



Fluency Flight

Overview

Fluency Flight is a suite of personalized digital activities and games that helps students in Grades 2–5 achieve automaticity of essential math facts with understanding and without speed anxiety. In addition to the pure symbolic practice that’s found in most fact-fluency solutions, Fluency Flight provides storytelling schemas, visualizations, and strategy building. With these foundations, students will not only achieve basic fact automaticity but will also understand the meaning of operations, relationships between facts, and powerful strategies that can be applied to more complex operations in novel contexts.

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Content

What content is in Fluency Flight?

Fluency Flight digital activities and games cover addition and subtraction facts within 20 and multiplication and division facts with operands to 12. These activities progress through facts and strategies (such as Doubles or Make a Ten) in one of four stages of fluency: basic understanding, accuracy (i.e., procedural reliability), automaticity (i.e., recall), and maintenance. Surrounding the academic content is a delightful world of animal characters and islands that students unlock over time to motivate consistent, effortful usage.

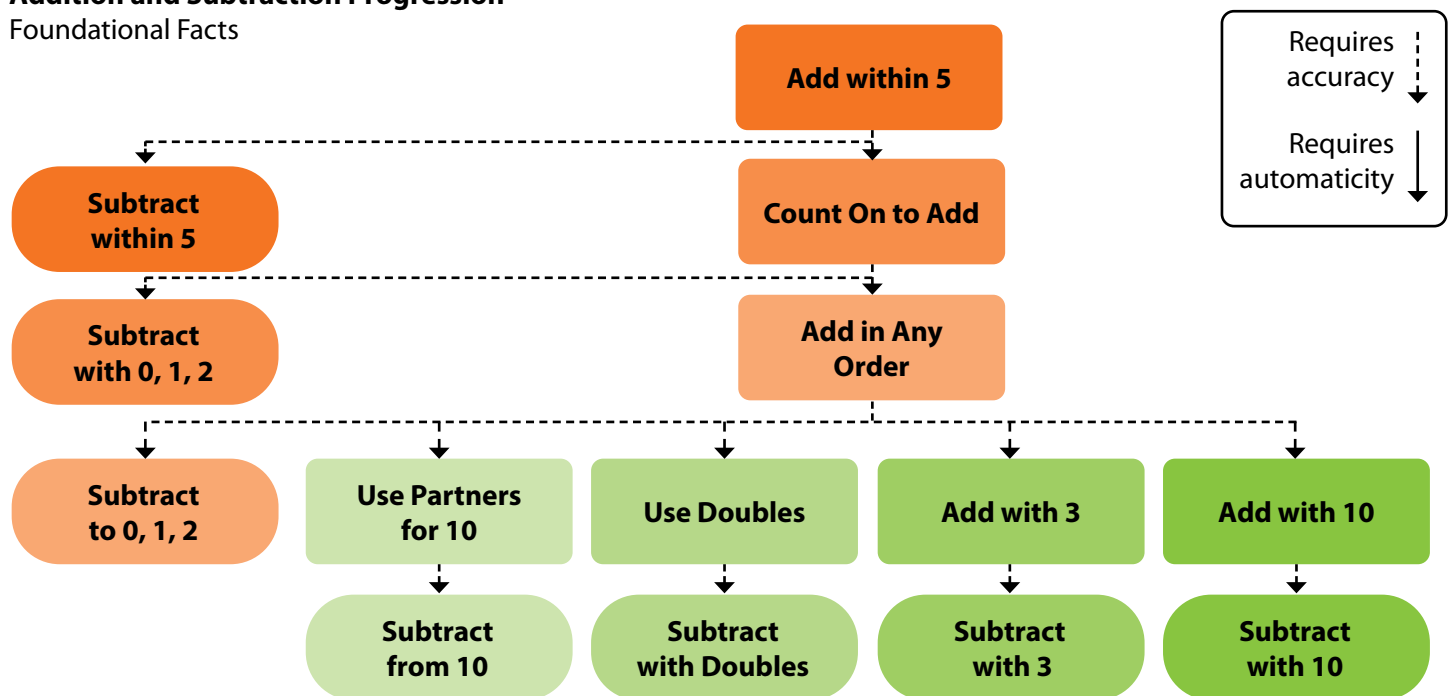
How does Fluency Flight progress through sets of facts for each operation?

Fluency Flight was designed with a logical progression of fact sets for addition and subtraction within 20 and multiplication and division with operands to 12. In this progression, students begin with foundational facts. Derived facts are then presented to students only once they have demonstrated accuracy and automaticity with foundational facts and are ready to move on.

