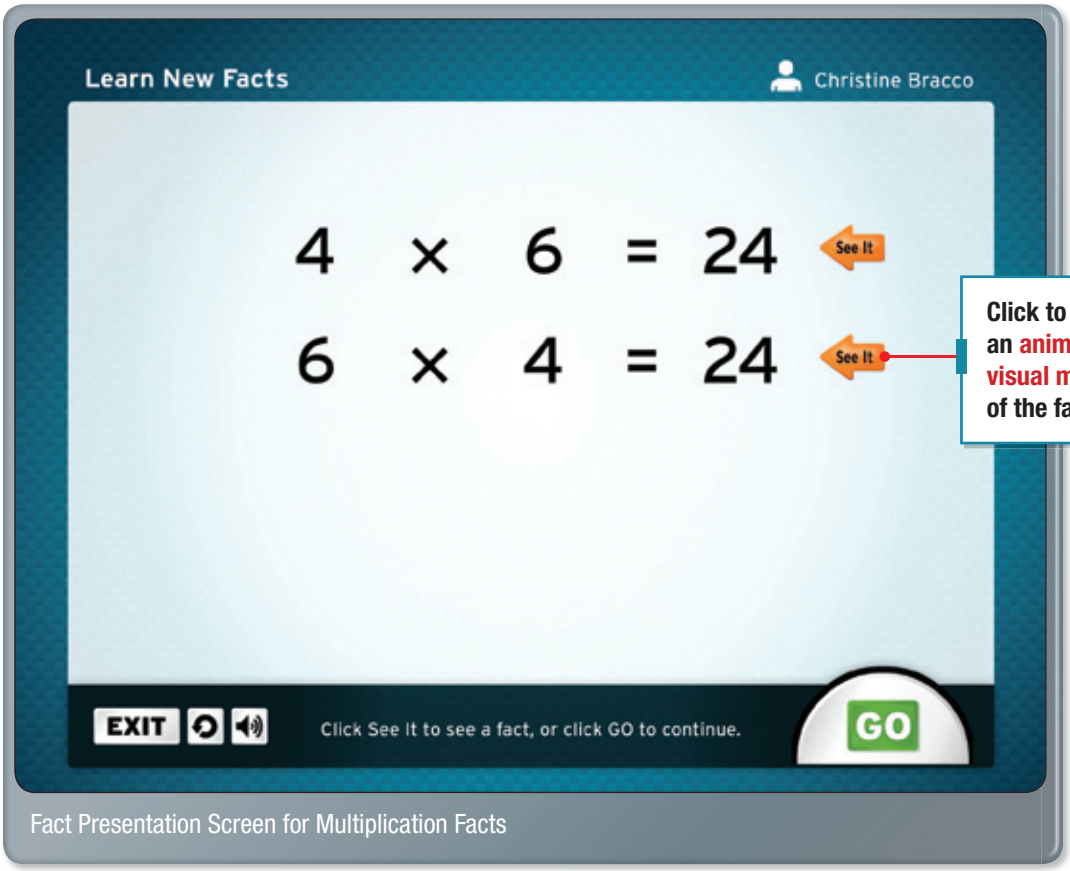
- **Addition:** the lowest available addend (all the $3 + b$ and $b + 3$ facts are presented before any 4s facts are presented)
- **Subtraction:** the lowest available subtrahend ($b - 3$ facts are presented before $b - 4$ facts)
- **Multiplication:** the lowest available factor ($3 \times b$ and $b \times 3$ facts are presented before any 4s facts are presented)
- **Division:** the lowest available divisor ($b \div 3$ facts are presented before $b \div 4$ facts)

During a Review activity, the program chooses the two or three facts most in need of review, based on a pattern of slow and incorrect responses made by the student.



Fact Grid Showing the Facts the Student Will Be Studying

After selecting the new pair of facts for instruction in an instructional activity, the program presents these facts on the next screen. The narrator reads the facts aloud and asks the student to repeat them. This is the first step in building a memory association between the problem and the answer. The Fact Presentation screen is shown during Learn New Facts and Review activities.



