

# Building Fact Fluency

A TOOLKIT FOR ADDITION & SUBTRACTION



## Sample Pages

## Implementing *Building Fact Fluency* in Remote, Hybrid, and Distance Learning

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*Building Fact Fluency* is designed to foster robust conversation among students in a classroom and encourage teachers to listen in as students think and talk about mathematics. Given the realities of COVID-19, however, in-person teaching with students huddled around game boards and teachers crouching down to eavesdrop on students' turn-and-talks on the rug may have to wait for a while. While these realities break our hearts—we live for joyful communities of children learning together in person—we are buoyed by what we've learned working with our field-testing teachers and in experiments with students online to figure out how to adapt this resource for distance learning, both synchronously and asynchronously. Our guiding principles remain the same for distance learning as for in-person learning. We want to: provide robust opportunities for students to make sense of the operations and become fluent, build mathematical communities in which teachers and students learn together, and grow confident mathematicians. We have been watching closely and collaborating with teachers, and we are convinced that *Building Fact Fluency* will make an excellent resource for remote or hybrid learning, for many reasons:



- ◆ **It is structured AND flexible.** We designed this toolkit to provide routines and structures, but also preserve teacher flexibility and autonomy. Given this time of tremendous uncertainty, we think teachers and students alike will find great comfort and security in the routines, along with plenty of variety across the contexts and activities. At the same time, we hope teachers will appreciate the flexibility and teacher discretion built into the kit. For example, we've provided a recommended sequence, but have built in tremendous flexibility about pacing. In addition, the materials themselves are so flexible and varied that, whether teaching synchronously or asynchronously, in person or remote, shortened days or hybrid models, or a constant flux among these possibilities, teachers will be able to create daily or weekly schedules using these materials that will engage students across the year, in all formats, and provide some much-needed consistency.

- ◆ **Differentiation is baked right in.** The standards included in this toolkit span the full K–2 grade band, and there is rich material in here for students at any stage in the progression, whether they’re exploring concepts for the first time, beginning to notice patterns, or synthesizing their work with addition and subtraction into fluency. Wherever possible, we give choice about what size numbers and what problem types to use for practice. Teachers can pass along most of this choice to students, so each student can be appropriately challenged. Students who select different numbers can have even more productive conversations with one another because they can notice patterns across the numbers. (For example, if a group of students discuss a story problem in which some students solved  $8 + 2$  and others solved  $18 + 2$  or  $38 + 2$ , every one of those students can contribute to a conversation about what they notice across those problems.) Number size doesn’t matter in this case; number relationships and connections are at the forefront of the mathematical discussion.
- ◆ **It’s invitational—all year long.** We need to continually invite students into math with high expectations, such that all students are successful and challenged. In *Building Fact Fluency*, each new context is a new invitation to students, providing new entry points and on-ramps into the math. These frequent invitations are particularly important during the disruptions of COVID-19. Even if a student disengages for a bit, (which is so easy to do remotely), or has their schooling interrupted due to health, economic, or family reasons, the next new context offers a new square one, and the student can re-enter the work of the class. In addition, the variety of the tasks within a Lesson String provides multiple access points and lots of student choice, and given the inconsistencies in students’ schooling last year, these multiple access points become even more important than ever. Finally, the interleaved structure of *Building Fact Fluency* will give students multiple passes through important concepts, so students arriving partway through this complex year can join right in with the class.
- ◆ **The major work of the grades.** The *Building Fact Fluency* toolkit is centered on the major work of the grades, especially in K–1, and may be much easier to implement remotely than many curricula because of the use of multimedia and games. Therefore, teachers struggling to plan and teach all subjects remotely can feel reassured by *Building Fact Fluency*’s focus on the most substantive and important standards. If K–1 teachers use *Building Fact Fluency* plus #CountingCollectionsAtHome and rich geometry explorations such as *Which One Doesn’t Belong?* and virtual pattern block work, they will have done a really robust job with the expected standards under very difficult circumstances, and students will still build tremendous number sense! Second grade teachers can use *Building Fact Fluency* to catch those first-grade standards that may have been missed last year, even as they extend students’ understanding

into multidigit addition and subtraction, while solidifying single-digit fluency. In other words, K-2 students can have access to current grade-level standards as well as do a little just-in-time catching up, all in the same resource at the same time.

- ◆ **Highly efficient intervention or small-group work for older students.** *Building Fact Fluency* was written to provide meaningful and accessible opportunities for students to make sense of addition and subtraction, with fact fluency emerging as one of the outcomes. Teachers working with older students who have not yet had sufficient opportunity to build understanding of the operations and also need to work on their number combinations can meet both goals with this one resource. In our field testing, we saw how the high engagement factor of the materials, the very intentional absence of common barriers to entry (e.g., large text loads, speed testing, procedural instruction, or an over-emphasis on memorization), and the richness of the mathematics drew students right in—the very same students who find endless worksheets of fact practice alienating and boring. Given that scheduling intervention, Title, and special educational services is more challenging than ever in a distance environment (and it's *always* challenging under more normal circumstances!), we are excited to provide an accessible resource that can support teachers and students in such an effective and efficient way.

## *Adapting the Building Fact Fluency Lesson Strings*

This toolkit was designed to be curriculum-neutral, and it's also platform-neutral. Users have permission to share tasks with students via whatever platform they are using: Google classroom, Seesaw, Padlet, Flipgrid, the whiteboard apps, Zoom, Bluejeans, Screencastify, and so on. We just ask that you keep the materials within the password-protected security you set for your classroom, rather than posting anything on the World Wide Web, and of course, please don't share the materials with colleagues who are not verified users. Therefore, within your preferred, protected platforms, feel free to experiment to find what works, whether you're teaching synchronously, asynchronously, or a blend. Teachers are resourceful and ingenious, and we know you'll discover new and better ways to implement the toolkit in your setting. We hope you'll exchange ideas in the [Facebook community](#) or on Twitter using #BuildingFactFluency, so we can all help one another learn how to do this better! The following thoughts are to get us started thinking about the possibilities.

Every component in the *Building Fact Fluency* toolkit can be taught remotely. The toolkit is centered on seven strategies, each taught through three different contexts, to create twenty-one contexts total. Within each context, we've included a variety of

interconnected activities, called a Lesson String. The complete *Implementing Building Fact Fluency in Remote, Hybrid, and Distance Learning* guide summarizes each component of a Lesson String and talks about how it can be adapted for a variety of settings.

To view the *Implementing Building Fact Fluency in Remote, Hybrid, and Distance Learning* guide, [click here](#).

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