

Bridges in Mathematics Grade 2

Implementation Guides

About These Guides

The Bridges in Mathematics Implementation Guides provide the support and structure teachers need to help one another as they prepare to teach each Bridges unit and Number Corner month.

These guides are designed to help a facilitator or team leader organize and lead grade-level meetings in which teachers will read and prepare to teach upcoming material. Each guide includes:

- A list of materials teachers should bring
- A list of materials the facilitator or leader should bring
- Instructions and ideas for leading each part of the meeting
- Helpful tips for preparing and teaching the upcoming material
- Links to resources that specifically support the upcoming material

Guides for Unit 2 and Units 4–8 are designed to help implement a two-hour meeting (or two one-hour meetings). The guide for Unit 3 contains information for two months of Number Corner and one unit of Bridges, so requires three hours total (spread across two or three meetings) to cover.

Note that the Unit 8 guide is designed with an emphasis on the Bridges unit rather than on the Number Corner material, as the Unit 8 activities require extra preparation and materials.

Planning Your Meeting

- Ideally, meetings should be held in a grade-level classroom so that the materials for that grade (such as calendar markers and manipulatives) are easily available. If you'll hold your meeting in a conference room, library, or other location, prepare to bring the needed materials to that location. You can find copies of curriculum and component masters on the Bridges Educator site (bridges.mathlearningcenter.org).
- Before each meeting, send a reminder to teachers about the time and place and the materials they will need to bring. Generally, teachers will need their Bridges and Number Corner Teachers Guide binders for the upcoming unit and month as well as sticky notes and pens or pencils. Access to computers or tablets is also required.
- Review the Materials and Preparation sections of the guide. Prepare copies or charts as needed.
- Prepare any giveaway items you choose to provide as described in the guide.

Questions?

For questions about using these guides or implementing Bridges and Number Corner, contact The Math Learning Center:

1 800 575–8130

www.mathlearningcenter.org

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Grade 2 Implementation Guide

Number Corner October

Bridges Unit 2

Materials

Teachers	Facilitator
<ul style="list-style-type: none">• Bridges Teachers Guide, Unit 2• Number Corner Teachers Guide, Volume 1• tabbed dividers (if not yet added to binders)• computer or tablet• highlighters in blue, green, and yellow	<ul style="list-style-type: none">• meeting agenda (see Preparation)• computer or tablet (with projector or display, if possible)• October Daily Planner (1 per teacher; see Preparation)• October Calendar Markers (optional)• Unit 2 Work Place materials and tubs (see Preparation)• These Beans Have Got to Go! materials (see Preparation)• giveaways (optional; see Preparation and sidebars)

Preparation

- Prepare an agenda using the bold headers in this guide. In one hour you can cover Number Corner October; in two hours (or in two 1-hour sessions) you can cover Bridges Unit 2 as well. Timing suggestions for each section are included in this guide.
- Print a Daily Planner for each teacher. You might laminate these so teachers can clean and reuse them. Or, use the customizable Excel format planners available from the Bridges Blog: bridges.mathlearningcenter.org/implementation/blog/customizable-number-corner-planner
- Prepare materials for the Work Places introduced in Unit 2 according to the Work Place Guides. Include the Work Place Guide and Instructions with each Work Place.
- If you'll have time to play These Beans Have Got to Go! during your Bridges meeting time (see page 6), bring 12 game markers in a single color per teacher (or two different kinds of beans—if you're offering beans as a giveaway, use them during this activity), some copies of Home Connections pages 29–34, and spinner overlays or pencils and paperclips to the meeting.
- Depending on your resources, you might prepare copies and charts for teachers as giveaways. We suggest the materials listed in the sidebars on page 4 and page 6 for this purpose. Unit 2 in Grade 2 is labor intensive, so any help you can offer will be appreciated.

Introduction & Agenda 5 minutes

- 1 Welcome everyone and display the agenda. Quickly get a sense of classrooms' progress in Bridges and Number Corner, as well as teachers' comfort with Bridges resources.

- Who has made it to the end of Unit 1, Module 2?
- Who has established a routine for all five Number Corner workouts in September? Who is using at least three of the workouts regularly?
- Is everyone able to sign on to their Bridges Educator site account?
- Who has sent the Unit 1 Family Overview home to families?
- Who has used Digital Display Materials for Bridges or Number Corner?

You might share one or both of these posts about the Digital Display Materials, or display some of the materials themselves as an example.

- » **Digital Display Materials Tutorial Video** bridges.mathlearningcenter.org/implementation/blog/digital-display-materials-tutorial-video
- » **Digital Display Materials Information** bridges.mathlearningcenter.org/implementation/blog/digital-display-materials

October Number Corner Preview 50 minutes

- 2 Have the teachers sign on to the Bridges Educator site. Then, share some Number Corner posts from the Bridges Blog while they follow along.

Help teachers with any account or sign-on issues as needed.

- **Number Corner Photos** *Photos of classroom displays for ideas and inspiration.*
bridges.mathlearningcenter.org/implementation/blog/number-corner-display-ideas-photo-gallery
- **Beginning Your Year: Number Corner Lesson Planning**
bridges.mathlearningcenter.org/implementation/blog/beginning-your-year-number-corner-lesson-planning

- 3 Ask teachers to turn to the October section of their binders.

- Remind them that each month begins with a Sample Display and Daily Planner. These provide a visual summary of the month's Number Corner workouts.
- Pass out blank copies of the planner (or ask teachers to open the customizable Excel planner). Using the school or district calendar, work together to fill in dates, resolving any differences in the number of actual teaching days.
- Note that September and October have 20 planned teaching days, while November and December have only 15 because of conferences and holidays.
- Encourage teachers to turn over the updates to their student helpers, so they can make time for the workouts scheduled each of the days in the month.

- 4 Invite teachers to turn to the Introduction. The first page presents an overview and describes the activities for the month.

At the end of this month, students take the first of four quarterly Number Corner checkups. These checkups are designed to assess progress toward the standards named in the Skills/Concepts Assessed chart. These are the learning targets for these two months.

- 5 Divide the group into teams to read the workouts for the month, then have each team teach the group what they've learned.

- Assign one of the Number Corner workouts (Calendar Grid, Calendar Collector, Computational Fluency, Daily Rectangle, and Number Line) to each team.
- Give teams about 10 minutes to read their workout and prepare to teach the others. Assist any team with a workout they find confusing.
- Have each team give an overview of their workout's activities for the month.
- Fill in any additional information you feel might be helpful from the following notes.

Calendar Grid Multiples of Three and Four

- The markers this month focus on multiples of 3 and 4 as a foundation for skip-counting patterns, odd and even relationships, and color patterns. This workout can provide a challenge for students looking for common multiples (12, 24) and the least common multiple (12). The palmate and pinnate leaf is an example of a sequence that does NOT repeat in a predictable manner.

Calendar Collector Five Minutes a Day

- This workout continues to reinforce the relationship between minutes and hours, and provide practice with telling time to the nearest 5 minutes (groups of 5) on an analog and digital clock. Copy two TM2s, and mount them on blue construction paper. Copy TM3 & 4, cut the four strips apart, and glue them together to form one long recording strip.

Number Corner Giveaways

Key Questions

Ready-to-print layouts of the Number Corner Key Questions for each month are available from the Resources section of the Bridges Educator site.

Calendar Grid

Observations Chart

Make and laminate blank charts with column headers and title as shown in the Teachers Guide for October Calendar Grid.

Alternatively, bring chart paper, markers, and a sample so teachers can prepare these charts during or after the meeting.

Number Corner Checkup 1 (TM T5-T8)

1 class set per teacher

Daily Rectangle The Day's Array

- Teachers will post about 16 half-sheets of paper to create a recording pad to notate student thinking about the arrays for the date. Consider dividing your colored tiles into sandwich bags for pairs of students to work together during this workout. Composite numbers will have many combinations, while prime numbers will have only two possible arrays.

Computational Fluency Make & Break Tens

- Fluency with making and breaking tens is the focus of this workout. Teachers will use the Addition Table from September to discover the patterns in this strategy. Be sure to use the blue five-wise Ten Frame Display Cards this month.

Number Line Guess My Number

- Locate the set of Kangaroo Number Line markers. To make two arrow clips, use hot glue or Velcro pads, and attach the markers to the closed end of the clothespin. You'll use these arrow cards to play Guess My Number, using "greater than" and "less than" clues. Before Activity 1, post six laminated number line segments to form a horizontal number line marked in 10s through 290. Before Activity 3, reposition these segments, and add two more, to form a vertical number line marked in 10s through 390.

6 **Once everyone has shared, discuss Number Corner assessments and Student Book pages.**

- Take a minute to examine the teacher masters for Number Corner Checkup 1. This assessment is given over two days and addresses addition facts, story problems, odd and even numbers, arrays, skip-counting and telling time. Provide Unifix cubes if needed.
- Review the Support & Intervention chart in the Number Corner Assessment Guide to see what to be concerned about at this point in the year.
- Number Corner Student Book pages provide independent practice with the skills students developed as a group. This gradual release of responsibility is characteristic of many Number Corner activities. The pages often provide the critical final step of independent practice for students.