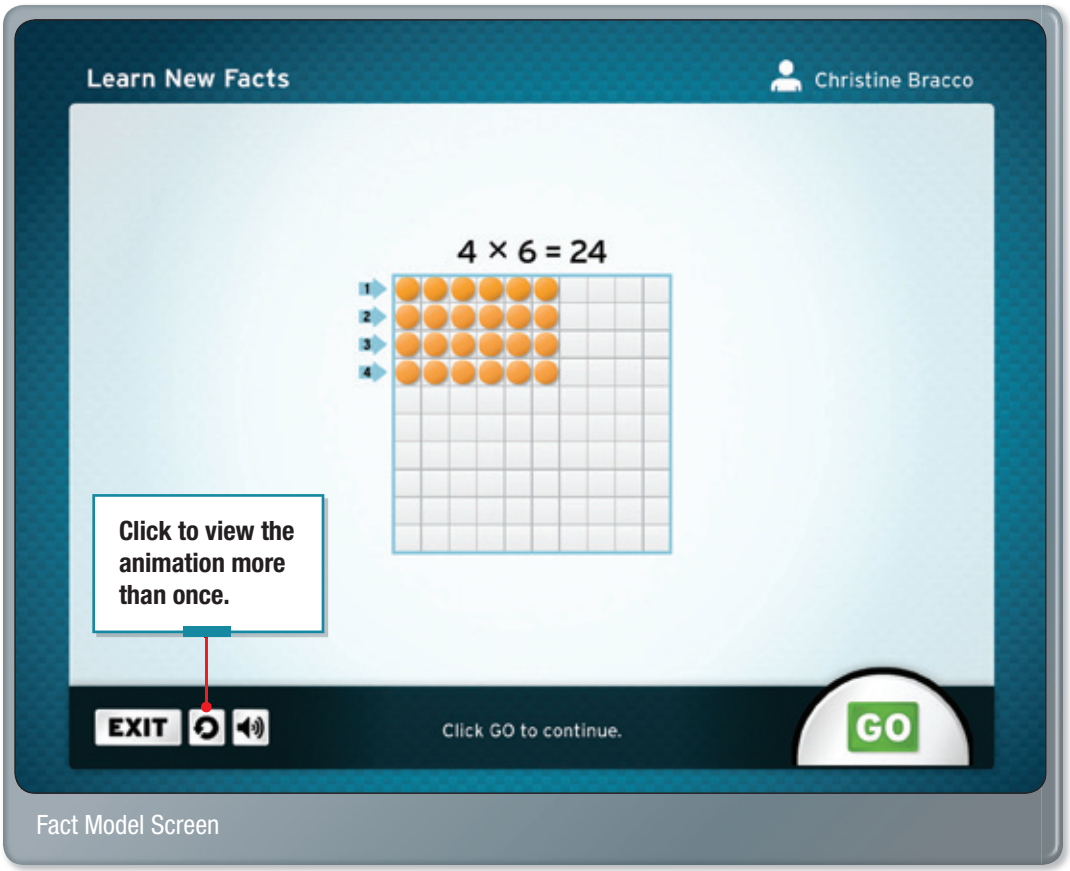
Fact Presentation Screen for Multiplication Facts

STEP 2: Fact Model Screen

During a Learn New Facts activity or a Review activity, the student can see an animated visual model of any fact presented by clicking See It on the Fact Presentation screen.

The model helps the student understand what the fact represents numerically and how it relates to other facts. Students should be encouraged to view the animation.

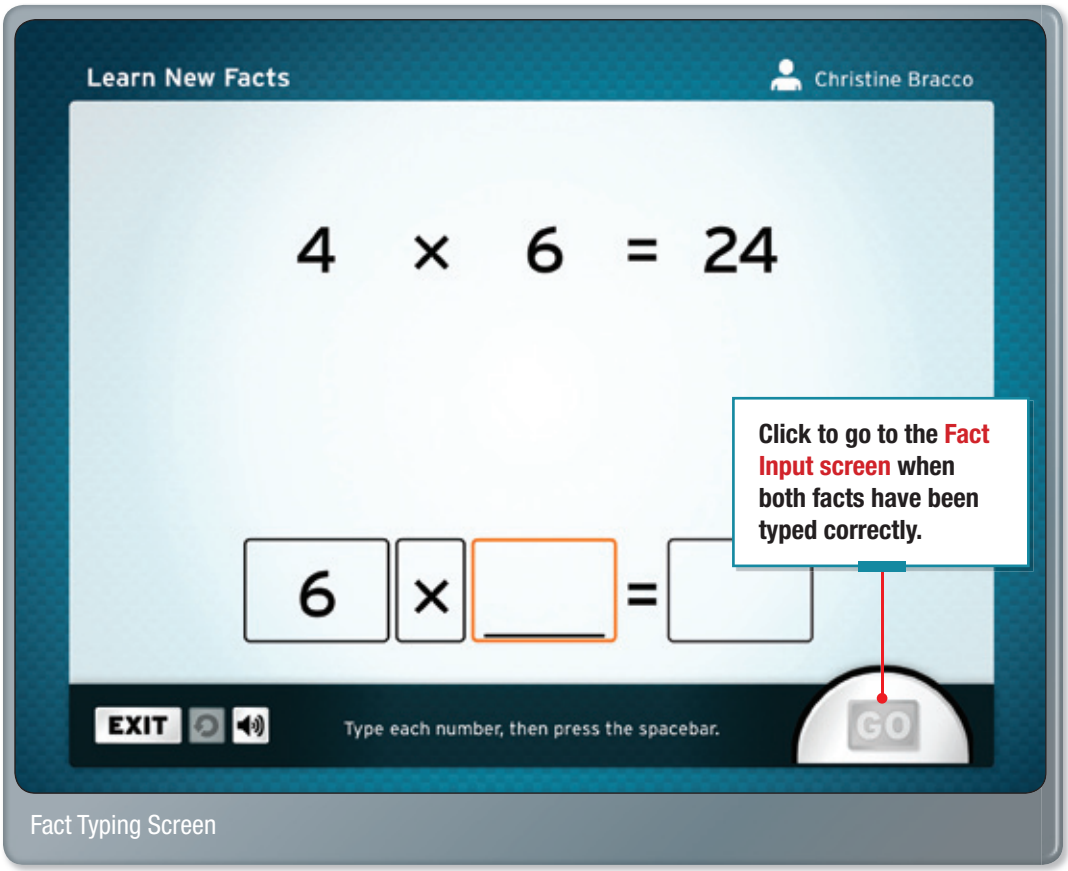
The student may click the Repeat button to see the animated model again, or click Go to return to the list of Study Facts.