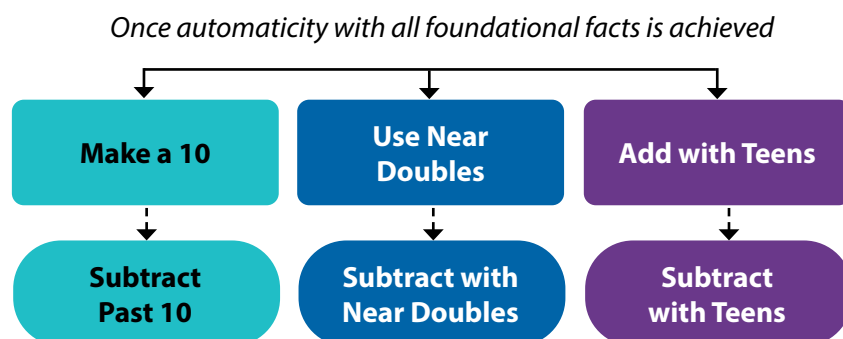
Please see graphics with addition and subtraction progression below and multiplication and division progression continued on [page 4](#).

Addition and Subtraction Progression

Foundational Facts

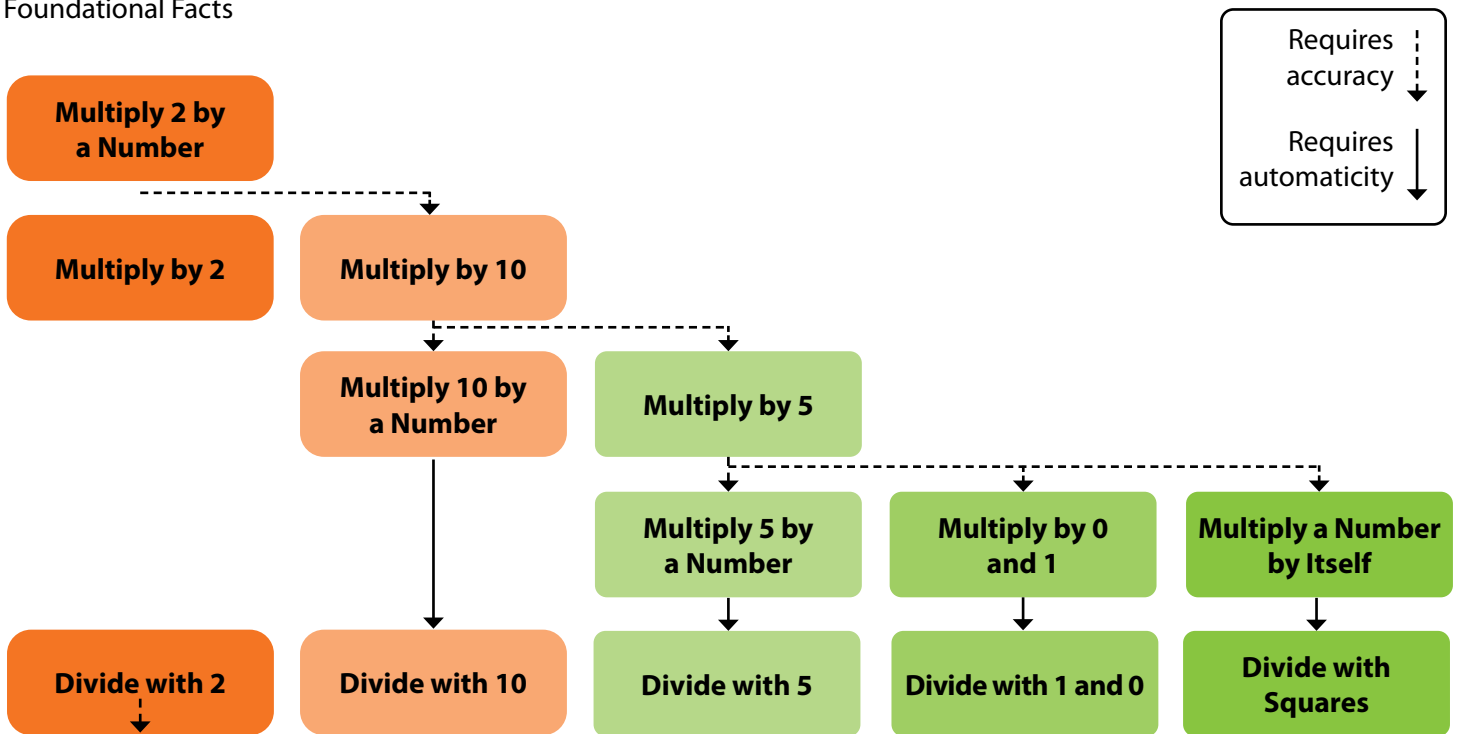


Derived Facts

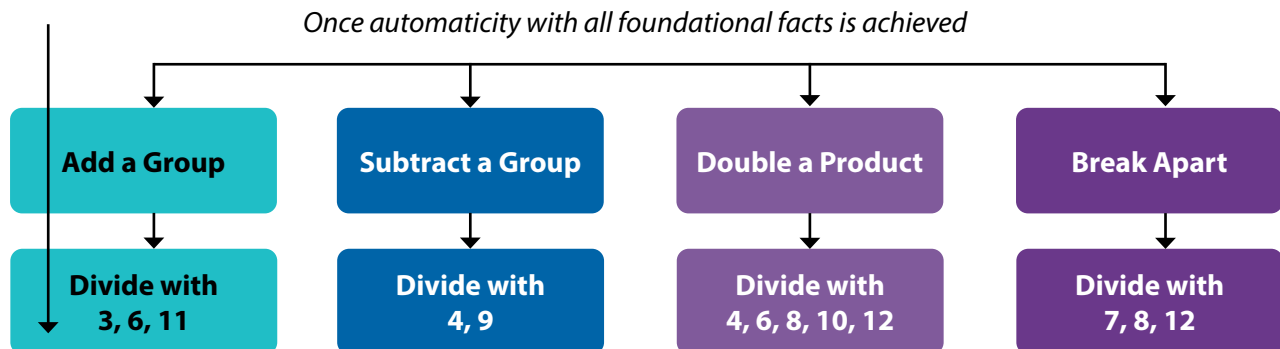


Multiplication and Division Progression

Foundational Facts



Derived Facts



What foundational knowledge does Fluency Flight assume students have before starting at each grade level?

Fluency Flight starts students with on-grade level math fact content and then quickly personalizes based on student performance.

- Grade 2 begins with foundational addition.
- Grade 3 begins with advanced foundational addition, foundational subtraction, and multiplying 2 by a number.
- Grade 4 begins with derived addition and foundational multiplication.
- Grade 5 begins with advanced foundational multiplication, foundational division, and derived subtraction and addition.

How are students' starting points determined?

Students will start on fluency content appropriate for their grade level. The content will be further personalized depending on their performance in Fluency Flight activities.

Does a student’s academic progress in Fluency Flight persist to a new school year?

Yes, it persists.

When will students show they have mastered the facts?

Students will achieve the Automaticity stage once they can answer 90 percent of the facts in the fact set with at least 85 percent accuracy in three seconds or less.

How do educators know that what students are working on in Fluency Flight is appropriate to their math level?