7 **Depending on the needs of your group, you may want to spend additional time on the Key Questions, Literature Connections, or differentiation suggestions for each activity.**

- If you like, share this article for more ideas about using Key Questions: bridges.mathlearningcenter.org/implementation/blog/ask-great-question
- If teachers struggle with making 'perfectionist' Observations Charts for Calendar Grid, show them this post about making quick, easy, beautiful charts: bridges.mathlearningcenter.org/implementation/blog/number-corner-observation-charts

Break or Wrap-Up 5 minutes

If your meeting will continue, this is a good time for a stretch break. If your meeting ends or you must move on to other business, wrap up now.

Tabbed Dividers

If teachers haven't had time to add the tabbed dividers to their Number Corner Volume 1 binders, consider giving them a few minutes to do so now.

Bridges Unit 2 Preview 35 minutes

Jack and the Beanstalk provides a context for developing place value understanding, measuring length, and adding and subtracting within 100 in Unit 2. Second graders move away from using a number line with single units to an open number line that requires thinking about scale and the magnitude of numbers. The strategies students develop in this unit will build a foundation for efficient, flexible, and accurate ways of computing within 1,000.

Here's a blog post including some samples of students' open number line work:

bridges.mathlearningcenter.org/implementation/blog/open-number-line

8 Invite teachers to open their Bridges in Mathematics Unit 2 binder to the introduction for Unit 2 and quickly scan the Overview. Note key details:

- If teachers are behind near the end of Module 3, they can plan to skip three sessions in Module 4 and move on to Unit 3. Those sessions are about the counting-by-2s pattern.
- The Unit 2 Pre-Assessment is scheduled during Module 1, Session 2. The Place Value and Measuring Checkpoints are scheduled in Module 2, Sessions 1 and 4. The Unit 2 Post-Assessment comes at the end of Module 3 and not Module 4 since the last 3 sessions are optional, due to pacing issues.
- New Work Places are introduced in Module 1, Sessions 2 and 5; Module 2, Sessions 1 and 4; and Module 3, Session 3.
- Home Connections are sent home two to three times a week.
- Make sure teachers know that they'll need 12 small plastic containers (such as 8-ounce yogurt containers) during this unit. Consider sending notes home to families, or including a note in a family newsletter, asking for contributions of clean, empty containers.

9 Give teachers time to read the Unit 2 Introduction independently.

- Teachers who finish early can skim the first few sessions in Module 1.
- Give teachers a few minutes to talk with their groups about what they've read.

10 Next, ask teachers to find and study the Skills Across the Grade Levels chart in the Unit 2 Introduction.

- Ask: Which standards are introduced and developed in this unit? Are there any that must be mastered? [No.]

Skills taught for introduction and development (noted with I and D in the chart) will be revisited in future Bridges units and months of Number Corner. At the end of this unit, some students will not yet be able to demonstrate proficiency in all these areas. Discuss with teachers how this information will inform their instruction.

- Note the observational assessments and written assessments listed in the Assessments chart. Ask: Which standards are priorities?
- Students can use base ten pieces or Unifix cubes for the Pre-Assessment. Store Unifix cubes in trains of 10 cubes all of one color.
- Finally, take a moment to reflect on the Differentiation chart and answer any questions teachers may have about differentiation in Bridges and Number Corner.

11 Divide the group into four teams. Have each team read one module, then share what they've learned with the whole group.

If you have any time left after groups have shared, play the Home Connection game These Beans Have Got to Go! from Unit 2, Module 1, Session 1.

Bridges Giveaways

Any version of the story *Jack and the Beanstalk*

Dry large lima and kidney beans

1 lb. each in a zip-top bag, 1 bag of each per classroom.

Labeled sheets of construction paper

Per teacher: 1 white labeled Ones, 1 blue labeled Tens, and 1 yellow labeled Hundreds. Laminate for use in later units.

Adding machine tape and construction or butcher paper, cut into strips and rectangles

See the Module 2 Materials Preparation chart for details on the size of the strips and rectangles to be cut.

Unit 2 Family Overview

1 copy per teacher

Resources from the Bridges Educator site

The beginning of a unit is a good time to review the Resources section of the site for additional games, activities, children's literature and other teaching tools for differentiation and extension. Interactive whiteboard files are also included in this section.

If they have a class or school webpage or newsletter, teachers might opt to include a link to the "Support for families" page (www.mathlearningcenter.org/families), where these overviews are available to the public. The overviews are offered in English and Spanish.

Bridges Unit 2 Work Places 20 minutes

Make sure your prepared Work Places are available for the group to use during this activity.

- 12 Let teachers know that six new Work Places are introduced in Unit 2 and that they'll explore these in pairs today.
- Students continue to work on efficient strategies for addition and subtraction in three of the Work Places and move toward thinking in 10s and 1s in 2A Scoop, Count & Compare and 2E Steps and Leaps.
 - Teachers may remember Work Places 2C & 2D from their Getting Started Workshops.
 - Let them know that they don't have to play a complete round or game of any of the Work Places—just enough to understand the general procedure of play.
 - When the group understands what to do, give them 15 minutes to pair up and play as many of the Work Places as they can.
- 13 Reconvene the group and use copies of each Work Place Guide to discuss strategies for differentiation, including game variations, challenge, and support. Are they getting to Work Places on a regular basis?

Here's a helpful blog post about second graders and Work Places:

bridges.mathlearningcenter.org/implementation/blog/managing-work-places-second-graders

Wrap-Up 5 minutes

- 14 If you have extra time, invite teachers to look over each module's Materials Preparation chart and come up with a plan for dividing the work.

You might also stay for a few minutes to talk with teachers who have concerns and questions that weren't addressed during the meeting, or to share the following resources.

Seven Ways to Increase Student Engagement in the Classroom

This article describes five levels of engagement and offers tips for increasing it.

www.readinghorizons.com/blog/seven-ways-to-increase-student-engagement-in-the-classroom

About Think-Pair-Share

Think-Pair-Share is an instructional strategy used frequently in Bridges and Number Corner. See these blog posts for more information:

Think-Pair-Share Posters

mathlearningcenter.org/sites/default/files/documents/Resources/ThinkPairSharePosters.pdf

Think-Pair-Share (tips for using the routine in the classroom)

bridges.mathlearningcenter.org/implementation/blog/think-pair-share

- 15 Thank teachers for their participation and, if you will meet again, confirm the next meeting place, date, and time.

Consider asking teachers to write one thing they found useful about this meeting, as well as any additional questions or concerns they have, on an index card or slip of paper. Have them turn in cards as they leave, and use the cards to open discussion at your next meeting.

Work Place

Sentence Frames

Consider printing a set of the Work Place Sentence Frames for the unit for each teacher. These tools that help students communicate their ideas and actions during Work Places are available in English and Spanish from the [Resources section](#) of the Bridges Educator site.

Grade 2 Implementation Guide

Number Corner November & December Bridges Unit 3

Materials

Teachers	Facilitator
<ul style="list-style-type: none">• Number Corner Teachers Guide, Volumes 1 and 2• Bridges Teachers Guide, Unit 3• Assessment Guide (digital or print)• computer or tablet• highlighters in blue, green, and yellow• craft sticks and rubber bands (optional; see November Number Corner Preview, next page)	<ul style="list-style-type: none">• meeting agenda (see Preparation)• computer or tablet (with projector or display, if possible)• November & December Daily Planners (1 per teacher; see Preparation)• November & December Calendar Markers (optional)• Unit 3 Work Place materials and tubs (see Preparation)• giveaways (optional; see Preparation and sidebars)

Preparation

- Prepare an agenda using the bold headers in this guide.
 - In one hour you can cover Number Corner November; in two hours (or in two 1-hour sessions) you can cover Bridges Unit 3 as well.
 - You'll need an additional hour for December Number Corner; you can do this in the same meeting, or later in the month if you prefer.
 - Timing suggestions for each section are included in this guide.
- Print a Daily Planner for each teacher. You might laminate these so teachers can clean and reuse them. Or, use the customizable Excel format planners available from the Bridges Blog: bridges.mathlearningcenter.org/implementation/blog/customizable-number-corner-planner
- Prepare materials for the Work Places introduced in Unit 3 according to the Work Place Guides. Include the Work Place Guide and Instructions with each Work Place.
- Depending on your resources, you might prepare copies and charts for teachers as giveaways. Suggested items are listed in sidebars on page 10, page 12, and page 14.

Introduction & Agenda 5 minutes

- 1 Welcome everyone and display the agenda.
 - Assign a recorder and timekeeper if you'd like.
 - Get a quick sense of classrooms' progress in Bridges and Number Corner.
 - » Who is finishing up Unit 2?
 - » What family resources have they shared?
 - » Who has established a routine for all five Number Corner workouts?
 - » Who has used Digital Display Materials for Bridges or Number Corner?

You might share one or both of these posts about the Digital Display Materials, or display some of the materials themselves as an example.