Fact Model Screen

STEP 3: Fact Typing Screen

The Fact Typing screen is presented after the student has had a chance to get familiar with the pair of facts for instruction. For each commutative fact pair, the student is asked to type the full number sentence from memory. If the student makes a mistake, or cannot remember the fact and answer, the program automatically presents the fact pair again to refresh the student's memory.



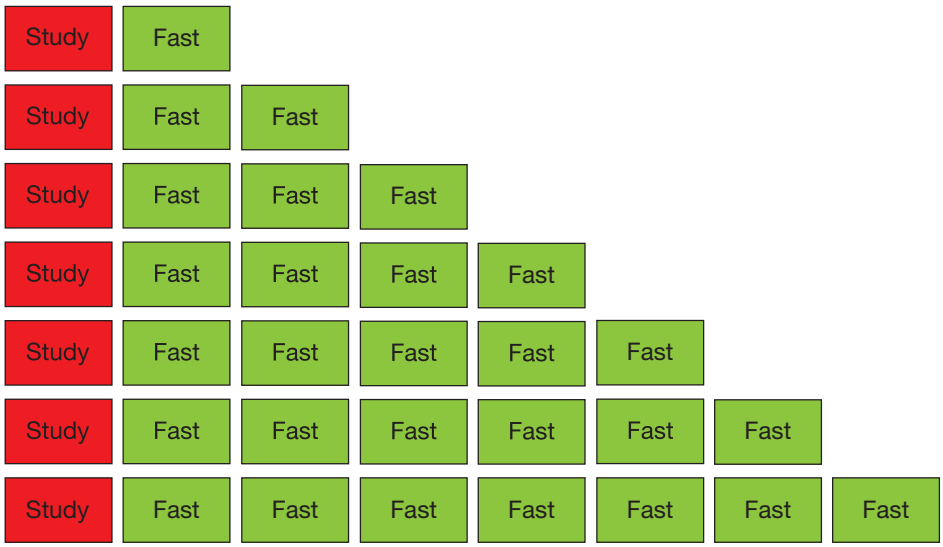
Fact Typing Screen

To type a fact, do the following:

1. Type a number in the first box.
2. Press the space bar, the enter/return key, or the right arrow key on the keyboard to move the cursor to the second box.
3. Use the symbols +, −, ×, or / to input the operand for the problem.
4. When the fact is complete, press the space bar or the enter/return key again after typing the last digit. If the fact is correct, it moves to the top of the screen. If it is incorrect, the list of facts is presented again.

STEP 4: Fact Practice Screen

After a student has successfully typed the full number sentence for a fact pair from memory, the program continues with instructional practice. During instructional practice, the program uses a research-based method known as expanding recall. This method intersperses new facts with facts the student already knows, gradually increasing the time between exposures to the new facts, until they become fluent. The goal is to build the student's capacity to remember the answers to the new facts over longer periods of time. The program limits the allowed response time to prevent the student from employing a nonautomated strategy, such as finger counting, to provide the answer to the problem.



Presentation of Facts in an Expanding Recall Session

Practice activities do not provide instruction and the Expanding Recall model is not used. Instead, a Practice session creates a problem set focusing on the most recently learned facts.

In a Practice activity, the program presents 60 problems for practice. A set may have 50 or 70 problems depending on program settings defined by the teacher. (See Program Settings in the Program Overview section for more details.)

After a Learn New Facts activity, if the student was able to recall the facts correctly and within 1.25 seconds, those facts change from Study Facts to Focus Facts in the Fact Grid. These facts will now be presented frequently for practice to help the student speed up recall. If the student was not able to recall the facts fluently, then the facts do not change to Focus Facts and are presented again for instruction in the next Learn New Facts activity.