Each day, Fluency Flight generates one required activity and three choice activities personalized to each students’ learning needs. The queue prioritizes maintenance of automatic facts, then consolidation of recently learned facts, and finally, opportunities for new learning.

Will students in each grade be working in all four operations simultaneously?

Sometimes, yes. For example, Grades 4 and 5 students may be focusing on more foundational multiplication and division while simultaneously working on advanced addition and subtraction. Also, at any point, even the most advanced student may occasionally see basic addition and subtraction facts as part of the Maintenance phase of fluency development. Please note that students in Grade 2 may not proceed past Basic Understanding in Multiplication. Students in Grades 3–5 may progress to the end of the available content if they have demonstrated they are ready.

What activities are available for each stage of fluency?

	Basic Understanding	Accuracy	Automaticity/Maintenance
Addition/Subtraction	Strategy Intros (Strategy) Fact Wrangler (Strategy) Fish Flip (Visualization) Bird Brunch* (Visualization) Sneak Peek Visualization Plot Holes (Visual Storytelling)	Bingo Bird Brunch* Fish Flip	Bingo Bird Brunch* Fact Racer Whale Spout
Multiplication/Division	Strategy Intros (Strategy) Fact Wrangler (Strategy) Food Frenzy (Visualization) Sneak Peek Visualization Plot Holes (Visual Storytelling)	Bingo Food Frenzy	Bingo Fact Racer Whale Spout

Certain activities only apply to a subset of fact sets within an operation.

**Bird Brunch only applies to subtraction fact sets.*

Is student choice involved?

Yes. At certain points in Fluency Flight, students will be able to choose between two to three different activities.