- » **Digital Display Materials Tutorial Video** bridges.mathlearningcenter.org/implementation/blog/digital-display-materials-tutorial-video
- » **Digital Display Materials Information** bridges.mathlearningcenter.org/implementation/blog/digital-display-materials

November Number Corner Preview 50 minutes

- Ask teachers to turn to the November section of their Number Corner Volume 1 binders and give them a few minutes to look at the sample display and review the introduction. Then have them locate the Target Skills section on page 2. Compare these to the Critical Areas of Focus in the Assessment Guide Overview.

You can also use the Achieve document, available from Achieve the Core and linked on the Math Coaches tab in the Implementation section of the Bridges Educator site:

http://achievethecore.org/content/upload/SAP_Focus_Math_2.pdf

- Ask: Which workouts are a priority for grade 2 students? Have teachers use colored highlighters to identify the standards that are major (green), supporting (blue) and additional (yellow).
- Considering these priorities, which workouts should they be sure to address this month?

- Schedule the month's Number Corner activities.

- Remind them that each month begins with a Sample Display and Daily Planner. These provide a visual summary of the month's Number Corner workouts.
- Pass out blank copies of the planner (or ask teachers to open the customizable Excel planner). Using the school or district calendar, work together to fill in dates, resolving any differences in the number of actual teaching days.
- If your school calendar has more than 15 teaching days in November, here are some ideas to extend this month's activities:
 - Play another round of the Doubles Up game (Computational Fluency activity) or the Rows & Columns Game (Daily Rectangle activity).
 - Have students complete the Telling Time on Two Kinds of Clocks page in their Number Corner Student Books.

- Optionally, give teachers time to create bundles with craft sticks and rubber bands—they'll need several for the Number Line workout this month. To make a bundle, count out 10 sticks and bundle them together using a rubber band. Each teacher will need 50 bundles.

- Divide the group into teams to read the workouts for the month, then have each team teach the group what they've learned.

- Assign one of the Number Corner workouts (Calendar Grid, Calendar Collector, Daily Rectangle, Computational Fluency, and Number Line) to each team.
- Give teams about 10 minutes to read their workout and prepare to teach the others. Assist any team with a workout they find confusing. Fill in any additional information you feel might be helpful from the following notes.

Calendar Grid Telling Time to the Quarter Hour

- The calendar markers this month show elapsed time on analog and digital clocks and watches. The elapsed time pattern progresses forward or backward by 30 minutes, forward or backward by 15 minutes, or forward by 4 hours. Consider displaying the calendar markers at your meeting—borrow a set from a teacher, or use the Digital Display Materials: bridges.mathlearningcenter.org/digital-materials/calendar-grid-november-2
- Students make connections between telling time and fractions by showing fractional parts on the Hour and Minute Clock. For example, on the half-hour times, the minute hand has gone halfway around the clock and the hour hand is halfway between the two numbers. Students practice saying these times as "half-past (the hour)."
- It's important that students make the connection that two quarters is the same as one half.

November Number Corner Giveaways

Key Questions

Ready-to-print layouts of the Number Corner Key Questions for each month are available from the [Resources section](#) of the Bridges Educator site.

Calendar Grid Observations Chart

Make and laminate blank charts with column headers and title as shown in the [Calendar Grid workout](#).

Alternatively, bring chart paper, markers, and a sample so teachers can prepare these charts during or after the meeting.

Calendar Collector Measuring Length with Different Units

- Students estimate, measure, and compare the lengths of objects in the classroom using two different units of measurement—craft sticks and Unifix cubes. Before they make estimates, teachers lay out a few craft sticks or trains of Unifix cubes to provide a benchmark.
- The size of the unit being used and how the different units compare to one another are important, and the Key Questions keep students focused on these big ideas. Encourage teachers to review proper measuring skills with their students (e.g., lining up the sticks or cubes with the starting point, leaving no holes or gaps, and measuring to the nearest stick or cube).
- Each class needs about 40 trains of Unifix cubes in groups of 10 by color. Teachers may want to enlist the help of a few students to get the cubes ready prior to Activity 1.

Daily Rectangle Rows & Columns

- The class plays Rows & Columns, drawing cards and building arrays built out of colored tiles. It's important to be explicit when demonstrating how to build the arrays, as some students may need to work from part to whole, especially the first time the game is played. See the chart above Activity 1 in the Teachers Guide for information on how to lay out one tile for each row, spaced apart, before pushing the rows together. The columns are built in the same way, pushing them together to form the array.
- Taking time to confirm that the array has the number of rows and columns specified by the cards that were drawn helps students check for accuracy.
- Equations should match the number of tiles found in the rows and columns of the array.

Computational Fluency Doubles & Halves

- Doubles and Doubles Plus or Minus One addition facts are reviewed this month. The class also works on related subtraction fact strategies, Take All facts and Take Half facts.
- Tile arrays on the Magic Wall and the Double Ten-Frame Pair-Wise Display Cards promote students' understanding of the relationship between Doubles and Doubles Plus or Minus One Facts. A student who knows $7 + 7$ is 14 is well-positioned to solve $7 + 8$ because $7 + 8$ is the same as $7 + 7 + 1$ (associative property of addition). If $7 + 7$ is 14, then $7 + 7$ and 1 more is 15.
- Consider using the Digital Display Materials to introduce Doubles Up: bridges.mathlearningcenter.org/digital-materials/computational-fluency-doubles-halves
- Activity 4 focuses on the related subtraction facts (Take All & Take Half). As students share and make observations about these facts, press them to generalize their ideas to larger numbers (e.g., Does this work with 500–500? With 100–50?) Seeing that Take Half facts involve even numbers is also a big idea.

Number Line The Fifth Century

- Celebrating the Fifth Century Day (50th day of school), students count by 10s and 100s to 500, reinforcing the concept of unitization.
- Students need to come away with the understanding that a bundle of sticks can be thought of as both 1 set of 10 (1 ten) and 10 individual sticks (10 ones), and that 100 is 10 bundles of 10 (10 tens), 100 individual sticks (100 ones), and 1 set of 100 (1 hundred). As students are counting bundles of 10 from 10 to 500, teachers should stop every so often to reinforce this idea (e.g., 260 is 2 groups of 100 and 6 groups of 10, and also 260 ones.)

- 6 Depending on the needs of the group, you might spend any remaining time on Key Questions, Literature Connections, or differentiation.

Break or Wrap-Up 5 minutes

If your meeting will continue, this is a good time for a stretch break. If your meeting ends or you must move on to other business, wrap up now.

Bridges Unit 3 Preview 40 minutes

During the first three Modules of Unit 3, second graders use their knowledge and understanding of counting and place value to develop and practice strategies to add and subtract multi-digit numbers in the range of 0–100. The number line and base ten models in the form of sticks & bundles and presents & parcels are used as models to facilitate various addition and subtraction strategies based on skip-counting and place value. Module 4 focuses on data collection and graphing.

7 Invite teachers to open their Bridges in Mathematics Unit 3 binder to the introduction for Unit 3 and quickly scan the Overview. Note key details:

- The splitting strategy, also known as partial sums, is important for being able to decompose a number into its component parts based on place value (10s and 1s). This sets the foundation to understanding the standard algorithm. Note that using the splitting strategy with base ten models for subtraction can become tricky when the problem involves regrouping.
- In Module 3, students create their own Presents & Parcels story problems and classmates solve each other's problems. You might share this post about managing Presents & Parcels story problems:
bridges.mathlearningcenter.org/implementation/blog/presents-parcels-story-problems
- This post concerns Module 4, The Many Colors Project:
bridges.mathlearningcenter.org/implementation/blog/many-colors-project
- The Unit 3 Pre-Assessment is scheduled for Module 1, Session 1. The Addition & Subtraction Checkpoint is scheduled for Module 2, Session 5. The Unit 3 Post-Assessment comes at the end of Module 3. The sessions in Module 4 contain work with data and graphing. If teachers won't finish Unit 3 by the end of December, they can skip Module 4 and get ready for Unit 4 in January, but the three sessions in Module 4 are a fun way to end the unit before winter break.
- New Work Places are introduced in Module 1, Sessions 3 and 5; Module 2, Session 4; and Module 3, Sessions 1 and 5.
- Home Connections are sent home twice a week.

8 Give teachers time to read the Unit 3 Introduction independently.

- Invite teachers who finish early to skim the first few sessions in Module 1. Then, give teachers a few minutes to talk with their groups about what they've read.
- Consider working through some of the addition and subtraction strategies presented on page iii so teachers can familiarize themselves with these strategies and see how the strategies are related to each other and to the concepts of counting and place value.

9 Next, ask teachers to find and study the Skills Across the Grade Levels chart in the Unit 3 Introduction.

- Ask: Which standards are introduced and developed in this unit?
Skills taught for introduction and development (noted with I and D in the chart) are revisited in future Bridges units and months of Number Corner, when they are further developed or taught for mastery.
- Ask: Are there any skills that must be mastered in this unit? [Yes—2.MD.6. However, this standard are revisited in several units and months of Number Corner.]
- Using the Assessment Guide, together review the updated Support & Intervention section for Unit 3 (bridges.mathlearningcenter.org/view/br2-ag#99). Discuss how this information will inform teachers' instruction.