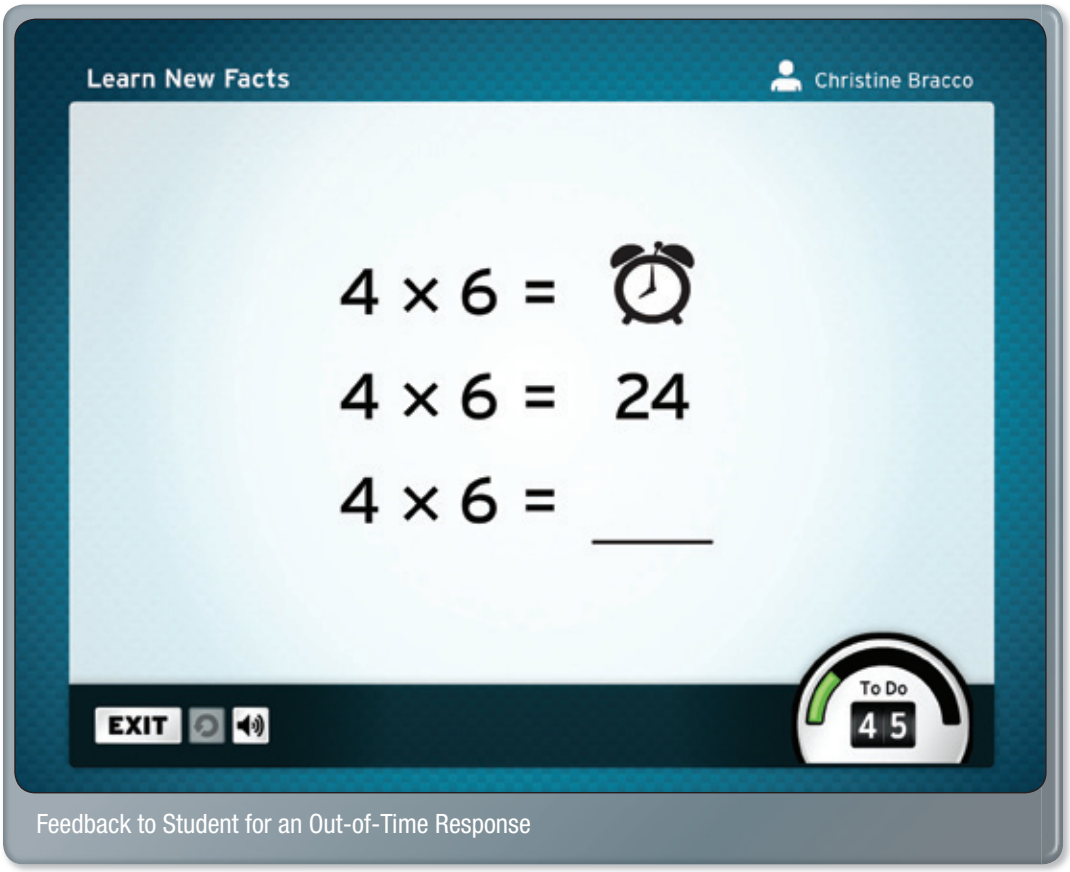
Typing Responses Once the student clicks Go to practice the facts, the program begins presenting facts, one fact at a time. To input an answer, the student types the response and then presses the space bar on the keyboard. The problem disappears and the next problem appears.

Unlike in the Fact Challenge, in Practice activities the student has only 1.25 seconds to respond to each fact. This limit ensures that the student is recalling the fact from memory and not using finger counting or some other strategy to answer the problem. This response time is adjustable. (See Program Settings in the Program Overview section for more details.)

Fact Input Screen

Feedback During Instruction Most instructional activities provide the student with immediate feedback about right or wrong answers and out-of-time responses. This feedback continually reinforces the memory relationship between the fact and the correct answer.

If the student types the wrong answer, the correct answer is displayed and the student is asked to type the correct response again. If the student does not respond to the fact within the 1.25-second response time limit, the program presents an out-of-time icon and the correct answer is displayed. The student is asked to type the correct response again.



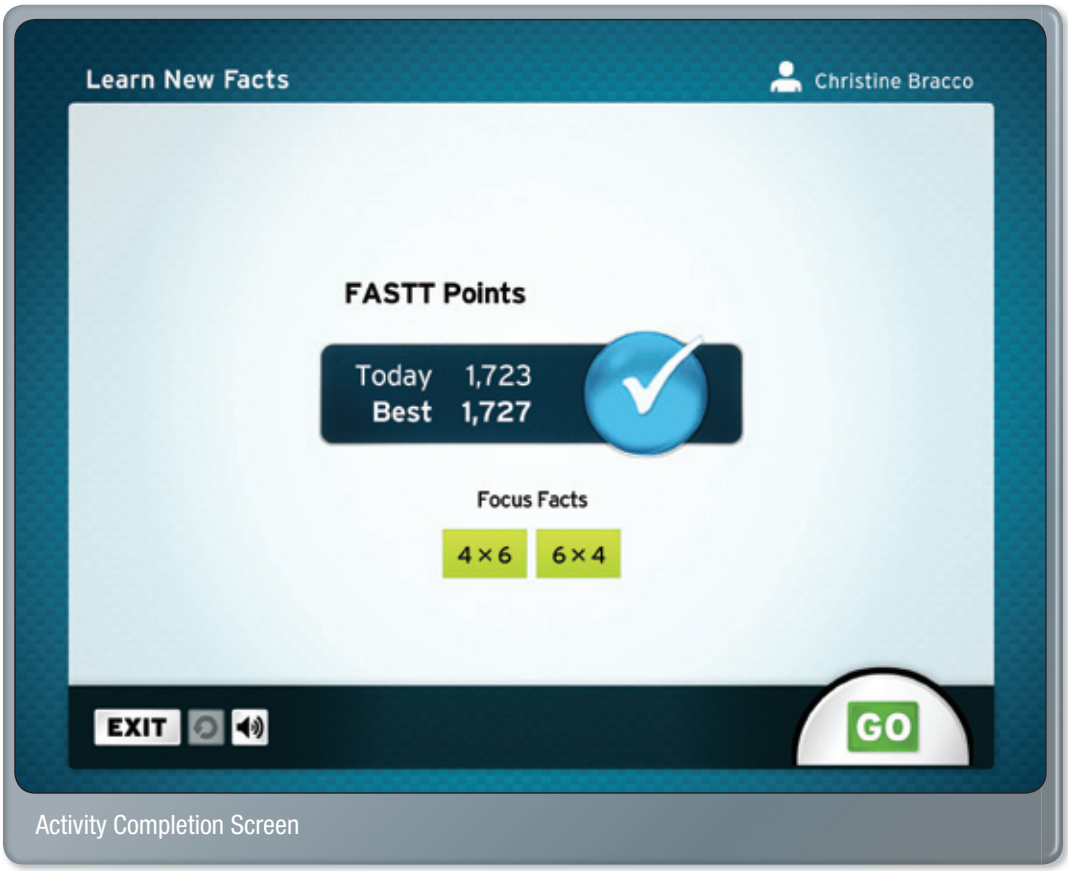
Feedback to Student for an Out-of-Time Response