When students have a choice, what is the recommendation for amount of time spent in each type of activity?

Fluency Flight's first activity of each day is compulsory. Our system decides which activity and fact set would be most valuable for a student's personalized path toward automaticity. Students must complete that first activity. The second, third, and fourth most valuable activities are presented as choices for the student's second activity, and it's completely up to the student to decide. If a student continues to avoid one of the four stages of fluency ("learn" = Basic Understanding; "practice" = Accuracy; "become automatic" = Automaticity; "maintain" = Maintenance), then soon the system will make that neglected area their compulsory first activity, which they must complete. With these guardrails in place, we encourage giving students total freedom for their choice of a second activity and letting them pick whatever they're feeling most enthusiastic for that day.

Students in Grades 4 and 5 have a choice of addition/subtraction or multiplication/division. Is there a way to force this choice? Is there a recommendation for how often the students should play lower-level content?

There is no way to force this choice. Most students in those grades will be simultaneously working on-grade level multiplication and division work while also catching up on or maintaining addition/subtraction facts. If a student is consistently avoiding either review or on-grade level material, the system will soon make those facts the compulsory first activity.

Usage/Pacing

When is it recommended to implement Fluency Flight?

Fluency Flight can be implemented whenever students have access to devices and teachers think it's best to engage in fluency practice. Some suggested times include:

- Station/center rotation
- Math class warm-up
- Computer lab
- Homework
- Early finisher activity
- After school

How often should students use Fluency Flight each week?

Students should complete Fluency Flight activities **four days per week**, which will take roughly **eight minutes per day**. The program will show four dragon statues that light up as students complete each day's fluency activities. Once students demonstrate automaticity with all facts across all operations, their recommended usage will change to one day per week, for maintenance, and the program will show one dragon per week instead of four.

Why is the recommended usage four days per week?

Learning research shows that achieving math fact automaticity with understanding and without speed anxiety requires a consistent, long-term commitment. It may take multiple visualizations and strategies for a student to understand a particular fact, multiple follow-up practice sessions to achieve accuracy and automaticity, and a long-term investment to ensure learned facts are not forgotten.

The daily cadence is based on research that shows that new learning is retained if the content is reinforced over successive days, following nightly sleep cycles. Note that students who have demonstrated automaticity in all math facts will only need to use the product one day per week. This will be conveyed to students once they complete their day of fluency activities.

While this is a significant investment of time, it's a lower time commitment than required by other math fact-fluency solutions, and the benefits of student understanding and long-term memory formation are worth it.

Alignment with Other Products

Do students need to take the Diagnostic to access Fluency Flight?

Students can access Fluency Flight from the student dashboard regardless of their completion of the Diagnostic.

Does the pacing of Fluency Flight align with the pacing of *i-Ready Classroom Mathematics*?

The pacing in Fluency Flight is personalized for each student based on accuracy and automaticity of specific facts. The content aligns with *i-Ready Classroom Mathematics* standards but not with the week-to-week pacing.

Reports

Are there reports available to help me know if students have reached four days per week and how they are progressing?

Teacher reports for usage and fluency are available through the teacher dashboard. For more information about navigating this report, please review this reference sheet. A more detailed fact report with a status for each math fact will be added to Fluency Flight reports in the future.

How Tos

How do students access the program?

Students access Fluency Flight on their laptop or desktop computer, logging in to [i-ReadyConnect.com](https://www.i-ready.com), going to their Math dashboard, and clicking the Fluency Flight button in the bottom right, which will start the student's personalized fluency activities and games for that session.

How do I assign Fluency Flight?

No teacher assignment is required.

How do students enable Fluency Flight activities in Spanish?

Almost all Fluency Flight activities are available in Spanish. To enable activities in Spanish, students may click the settings menu in the upper left and toggle the language between English and Spanish, which will change activity text and audio instructions. Please note: the activity Plot Holes is only available in English at this time.



How do students enable audio instructions?

Students can choose to have directions read aloud by clicking the speaker icon.

Support

What support is available for teachers to provide for students and families?

A Launch Toolkit with resources to share with students and families is available. To access, please visit CurriculumAssociates.com/FluencyFlightLaunch.

What technology requirements are there for Fluency Flight?

Fluency Flight is only available for browsers on laptops and desktops. It is not available on iPads® or other tablets.

What accessibility features are available in Fluency Flight?

At this time, Fluency Flight has very limited accessibility features. We are committed to creating products that are fair and accessible to the widest population of students, and we are working to improve our accessibility coverage across our products in the future.