10 Divide the group into four teams. Have each team read one module, then share what they've learned with the whole group.

Bridges Giveaways

Unit 3 Family Overview

1 copy per teacher

Unit 3 Assessments

Module 1 T1–T4

Module 2 T10–T12

Module 3 T16–T19

1 class set per teacher

1.5 oz bags of M&Ms

Half-class set of bags per teacher (2 students will share each bag)

Blank Talk Bubbles

Cut rounded rectangles approximately 2" × 3" from white construction paper. Make a class set of these bubbles for each classroom.

Scope & Sequence

The Scope & Sequence documents available in the Curriculum section of the Bridges Educator site offer a "big picture" of skills development throughout the year.

Bridges Unit 3 Work Places 15 minutes

Make sure your prepared Work Places are available for the group to use during this activity.

- 11 Let teachers know that five new Work Places are introduced in Unit 3, and they'll explore these in pairs today.

Teachers will probably notice that Work Place 3A Star Power is very similar to the Work Place Steps & Leaps from Unit 2. It is important to note that the one main difference is that now students can take their steps and leaps in any order to try to land on the most stars possible. This means if a 3 and 4 are rolled and 2 leaps of 10 spun, students could move ahead 3, then 20, then 4, or they could move 20 then 4, then 3, and so on. The big idea is that the order of their steps and leaps do not change where they land at the end of their turn (great examples of the associative and commutative properties of addition).

Work Places 3A Star Power, 3B Five in a Row, and 3C Hit the Zone allow students more practice with the addition and subtraction strategies in this unit.

- Let them know that they don't have to play a complete round or game of any of the Work Places—just enough to understand the general procedure of play.
- When the group understands what to do, give them 10 minutes to pair up and explore the Work Places.

- 12 Reconvene and use the Work Place Guides to discuss strategies for differentiation, including game variations, challenge and support. Encourage teachers to get to Work Place time on a regular basis.

- 13 If you have time, share some of these Bridges Educator site blog posts about Work Places:

- Fostering healthy Work Place habits: bridges.mathlearningcenter.org/implementation/blog/fostering-healthy-work-place-habits
- Getting ready for a substitute using Work Places: bridges.mathlearningcenter.org/implementation/blog/substitute

Break or Wrap-Up 5 minutes

If your meeting will continue, this is a good time for a stretch break. If your meeting ends or you must move on to other business, wrap up now.

Work Place Sentence Frames

Consider printing a set of the Work Place Sentence Frames for the unit for each teacher. These tools that help students communicate their ideas and actions during Work Places are available in English and Spanish from the [Resources section](#) of the Bridges Educator site.

December Number Corner Preview 50 minutes

- 14 Ask teachers to turn to the December section of their Number Corner Volume 2 binders and give them a few minutes to look at the sample display and review the introduction. Then have them locate the Target Skills section on page 2. Compare these to the Critical Areas of Focus in the Assessment Guide Overview.

You can also use the Achieve document, available from Achieve the Core and linked on the Math Coaches tab in the Implementation section of the Bridges Educator site:

http://achievethecore.org/content/upload/SAP_Focus_Math_2.pdf

- Ask: Which workouts are a priority for grade 2 students? Have teachers use colored highlighters to identify the standards that are major (green), supporting (blue) and additional (yellow).
- Considering these priorities, which workouts should they be sure to address this month?

- 15 Schedule the month's Number Corner activities.

Pass out blank copies of the planner (or ask teachers to open the customizable Excel planner). Using the school or district calendar, work together to fill in dates, making adjustments for the actual number of teaching days. Focus on the workouts that emphasize the priorities teachers have identified.

- 16 Divide the group into teams to read the workouts for the month, then have each team teach the group what they've learned.

- Assign one of the Number Corner workouts (Calendar Grid, Calendar Collector, Daily Rectangle, Computational Fluency, and Number Line) to each team.
- Give teams about 10 minutes to read their workout and prepare to teach the others. Assist any team with a workout they find confusing.
- Have each team give an overview of their workout's activities for the month.
- Fill in any additional information you feel might be helpful from the following notes.

Calendar Grid Shapes & Attributes

- The calendar markers this month feature two-dimensional shapes. Shapes on even-numbered cards are quadrilaterals while odd-numbered cards are not quadrilaterals. The idea that shapes such as squares, rectangles, rhombuses, and trapezoids can be included in a single group (quadrilaterals), based on the shared attributes of 4 straight sides and 4 vertices, helps students make generalizations about shapes and thus find and extend the patterns in the sequence of markers this month.
- Students also investigate (reflective) symmetry and the number of lines of symmetry by folding paper shapes matching those found on the calendar markers. Symmetry is not a second grade standard, but may interest capable students ready for a stretch.

Calendar Collector Student Surveys

- Collecting and displaying student survey data is the focus this month. The teacher will conduct the first two surveys by asking a question to the class. The data for the first survey is displayed in the form of a picture graph whereas data from the second survey will be displayed in the form of a bar graph. Students use the graphs to discuss the results, experiencing how graphs make the data easier to read and quantities easy to compare.
- Later, students design their own survey by creating a question with four answer choices. Teachers will want to check over these before Activity 4 before conducting class surveys.
- Extensions found at the end of Activity 4 offer ideas for conducting student surveys.

December Number Corner Giveaways

Key Questions

Ready-to-print layouts of the Number Corner Key Questions for each month are available from the *Resources* section of the Bridges Educator site.

Calendar Grid Observations Chart & Calendar Collector Record Sheet

Make and laminate blank charts with column headers and title as shown in the Calendar Grid and Calendar Collector workouts.

Alternatively, bring chart paper, markers, and a sample so teachers can prepare these charts during or after the meeting.

Daily Rectangle Rows & Columns Revisited

- The Rows & Columns game from November is revisited, but this month students record their arrays in their student books before writing equations to match. Being explicit in demonstrating how to make a frame for the array is important to students' understanding about rows, columns, arrays, dimensions, and eventually the difference between linear measurement and area measurement.
- This workout helps prepare second graders for work with multiplication, perimeter, and area in third grade. The dimensions of the array students are creating represent the factors and the area (total) represents the product in multiplication problems.
- This game could easily be introduced using the Digital Display Materials found here: bridges.mathlearningcenter.org/digital-materials/daily-rectangle-rows-columns-revisited
- A challenge suggestion is available for students ready to investigate the commutative property of multiplication.

Computational Fluency Tens and Nines

- Students review Add Ten facts and use them to help solve Add Nine facts. They also work on two related subtraction strategies, Take Away Ten facts and Back to Ten facts.
- Second grade students who are confident with Add Ten facts should be able to reason that $9 + 6$ is 15 because you can take 1 from the 6 and give it to the 9, making the problem $10 + 5$, which is 15. Students are using the associative property of addition: $9 + 6 = (9 + 1) + 5$. The ten-strips and colored game markers provide students with a visual model of how these combinations work as they physically move one game marker over to make a 10.
- The Tens & Nines game can be introduced using the Digital Display Materials: bridges.mathlearningcenter.org/digital-materials/computational-fluency-tens-nines
- In Activity 3 teachers need the Double Ten-Frame Five-Wise Display Cards (blue dots) to model what happens when you solve combinations such as $16 - 10$ and $14 - 10$ (Take Away Ten facts). Then students solve Back to Ten Facts and discuss how both of these strategies relate to Add Tens. Talking about place value (taking away all the ones or taking away one 10) with these teen numbers is also important.

Number Line Counting Off-Decade and Off-Century

- To help develop fluency with adding and subtracting 10 and 100 from any 3-digit number, students practice counting forward and backward by 10s and 100s off the decade and off the century. Craft sticks bundled in groups of 10s and 100s are again used as a visual support.
- Students also play Guess My Number, in which the teacher secretly selects a 3-digit number from the number line created during the counting practice. With each student guess, the teacher records whether the mystery number is greater than or less than that number. Stopping along the way to confirm whether a guessed number matches the listed clues helps students check for accuracy.

- 17 Depending on the needs of the group, you might spend any remaining time on Key Questions, Literature Connections, or differentiation.

Wrap-Up 5 minutes

- 18 If you have extra time, invite teachers to look over each module's Materials Preparation chart and come up with a plan for dividing the work.

You might also stay for a few minutes to talk with teachers who have concerns and questions that weren't addressed during the meeting, or to share this post about challenge for high achievers:

bridges.mathlearningcenter.org/implementation/blog/tip-resources-high-achievers

Strategy Posters

Encourage teachers to download and post addition and subtraction strategy posters if they haven't already done so. The Math Learning Center offers sets of posters for each operation in English and Spanish. Find them in the [Resources Section](#) of the Bridges Educator site.