Activity Completion Screen

At the end of a problem set during a Learn New Facts, Review, or Practice activity the student sees the Activity Completion screen that shows how well he or she did.

The screen shows FASTT Points for Today, which indicates how well the student performed in the preceding activity, and Best FASTT Points which indicates the maximum score in any activity (except games).

The Activity Completion screen after a Learn New Facts activity displays any new Focus Facts for that student.



Activity Completion Screen

FASTT POINTS are calculated based on the following factors:

- how fast the student responded to the facts presented
- how many correct responses the student gave
- the difficulty level of the problems

Periodic Assessments

The first part of a student's daily lesson may be a Periodic Assessment that enables the student to demonstrate proficiency. Periodic Assessments are presented at different points determined by a student's instructional time in the software and his or her fact states.

Activity Type	Presentation	Purpose	Description
Mastery (Fast Fact Challenge)	After 60 minutes of instructional lesson time or after six complete lessons and the student has remaining Study Facts. After every 30 minutes of instructional time or after three complete lessons and there are no more Study Facts.	To determine if the student is able to respond fluently (in 0.8 seconds or less) to Focus Facts. If so, the facts become Fast Facts; if not, the facts remain Focus Facts and are presented again in the next Mastery.	Fact assessment on all Focus Facts (up to 40 facts).
Challenge (Fast Fact Challenge)	When all the facts in a level are either Fast or Focus Facts, the program presents a challenge on the facts that are in the next level.	To determine if the student is able to respond fluently (in 0.8 seconds or less) to facts in the next level, although these were nonfluent after the Placement Assessment. This accounts for facts the student may have learned outside the software.	This challenge has two parts—a Typing Assessment and a Fact Assessment—on all the next-level Study Facts. If the student has fewer than 150 minutes of work since completing the Placement Assessment, he or she goes directly to the Fact Assessment. The program retains the typing times from the Placement Assessment.

Another type of assessment, the Special Challenge, is presented when a student is moved from the 0–9 to the 0–12 number range in the same operation. This assessment includes a Typing Assessment and a Fact Assessment. The purpose is to evaluate fluency of newly assigned facts in the 10s, 11s, and 12s.

Independent Practice

During the second part of every lesson, the student plays a fluency game. Fluency games provide the student with fun, motivating environments in which to increase the speed at which he or she recalls learned facts. Fluency games are not available during the Placement Assessment.

Activity Type	Presentation	Purpose	Description
Fluency Games	Fluency games are presented during each lesson, after the student has completed an instructional activity or assessment. Games are not available during the Placement Assessment.	The purpose of fluency games is to provide fun, motivating environments in which the student can increase the speed at which he or she recalls learned facts.	The program presents a set of problems, 60 by default, including Focus and Fast Facts, with emphasis on the most recently learned Focus Facts.