Grade 2 Implementation Guide

Number Corner January

Bridges Unit 4

Materials

Teachers	Facilitator
<ul style="list-style-type: none">• Number Corner Teachers Guide, Volume 2• Bridges Teachers Guide, Unit 4• Assessment Guide (digital or print)• computer or tablet• highlighters in blue, green, and yellow	<ul style="list-style-type: none">• meeting agenda (see Preparation)• computer or tablet (with projector or display, if possible)• January Daily Planner (1 per teacher; see Preparation)• January Calendar Markers (optional)• Unit 4 Work Place materials and tubs (see Preparation)• giveaways (optional; see Preparation and sidebars)

Preparation

- Prepare an agenda using the bold headers in this guide. In one hour you can cover Number Corner January; in two hours (or in two 1-hour sessions) you can cover Bridges Unit 4 as well. Timing suggestions for each section are included in this guide.
- Print a Daily Planner for each teacher. You might laminate these so teachers can clean and reuse them. Or, use the customizable Excel format planners available from the Bridges Blog: bridges.mathlearningcenter.org/implementation/blog/customizable-number-corner-planner
- Prepare materials for the Work Places introduced in Unit 4 according to the Work Place Guides. Include the Work Place Guide and Instructions with each Work Place.
- Depending on your resources, you might prepare copies and charts for teachers as giveaways. Suggested items are listed in sidebars in this guide.

Introduction & Agenda 5 minutes

1 Welcome everyone and display the agenda.

Get a quick sense of classrooms' progress in Bridges and Number Corner.

- Who is finishing up Unit 3?
- What family resources have they shared?
- Who has used Digital Display Materials for Bridges or Number Corner?
- Who's made use of any of the free apps available from The Math Learning Center? (See catalog.mathlearningcenter.org/apps for a list and download links.)

January Number Corner Preview 50 minutes

- 2 Ask teachers to turn to the January section of their Number Corner Volume 2 binders and give them a few minutes to look at the sample display and review the introduction. Then have them locate the Target Skills section on page 2. Compare these to the Critical Areas of Focus in the Assessment Guide Overview.
 - Ask: Which workouts are a priority for grade 2 students? Have teachers use colored highlighters to identify the standards that are major (green), supporting (blue) and additional (yellow).
 - Considering these priorities, which workouts should they be sure to address this month?
- 3 Schedule the month's Number Corner activities.
 - Pass out blank copies of the planner (or ask teachers to open the customizable Excel planner). Using the school or district calendar, work together to fill in dates, resolving any differences in the number of actual teaching days.
 - Remind teachers that January through March is core teaching time with fewer interruptions in the school calendar. Note that it is a good idea to review classroom routines following winter break.
- 4 Divide the group into teams to read the workouts for the month, then have each team teach the group what they've learned.
 - Assign one of the Number Corner workouts (Calendar Grid, Calendar Collector, Daily Rectangle, Computational Fluency, and Number Line) to each team.
 - Give teams about 10 minutes to read their workout and prepare to teach the others. Assist any team with a workout they find confusing. Fill in any additional information you feel might be helpful from the following notes.

Calendar Grid Survey Data & Graphs

- This month's calendar markers continue the data and graphing skills from last month's Calendar Collector activities. Every fifth calendar marker, starting with the first of the month, shows either a picture graph or a bar graph. The four calendar markers following each graph contain related equations. Scaled graphs, where each picture or division represents more than one thing, are introduced on marker 16. Although scaled graphs are not a grade 2 standard, they help prepare students for third grade, where they are expected to create and interpret scaled picture and bar graphs.
- Activity 3 explains an optional Student Book page, and there's also an extension activity listed at the end of Activity 3. If there's time, teachers might have students finish any uncompleted their surveys and graphs from December's Calendar Collector.

Calendar Collector Exactly Half?

- Students pull magnetic tiles out of a sock box to match the number of the day's date. Each day the tiles are put back into the sock box and shaken up before a new set of tiles is drawn. Over time students should be able to make and explain predictions about whether or not a set of exactly half red tiles will be drawn. Specifically, students should realize that it will be impossible to get exactly half red when the date is an odd number.
- The main concepts being investigated are whether the sets of tile have exactly half red, more than half red, or less than half red; and that equal parts of identical wholes do not have to be the same shape (early explorations of fractions as parts of a whole). For challenge, teachers can explore adding the terms *numerator* and *denominator* and notating the < and > symbols.

January Number Corner Giveaways

Key Questions

Ready-to-print layouts of the Number Corner Key Questions for each month are available from the [Resources section](#) of the Bridges Educator site.

Number Corner Checkup 2 (T12–T16)

1 class set per teacher

Recording Pads

10 or more half-sheets of copy paper, stapled together, or plain notepads of similar size. Teachers will use these for several months of Number Corner workouts.

Daily Rectangle Arrays on the Hundreds Grid

- The familiar Rows & Columns game is now played on a larger scale and is called Draw, Add & Compare. Using a hundreds grid divided into four quadrants of 5×5 squares helps students calculate the total number of squares in their arrays without resorting to counting by 1s. Students write expressions to represent the number of colored squares in each quadrant.
- While an equation is a mathematical statement with an equal sign to show that two expressions are equal ($5 + 5 = 10$ or $2 \times 5 = 10$), an expression is one or a group of mathematical symbols that represent a number or quantity (10 , $5 + 5$, 2×5 , or 2 rows of 5). Modeling different types of expressions helps students make connections between repeated addition and multiplication. Teachers might consider the Digital Display Materials for this game: bridges.mathlearningcenter.org/digital-materials/daily-rectangle-arrays-hundreds-grid

Computational Fluency Addition & Subtraction Strategies

- Students first play a game to review the addition fact strategies Doubles, Doubles Plus or Minus One, Make Ten, Add Tens, and Add Nines. This reinforces which strategies work best for which facts and promotes flexibility, efficiency, and accuracy. Some students may still need the support of a number rack or double ten-frame. Teachers should note these students, as they may need extra support in the upcoming months.
- In Activities 2 and 3, students practice a subtraction strategy for combinations between 10 and 20 called Up to Ten. This strategy enables students to think of subtraction problems as difference problems. For example, the problem $14 - 8$ can also be thought of as the difference between 14 and 8. Students should be encouraged to take just two jumps for problems such as these—make a ten and add the rest. This strategy is especially efficient for subtraction problems where the subtrahend is greater than the number in the ones place of the minuend (e.g. $13 - 5$ or $12 - 7$). Note that both games can be modeled using the Digital Display Materials.
- This post concerns organizing the Quick Facts materials and using some Computational Fluency activities as informal assessments: bridges.mathlearningcenter.org/implementation/blog/number-corner---computational-fluency

Number Line Changing Endpoints

- Classrooms will probably celebrate the eighth and ninth century days this month. Student Book pages ask them to write expressions to describe numbers. Use the Word Resource Card for *expression* to review the definition and make connections between this workout and Draw, Add & Compare from the Daily Rectangle workout.
- Students investigate what happens when a marked line starts at 0 but the endpoint changes. For example, one line starts at 0 with an endpoint of 10, while another line starts at 0 with an endpoint of 100. At this point in the year, most second graders can figure out the numbers belonging in the boxes when lines have endpoints of 10, 100, and 1,000. Lines with endpoints of 20 or 50 may challenge some students.
- When playing the game Put It on the Line, teachers should be sure each team uses a different color to record so it is easier to add up each team's numbers at the end of the game.

5 **Once everyone has shared, discuss Number Corner Checkup 2.**

- Number Corner Checkup 2 is designed to give teachers more information about students' current skills with story problems, addition strategies and facts, place value, and graphing. Teachers should plan for two 20-minute periods.
- See the Assessment Guide sections for Unit 4 and January Number Corner for Bridges Intervention volumes and modules recommended by concept or skill.

6 **Spend any remaining time discussing Key Questions or differentiation, or by sharing this post about updating Number Corner.**

bridges.mathlearningcenter.org/implementation/blog/updating-number-corner

Strategy Posters

Encourage teachers to download and post addition and subtraction strategy posters if they haven't already done so. The Math Learning Center offers sets of posters for each operation in English and Spanish. Find them in the [Resources Section](#) of the Bridges Educator site.

Assessment Tools

If your teachers use Excel (or software that can work with Excel files) for recording grades, remind them of the Excel scoring guides located in the Assessment Tools sidebar of the Implementation section of the Bridges Educator site.

Break or Wrap-Up 5 minutes

If your meeting will continue, this is a good time for a stretch break. If your meeting ends or you must move on to other business, wrap up now.

Bridges Unit 4 Preview 40 minutes

Second graders revisit measurement concepts and skills using the *Jim and the Beanstalk* book as a context for their inquiries and explorations. Learning why standard units of measurement are necessary, they first measure using inchworms, footworms, and yardworms from the giant’s world and then measure and make conversions using inches, feet, and yards. The third module asks students to informally consider ratios and proportional reasoning, in terms grade 2 students can understand. (Students might describe the giant’s door as being 5 bricks tall.) These activities continue to reinforce measuring concepts and lay important groundwork for future grades. Module 4 focuses on counting by 3s patterns using snowmen as a context for describing and extending these patterns.

7 Invite teachers to open their Bridges in Mathematics Unit 4 binder to the introduction for Unit 4 and quickly scan the Overview. Note key details:

- Students learn how to choose an appropriate unit of measurement (conceptual understanding) based on the understanding that the smaller the unit of measurement, the greater the number of units needed to measure an object. Students also practice how to accurately measure the length of an object (procedural understanding) using standard and nonstandard units of measurement. These posts discuss these lessons and concepts. The first contains a link to a PowerPoint set for “the rest of the story” for sessions in Module 3, and the second contains a picture of a “footworm” in China:
 - » bridges.mathlearningcenter.org/implementation/blog/unit-4-measurement
 - » bridges.mathlearningcenter.org/implementation/blog/real-life-worms
- Using the context of the giant’s house (door, bricks, hammer, shovel, etc.) enables second grade students to make additive comparisons, such as 2 hammers are the same length as 1 rake, or 4 watering cans are the same height as 1 ladder. Some students may be able to move toward thinking in terms of doubling or “twice as big.” While we do not expect second graders to master the concepts of ratios or proportional reasoning, this module is important groundwork for the algebraic reasoning they will experience in later grades.
- The Unit 4 Pre-Assessment is scheduled for Module 1, Session 1. The Inches, Feet & Yards Checkpoint is scheduled for Module 2, Session 5. The Unit 4 Post-Assessment comes at the end of Module 3. The four sessions in Module 4 contain work around identifying, describing, and extending the counting-by-3s pattern and help set a foundation for multiplication but do not include major work of the grade level. If teachers won’t finish Unit 4 by the end of January, they can skip Module 4 and get ready for Unit 5 in February.
 - » This post concerns student misconceptions related to the Unit 4 Pre- and Post-Assessments: bridges.mathlearningcenter.org/implementation/blog/exciting-misconceptions
- New Work Places are introduced in Module 1, Session 5; and Module 2, Sessions 2, 4, & 5.
- Home Connections are sent home twice a week.

8 Give teachers time to read the Unit 4 Introduction independently.

Invite teachers who finish early to skim the first few sessions in Module 1. Then, give teachers a few minutes to talk with their groups about what they’ve read.

9 Next, ask teachers to find and study the Skills Across the Grade Levels chart in the Unit 4 Introduction.

Ask: Which standards are introduced and developed in this unit? Are there any skills that must be mastered? [Yes: 2.OA.1, 2.MD.2, and 2.MD.3.]

Students have opportunities to revisit 2.OA.1 during the next two months of Number Corner and 2.MD.2 in Unit 7.

10 Divide the group into four teams. Have each team read one module, then share what they’ve learned with the whole group.

Bridges Giveaways

Unit 4 Family Overview

1 copy per teacher

Unit Pre- and Post-Assessment and Checkpoint

Module 1 T1–T3
Module 2 T10–T11
Module 3 T1–T9

1 class set per teacher

Construction Paper

4" × 1" strips of yellow
8" × 1" strips of blue
10" × 1" strips of red

half-class set of strips of each color per teacher

18" × 36" pieces of butcher paper

half-class set for each teacher

2" × 12" strips of poster board

1 class set of strips per teacher

30" lengths of string

1 class set per teacher

Scope & Sequence

The Scope & Sequence documents available in the Curriculum section of the Bridges Educator site offer a “big picture” of skills development throughout the year.

Bridges Unit 4 Work Places 15 minutes

Make sure your prepared Work Places are available for the group to use during this activity.

- 11 Let teachers know that four new Work Places are introduced in Unit 4, and they'll explore these in pairs today.
 - Work Place 4C, Measure & Compare, provides another opportunity to use the open number line to find the difference between two numbers. This Work Place allows teachers the opportunity to observe students and provide support as needed while they work with this model.
 - Work Place 4D, Climb the Beanstalk, also offers teachers a chance to observe students' proficiencies with addition and subtraction strategies and to provide appropriate support or challenge.
 - Let them know that they don't have to play a complete round or game of any of the Work Places—just enough to understand the general procedure of play.
 - When the group understands what to do, give them 10 minutes to pair up and explore the Work Places.

- 12 Reconvene and use the Work Place Guides to discuss strategies for differentiation, including game variations, challenge and support. Encourage teachers to get to Work Place time on a regular basis.

Wrap-Up 5 minutes

If your meeting will continue, this is a good time for a stretch break. If your meeting ends or you must move on to other business, wrap up now.

- 13 If you have extra time, invite teachers to look over each module's Materials Preparation chart and come up with a plan for dividing the work.
You might also stay for a few minutes to talk with teachers who have concerns and questions that weren't addressed during the meeting.

Work Place Sentence Frames

Consider printing a set of the Work Place Sentence Frames for the unit for each teacher. These tools that help students communicate their ideas and actions during Work Places are available in English and Spanish from the [Resources section](#) of the Bridges Educator site.

Grade 2 Implementation Guide

Number Corner February

Bridges Unit 5

Materials

Teachers	Facilitator
<ul style="list-style-type: none">• Number Corner Teachers Guide, Volume 2• Bridges Teachers Guide, Unit 5• Assessment Guide (digital or print)• computer or tablet• highlighters in blue, green, and yellow• plastic coins from Bridges kits, and half-class set of ziptop bags or small containers (optional; see Bridges Unit 5 Preview, page 4)	<ul style="list-style-type: none">• meeting agenda (see Preparation)• computer or tablet (with projector or display, if possible)• February Daily Planner (1 per teacher; see Preparation)• February Calendar Markers (optional)• Unit 5 Work Place materials and tubs (see Preparation)• giveaways (optional; see Preparation and sidebars)

Preparation

- Prepare an agenda using the bold headers in this guide. In one hour you can cover Number Corner February; in two hours (or in two 1-hour sessions) you can cover Bridges Unit 5 as well. Timing suggestions for each section are included in this guide.
- Print a Daily Planner for each teacher. You might laminate these so teachers can clean and reuse them. Or, use the customizable Excel format planners available from the Bridges Blog: bridges.mathlearningcenter.org/implementation/blog/customizable-number-corner-planner
- Prepare materials for the Work Places introduced in Unit 5 according to the Work Place Guides. Include the Work Place Guide and Instructions with each Work Place.
- Depending on your resources, you might prepare copies and charts for teachers as giveaways. Suggested items are listed in sidebars in this guide.

Introduction & Agenda 5 minutes

1 Welcome everyone and display the agenda.

Get a quick sense of classrooms' progress in Bridges and Number Corner.

- Who is finishing up Unit 4?
- Who has established time and space for all five Number Corner workouts?
- What family resources have they shared?
- Who has used Digital Display Materials for Bridges or Number Corner?
- Who's made use of any of the free apps available from The Math Learning Center? (See catalog.mathlearningcenter.org/apps for a list and download links.)

February Number Corner Preview 50 minutes

- 2 Ask teachers to turn to the February section of their Number Corner Volume 2 binders and give them a few minutes to look at the sample display and review the introduction. Then have them locate the Target Skills section on page 2. Compare these to the Critical Areas of Focus in the Assessment Guide Overview.

You can also use the Achieve document, available from Achieve the Core and linked on the Math Coaches tab in the Implementation section of the Bridges Educator site:

http://achievethecore.org/content/upload/SAP_Focus_Math_2.pdf

- Ask: Which workouts are a priority for grade 2 students? Have teachers use colored highlighters to identify the standards that are major (green), supporting (blue) and additional (yellow).
- Considering these priorities, which workouts should they be sure to address this month?

- 3 Schedule the month's Number Corner activities.

Pass out blank copies of the planner (or ask teachers to open the customizable Excel planner). Using the school or district calendar, work together to fill in dates, resolving any differences in the number of actual teaching days.

- 4 Divide the group into teams to read the workouts for the month, then have each team teach the group what they've learned.

- Assign one of the Number Corner workouts (Calendar Grid, Calendar Collector, Daily Rectangle, Computational Fluency, and Number Line) to each team.
- Give teams about 10 minutes to read their workout and prepare to teach the others. Assist any team with a workout they find confusing. Fill in any additional information you feel might be helpful from the following notes.

Calendar Grid Flag Fractions

- This month, there's a pattern in the amount of red on each flag. Flags have exactly half red, more than half red, or less than half red. Near the end of the month, students also work with thirds. The story problems with each flag have students add numbers to 100 and then to 1,000.
- Encouraging students to indicate the unknown with a box when writing an equation, or to make a quick sketch of the story, can help them understand what they are solving for. This is especially helpful when solving "change unknown" and "start unknown" problems. Consider working through one of each type of problem using the open number line as a model. (See the chart in the Mathematical Background section of the Overview for a detailed illustration of this model as it relates to this workout.)

Calendar Collector Capture the Clock

- During Activity 1, students review setting and telling times to the hour, half hour, and then to the nearest five minutes.
- Activity 2, Capture the Clock, is a bingo game played tournament style. Clocks are set to a certain hour, and during the game all times will be within that hour. Teams can choose whether to roll one or two dice. Note that rolling one die is the only way for the minute hand to land on the 1 (and be 5 minutes after the hour).
- This month's activities conclude instruction of telling time in Bridges and Number Corner. Although telling time is a supporting cluster for grade 2 students, it is important to note that grade 3 students are expected to solve problems involving intervals of time (elapsed time).