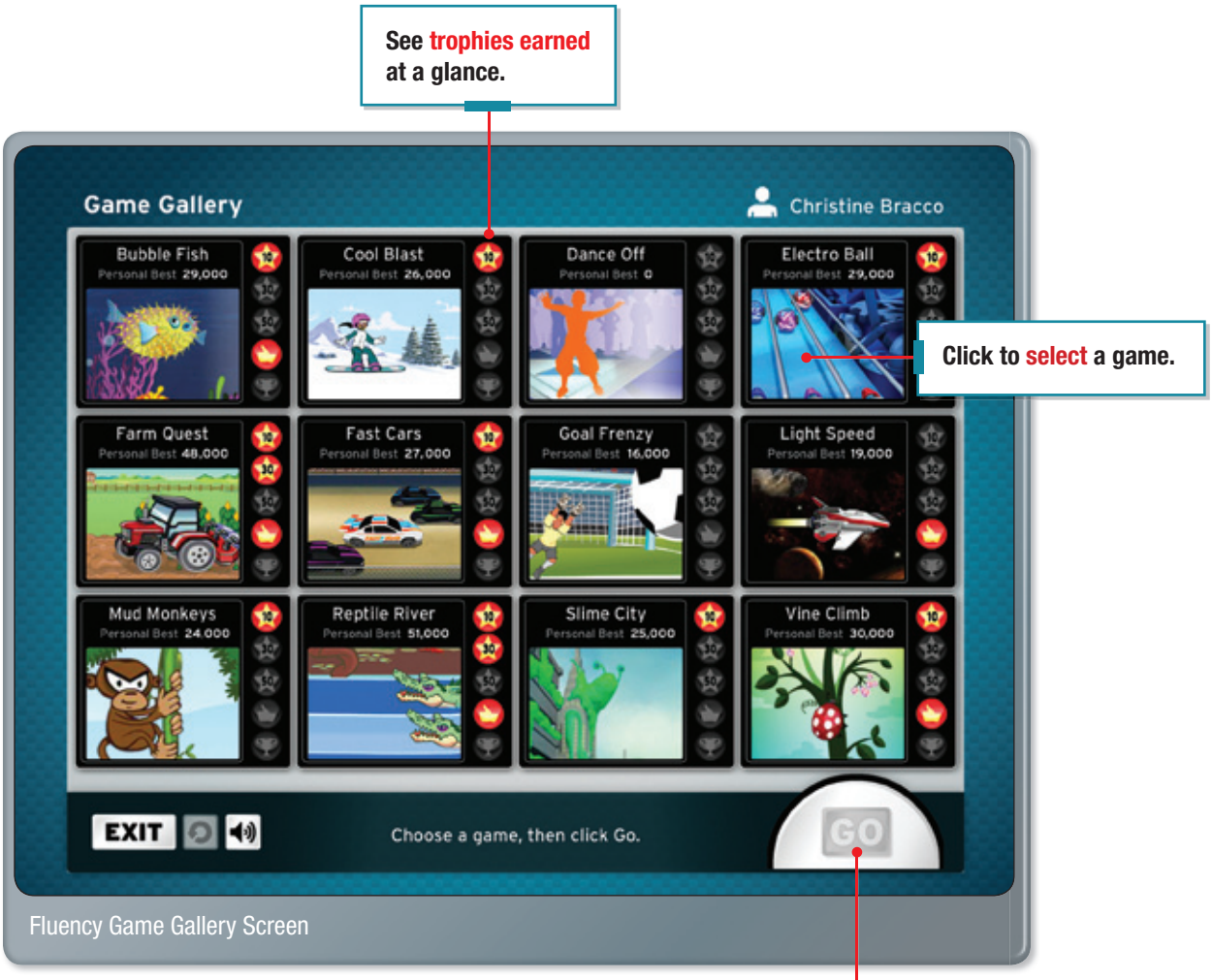
The student is required to play one fluency game during the lesson. The student may play additional fluency games before logging out. A student who finishes his or her lesson(s) for the day and who logs in later the same day also has access to games but does not get a new assignment until the next day.

Game Gallery Screen

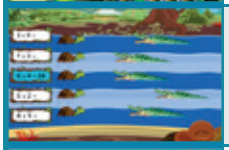
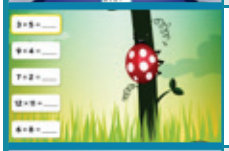
In the Game Gallery, the student selects a fluency game. All twelve games are listed on this screen, along with the student's current Best score and any trophies earned for each game he or she has played.

The Game Gallery is presented automatically after the student completes the first part of the daily lesson, either an instructional activity or assessment. The student is required to complete one game as part of the daily lesson. The student may play additional games, if desired, after completing the required lesson(s). At this point, clicking Go at the end of the lesson enables the student to access the Game Gallery.

A student who has completed the assigned operation (all facts are Fast Facts) may play games as long as his or her assigned operation remains the same.



Fluency Game Gallery Screen

Fluency Games	Game Goal
	**Mud Monkeys** Answer the facts as fast as possible to keep the monkeys out of the mud.
	**Bubble Fish** Answer the facts as fast as possible to keep the fish away from the hooks.
	**Slime City** Answer the facts as fast as possible to feed the slime monster.
	**Reptile River** Answer the facts as fast as possible to keep the alligators away from the turtles.
	**Goal Frenzy** Answer the facts as fast as possible to score goals.
	**Dance Off** Answer the facts as fast as possible to keep the dancer moving.
	**Vine Climb** Answer the facts as fast as possible to make the ladybug crawl faster.
	**Cool Blast** Answer the facts as fast as possible to make the snowboarder go faster.
	**Farm Quest** Answer the facts as fast as possible to grow your vegetables.
	**Electro Ball** Answer the facts as fast as possible to zap the balls.
	**Fast Cars** Answer the facts as fast as possible to win the race.
	**Light Speed** Answer the facts as fast as possible to speed-up the spacecraft.