February Number Corner Giveaways

Key Questions

Ready-to-print layouts of the Number Corner Key Questions for each month are available from the *Resources* section of the Bridges Educator site.

Story Problem Strips (T1)

1 set per teacher, cut apart

Recording Pads

10 or more half-sheets of copy paper, stapled together, or plain notepads of similar size. Teachers will use these for several months of Number Corner workouts.

Daily Rectangle The Base Ten Bank: Addition

- The Base Ten Bank activity allows students to generate their own strategies for adding multi-digit numbers. Invented strategies have shown that students intuitively begin with the largest part of the of numbers (i.e., hundreds or tens first, then tens or ones.) The new standards (2.NBT.7) also reflect this thinking by stating this specific order ...“one adds or subtracts hundreds and hundreds, tens and tens, ones and ones...”
- The base ten pieces used in this workout support students’ thinking as they develop their own strategies for adding 2- and 3- digit numbers. Teachers help reflect and model students’ thinking by using sketches or numbers. This might include pointing to the base ten pieces, using a sketch to represent the base ten pieces (squares for hundreds, lines for tens, and circles or Xs for ones), or using partial sums to show how tens were added with tens and ones were added with ones before composing the tens and ones to find the total. This helps students work from the more concrete to the abstract (base 10 pieces to sketches to numbers).

Computational Fluency Addition Quick Facts

- This month begins a routine to be continued throughout the rest of the year, with students working on either Quick Facts or Scout Them Out during the workout.
- Fact fluency includes accuracy, efficiency, and flexibility, the intent of these activities is to provide students with multiple opportunities to practice choosing appropriate strategies (flexibility), applying these strategies (efficiency), and checking their answers (accuracy). Being fluent with these facts is important factor in contributing to less errors in computation, supporting problem-solving tasks, and lowering anxiety when it comes to math.
- By choosing the order of fact strategies to practice, setting goals, and monitoring their own progress, students take their learning into their own hands. You may want to share one or both of these posts that reiterate that Quick Facts is not a timed test or competition, but a way for students to be in charge of their own learning when it comes to working on fact fluency.
 - » Quick Facts: Ready or More Practice?
bridges.mathlearningcenter.org/implementation/blog/quick-facts-ready-or-more-practice
 - » Quick Facts Tips: bridges.mathlearningcenter.org/implementation/blog/quick-facts-tips

Number Line The Tenth Century

- Most likely, students celebrate the 100th day of school during this month, which means the class celebrates its Tenth Century Day – 1,000! Students will practice counting by 100s starting at various numbers on the number line.
- Student review the words year, decade, century, and millennium and students write them in sentences in their student books.
- An optional song, “Let’s Celebrate 1,000,” is sung to the tune of *Head, Shoulders, Knees, and Toes*.
- Teachers can choose to stop their classroom number lines at 1,000 or continue on for the rest of the year, in which case they will need about 7 or 8 more sentence strips. The Number Line workouts for the rest of the year focuses on addition and subtraction up to 1,000.

5 Spend any remaining time discussing differentiation.

Review the suggestions included throughout this month’s workouts for supporting students who may be struggling, and discuss additional ideas teachers might have.

Break or Wrap-Up 5 minutes

If your meeting will continue, this is a good time for a stretch break. If your meeting ends or you must move on to other business, wrap up now.

Strategy Posters

Encourage teachers to download and post addition and subtraction strategy posters if they haven’t already done so. The Math Learning Center offers sets of posters for each operation in English and Spanish. Find them in the [Resources Section](#) of the Bridges Educator site.

Bridges Unit 5 Preview 40 minutes

Unit 5 helps students solidify their understandings of unitization and place value to 1,000. A variety of manipulatives, including craft sticks, Unifix cubes, paperclips, and base 10 pieces, are used to create and count groups of 10s and 100s. Students practice adding and subtracting in multiples of 10s and 100s on and off the decade. Module 2 focuses on money and has students practice counting by 5s and 10s as well as think about a quarter (or 25 cents) as a unit composed of groups of 5 and 10. The last module is built around observing, describing, and extending arrangements found in geometric sequences.

- 6 Invite teachers to open their Bridges in Mathematics Unit 5 binder to the introduction for Unit 5 and quickly scan the Overview.
- 7 If teachers have brought their plastic coins and bags or containers, give them some time to organize the coins for use in Module 2.
 - Each classroom needs a half-class set of containers. Each container should include about 16 pennies, 10 nickels, 10 dimes, and 10 quarters.
 - If your classrooms have mobile devices or computers available for student use during lessons, let teachers know that they might also consider having students use the Money Value Pieces app (catalog.mathlearningcenter.org/apps) for the activities in Module 2.
- 8 Note key details:
 - The concept of unitization is key to this unit and to students' understanding of place value. Students are given multiple opportunities to create and then count bundles or groups of 10s and then 100s. These opportunities build conceptual understanding that 1 can mean 1 object or 1 group of ten objects.
 - In Module 3, if students are using clips or links to create a chain of 1,000, teachers and students may need to get creative (as well as have some extra patience) on how to keep a chain of that length from getting tangled upon itself. Students must work together to hold the chain as the teacher hangs part or all of it up in the classroom. This is a great time to reinforce and practice teamwork.
 - The Unit 5 Pre-Assessment is scheduled during Module 1, Session 1. The Three-Digit Numbers Checkpoint is scheduled during Module 1, Session 5 and the Money Checkpoint is scheduled during Module 2, Session 6. The Unit 5 Post-Assessment comes at the end of Module 3.
 - The four sessions in Module 4 are devoted to observing, describing, and extending arrangements of geometric sequences. Students search for patterns and make generalizations in order to build and sketch other arrangements in the sequences. Although these skills are important elements of algebraic reasoning, these sessions do not include major work of the grade level. If teachers won't finish Unit 5 by the end of February, they can skip Module 4 and get ready for Unit 6 in March.
 - New Work Places are introduced in Module 1, Session 5, Module 2, Sessions 2, 3, and 6 and Module 3, Session 5.
- 9 Give teachers time to read the Unit 5 Introduction independently.

Invite teachers who finish early to skim the first few sessions in Module 1. Then, give teachers a few minutes to talk with their groups about what they've read.
- 10 Next, ask teachers to find and study the Skills Across the Grade Levels chart in the Unit 5 Introduction.

Ask: Which standards are introduced and developed in this unit? Are there any skills that must be mastered? [Yes. Many standards are targeted for mastery at this time of year.]

Students will revisit place value and money-related skills in Units 7 and 8 as well as some Number Corner workouts in the upcoming months. Place value counting and computation to 1,000 are major instructional targets for grade 2, while money is a supporting cluster.

Bridges Giveaways

Unit 5 Family Overview

1 copy per teacher

Unit Pre- and Post-Assessment and Checkpoints

Module 1 T1–T6

Module 2 T28–T29

Module 3 T6–T9

1 class set per teacher

Mat of 10" × 10 Squares

Cut a piece of butcher paper 20" wide and 50" long. Fold it or use a marker to create ten 10-inch-square squares. Each teacher needs one mat.

Symbol, Coin & Bill Cards

Module 2 T19–T23

1 set per teacher, laminated and cut apart. Optionally, color in the coins and bills (gray or silver for coins, green for bills) before laminating.

2" × 12" strips of poster board

1 class set of strips per teacher

30" lengths of string

1 class set per teacher

Scope & Sequence

The Scope & Sequence documents available in the Curriculum section of the Bridges Educator site offer a "big picture" of skills development throughout the year.

- 11 Divide the group into four teams. Have each team read one module, then share what they've learned with the whole group.
- 12 Review the Support & Intervention information in the Unit 5 and Number Corner sections of the Assessment Guide.
- Updated guides on the Bridges Educator site include recommendations for using Bridges Intervention to support students.
- 13 Remind teachers to check out the teacher tools, games, and activities available in the Resources section of the Bridges Educator site.
- If you have time, share one of these posts offering tips and ideas for Module 1:
 - » **How Many Ways?** Using whiteboards for quick formative assessments: bridges.mathlearningcenter.org/implementation/blog/how-many-ways
 - » **Need a Challenge?** Providing challenge opportunities: bridges.mathlearningcenter.org/implementation/blog/need-challenge
 - You may also want to share one or both of these posts concerning teaching money skills, which is especially pertinent to Module 2:
 - » **Pennies, Nickels, Dimes & Quarters** Teaching money skills to second graders: bridges.mathlearningcenter.org/implementation/blog/pennies-nickels-dimes-quarters
 - » **Lemonade for Sale** Linking math, technology, and financial literacy skills: bridges.mathlearningcenter.org/implementation/blog/lemonade-sale

Bridges Unit 5 Work Places 15 minutes

Make sure your prepared Work Places are available for the group to use during this activity.