Playing a Game

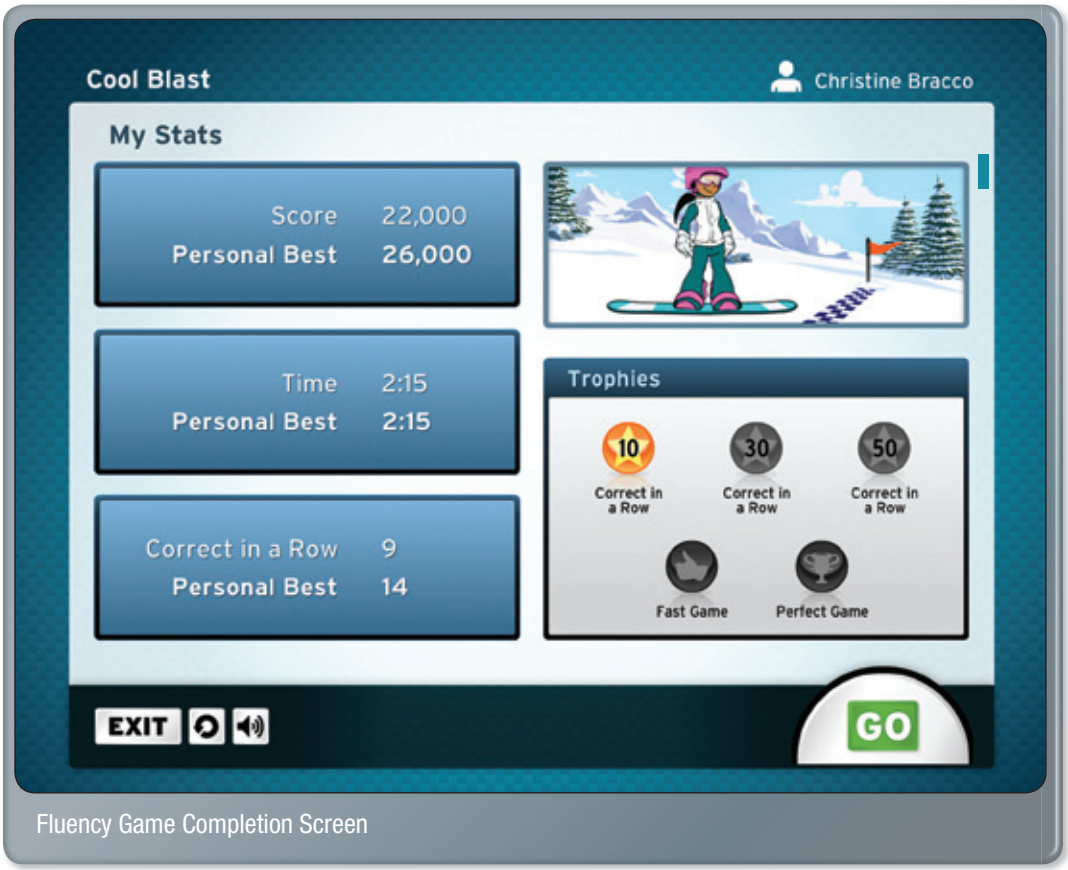
The program presents a set of problems, 60 by default, with emphasis on those facts that were most recently learned (Focus Facts) and Fast Facts. Through practice in the games, the student can improve the speed at which he or she recalls Focus Facts from 1.25 seconds to 0.8 seconds or less, which is the threshold for fluency. Fluency games include Fast Facts to help the student become more fluent with those.

Fast Cars Fluency Game

Fluency Game Completion Screen

At the end of the game, the student sees the Fluency Game Completion screen that shows how well he or she performed in the game and any trophies earned during the game.

The My Stats section of the screen displays the student's Score, Time, and number of Correct in a Row for the preceding game. For each of these milestones, the student also sees his or her Personal Best for all previous rounds of play.



Fluency Game Completion Screen

SCORES:
Game scores are calculated based on the following factors:

- how fast the student responded to the facts presented
- how many correct responses the student gave
- the difficulty level of the problems

Scores

The score indicates how well the student performed in the preceding game. The Personal Best score indicates the student's maximum score.

Scores are based on the student's fluency and speed in the game, combined with any earned bonus points. Bonus points may be earned for entering fast and fluent responses or for every streak of correct and on-time responses.

Time

Time is how long the student takes to finish the game. The Personal Best time shows the student's fastest time.

Correct in a Row

Correct in a Row is the number of problems in a row that the student answered accurately and on time during the game. The Personal Best shows the student's longest streak of accurate and on-time responses achieved.

Trophies

Trophies are tangible rewards for the student that encourage students to play more and improve their performance on the game. Trophies are earned for completing five milestones as follows:

- Answer 10 problems in a row accurately and on time.
- Answer 30 problems in a row accurately and on time.
- Answer 50 problems in a row accurately and on time.
- Fast Game – Complete the game without stopping.
- Perfect Game – Complete a "perfect game" by answering every problem accurately on the first try without stopping the game.

Changing Styles

As the student becomes more fluent with facts, he or she is rewarded with the opportunity to change styles for the Fact Grid in the Style Gallery.

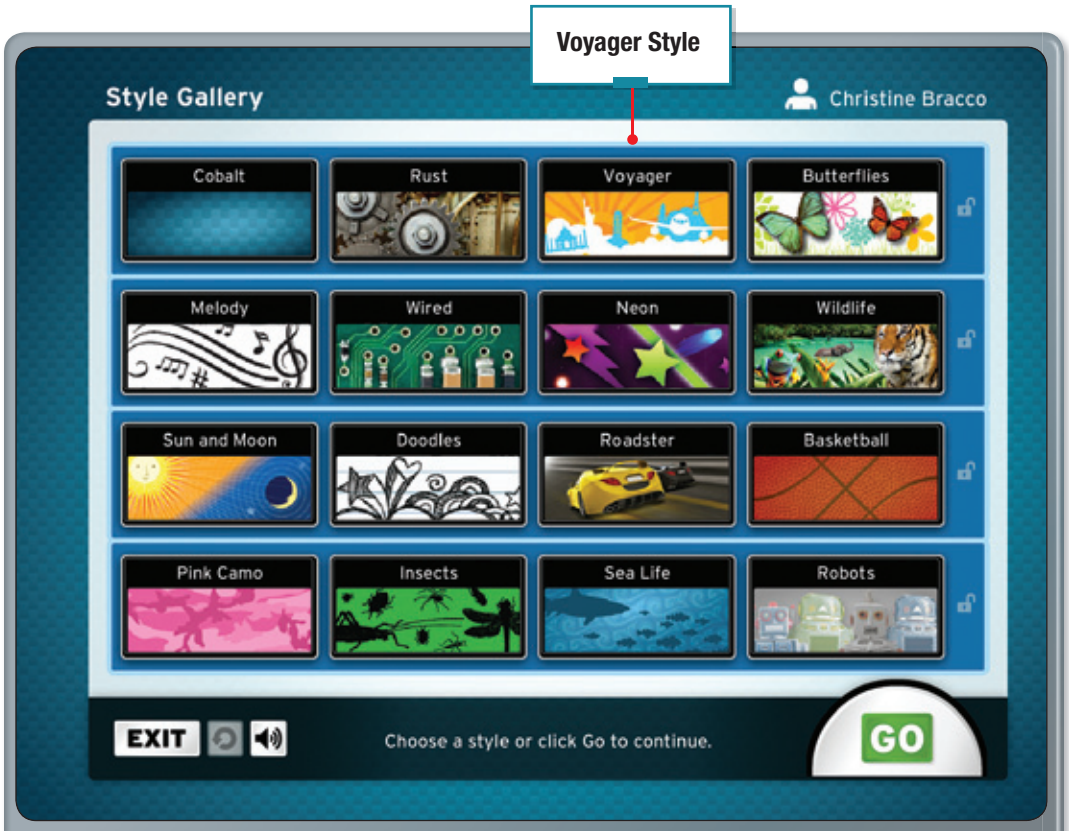
If the facts that the student is working on become Focus or Fast Facts, he or she can choose a new style. A new style changes the frame of the device and the overall color scheme.

Style Gallery Screen

The Style Gallery presents all available designs. Available styles are presented as thumbnails in frames. Unavailable styles are grayed out. The student can click on any available styles to preview them before making a final selection.

In the Style Gallery, there are sixteen styles for the 0–9 range of all operations, four styles for each level. There are 25 styles for the 0–12 range of all operations, five styles for each level. New styles are introduced with each operation.

When all facts in a level are either Focus or Fast Facts, all the frames in that level are available. When all frames are available, the lock to the right of that level is unlocked.



Style Gallery Screen

Completing the Operation

A student gets a virtual award for completing an operation. When a student is fluent with all facts in the operation and therefore has converted all facts into Fast Facts (after the final Mastery), he or she receives a completion award.

Teachers can print an Operation Completed Award Certificate to celebrate student achievement. Certificates are available for download in SAM Resources. (See Getting Started in the Program Overview section of this guide for more details.)

Operation Completed Award Certificate

Buttons

The following chart shows the buttons that appear in the *FASTT Math* student software.

Button	Functionality
 **Go On**	Click to log in to *FASTT Math* Next Generation after typing a username and password. This button is on the Login screen.
 **Exit**	Click to exit the program. Clicking Exit while in an activity will pause the current activity. A dialog box informs students that if they exit before finishing the lesson they may have to repeat the lesson next time they log in.
 **Go**	Click to advance to the next screen, begin an activity, or play a game.
 **Repeat**	Click to reset the screen and hear the instructions again. This button does not restart an activity, assessment, or game.
 **Sound**	Click to toggle audio on/off.
 **See It**	Click to see an animated visual model of a fact presented in a Learn New Facts Activity or a Review Activity.