- 14 Let teachers know that five new Work Places are introduced in Unit 5, and they'll explore these in pairs today.
- Work Places 5C Beat You to \$1.00 and 5D Three Spins to Win work particularly well with the Digital Display Materials. If you have display equipment available in your meeting space, consider demonstrating or loading one of the games for teachers to use while they explore the new Work Places.
 - Let teachers know that they don't have to play a complete round or game of any of the Work Places—just enough to understand the general procedure of play.
 - Give them 10 minutes to pair up and explore the Work Places.
- 15 Reconvene and use the Work Place Guides to discuss strategies for differentiation, including game variations, challenge and support.
- The challenge suggestions for Work Place 5B Close to 25¢ might be helpful for teachers with students who are already proficient in counting sets of mixed coins.
 - If your teachers might Spanish-language Work Place Instructions for helpers in the classroom, let them know that these were added to the Spanish-language Teacher Masters on the Bridges Educator site in 2016. This post has more information: bridges.mathlearningcenter.org/implementation/blog/additional-spanish-materials-work-places

Wrap-Up 5 minutes

If your meeting will continue, this is a good time for a stretch break. If your meeting ends or you must move on to other business, wrap up now.

- 16 If you have extra time, invite teachers to look over each module's Materials Preparation chart and come up with a plan for dividing the work.
- You might also stay for a few minutes to talk with teachers who have concerns and questions that weren't addressed during the meeting.

Work Place

Sentence Frames

Consider printing a set of the Work Place Sentence Frames for the unit for each teacher. These tools that help students communicate their ideas and actions during Work Places are available in English and Spanish from the [Resources section](#) of the Bridges Educator site.

Grade 2 Implementation Guide

Number Corner March

Bridges Unit 6

Materials

Teachers	Facilitator
<ul style="list-style-type: none">• Number Corner Teachers Guide, Volume 3• Bridges Teachers Guide, Unit 6• Assessment Guide (digital or print)• computer or tablet• highlighters in blue, green, and yellow	<ul style="list-style-type: none">• meeting agenda (see Preparation)• computer or tablet (with projector or display, if possible)• March Daily Planner (1 per teacher; see Preparation)• March Calendar Markers (optional)• Unit 6 Work Place materials and tubs (see Preparation)• giveaways (optional; see Preparation and sidebars)

Preparation

- Prepare an agenda using the bold headers in this guide. In one hour you can cover Number Corner March; in two hours (or in two 1-hour sessions) you can cover Bridges Unit 6 as well. Timing suggestions for each section are included in this guide.
- Print a Daily Planner for each teacher. You might laminate these so teachers can clean and reuse them. Or, use the customizable Excel format planners available from the Bridges Blog: bridges.mathlearningcenter.org/implementation/blog/customizable-number-corner-planner
- Prepare materials for the Work Places introduced in Unit 6 according to the Work Place Guides. Include the Work Place Guide and Instructions with each Work Place.
- Depending on your resources, you might prepare copies and charts for teachers as giveaways. Suggested items are listed in sidebars in this guide.

Special Preparation for Units 7 & 8

The integrated math/science marble roll project in Unit 8 requires a lot of building materials—cardboard tubes of all kinds and sizes, especially. Gathering of these materials is best done well in advance. Suggest that teachers make a note to themselves to find time to read ahead to Unit 8 in the coming week or two if they're not already familiar with it.

In addition, teachers will need a half-class set of cardboard tubes (toilet paper cores) for Unit 7.

Introduction & Agenda 5 minutes

1 Welcome everyone and display the agenda.

Get a quick sense of classrooms' progress in Bridges and Number Corner.

- Who is finishing up Unit 5? Is everyone ready to begin March Number Corner?
- What online resources or apps have teachers been using in their instruction?
- What family resources have they shared?
- What tools have teachers been using to document student progress through the standards? If teachers use Excel-compatible spreadsheet software to track student progress, are they using the Assessment Tools available from the Bridges Educator site?

March Number Corner Preview 50 minutes

- Ask teachers to turn to the March Introduction in their Volume 3 binder. Have them locate the Target Skills section on page 2. Compare these to the Critical Areas of Focus in the Assessment Guide Overview. Have teachers use colored highlighters to identify the standards that are major (green), supporting (blue) and additional (yellow). Ask: Which standards are a priority? Considering these priorities, which workouts should they be sure to address this month?
Note that this month's Number Line, Daily Rectangle, and Computational Fluency workouts address many of the major-cluster standards in 2.OA and 2.NBT.
- Ask teachers to turn to the sample display and daily planner at the beginning of the Introduction.
Give them a moment to review the sample display, then pass out blank copies of the planner (or ask teachers to open the customizable Excel planner). Using the school or district calendar, work together to fill in dates. If your spring break is in March, you'll need to make adjustments for the actual number of teaching days. Focus on the workouts that emphasize the priorities teachers have identified.
- Divide the group into teams to read the workouts for the month, then have each team teach the group what they've learned.
 - Assign one of the Number Corner workouts (Calendar Grid, Calendar Collector, Daily Rectangle, Computational Fluency, and Number Line) to each team.
 - Give teams about 10 minutes to read their workout and prepare to teach the others. Assist any team with a workout they find confusing. Fill in any additional information you feel might be helpful from the following notes.

Calendar Grid Mystery Shapes

- The calendar markers this month feature either an indoor or an outdoor setting with various three-dimensional shapes. The white code box in the upper-right corner provides clues to a mystery shape, based on a specified number of faces, edges, and vertices or a schematic drawing. Teachers can use their paper or digital Word Resource Cards to reinforce these concepts.
- For Activities 3 & 4, teachers need real-life examples of the shapes being investigated this month. Teachers might consider borrowing some triangle and square Polydrons from kindergarten or grade 1 teachers to create pyramids, and borrow traffic cones from the gym for cones.

Calendar Collector Two Quarters a Day

- The class collectz two quarters each day using plastic coins. They record the cumulative amount on a chart and also create a display using money value pieces. The money value pieces are based on the hundreds grid area model. Understanding that coins are fractional parts of a dollar is key to understanding money. Each one-cent penny is $\frac{1}{100}$ of a dollar, nickels are $\frac{1}{20}$, dimes are $\frac{1}{10}$, and half dollars are $\frac{1}{2}$ of the dollar unit.
- At the end of each week, the class counts by the amount collected to double-check the total, then trades in coins for dollar bills. Teachers can opt to use the Money Value Pieces app (catalog.mathlearningcenter.org/apps) to show the collections and demonstrate the trades.

March Number Corner Giveaways

Key Questions

Ready-to-print layouts of the Number Corner Key Questions for each month are available from the [Resources section](#) of the Bridges Educator site.

Calendar Grid Observations Chart

Make and laminate blank charts with column headers and title as shown in the Calendar Grid workout.

Alternatively, bring chart paper, markers, and a sample so teachers can prepare these charts during or after the meeting.

Quarter Money Value Pieces (T1)

2 copies on white and 2 copies on light blue per teacher

Dollar Money Value Pieces (T2)

3 copies on green per teacher

Recording Pads

10 or more half-sheets of copy paper, stapled together, or plain notepads of similar size. Teachers will use these for several months of Number Corner workouts.

Daily Rectangle The Base Ten Bank: Subtraction

- Students make withdrawals from the set of base ten pieces that were collected last month in the Base Ten Bank. Everything except 1 mat (worth 100) is moved to a “savings account,” and a number is subtracted from 100 to begin the withdrawals.
- Students develop their own strategies for subtracting multi-digit numbers based on place value and the inverse operations. Teachers model students’ thinking by using sketches or numbers to represent students’ strategies. Mostly likely students will start with subtracting tens and then subtracting ones, as with addition.
- A detailed chart in the Mathematical Background section of the Daily Rectangle workout shows different strategies teachers may see in their classrooms. Consider working through some of these together if time allows.
- This activity features subtraction as a process of taking an amount away from a given quantity, rather than finding the difference between two numbers. Teachers might consider covering the lower half of the Base Ten Bank pocket chart to help reinforce this concept. Second graders can use a variety of efficient, flexible, and accurate ways to solve the combinations. The standard algorithm is not required at this time.

Computational Fluency Continuing with Addition Quick Facts

- The same routine continues this month with students alternating between two activities: Quick Facts and Scout Them Out.
- If any students have mastered the addition facts, they can begin working on two categories of facts at a time and the Leftover facts. Additional, optional activities are also provided in the Teacher Masters.
- If you didn’t have the opportunity to share one or both of these blog posts last month about Quick Facts, consider sharing them now:
 - » Quick Facts: Ready or More Practice? bridges.mathlearningcenter.org/implementation/blog/quick-facts-ready-or-more-practice
 - » Quick Facts Tips: bridges.mathlearningcenter.org/implementation/blog/quick-facts-tips

Number Line Put it on the Line

- The game Put It on the Line is played four times this month. These games provide practice with place value, multi-digit addition and subtraction, and story problems. Each game includes different problems and different number line endpoints.
- This game can be introduced using the Digital Display Materials. Teachers should use the Shade tool to cover the ten boxes at the bottom of the game board (use a new shade for each box). Consider playing through a few turns to demonstrate.

5 Once everyone has shared, discuss Number Corner Checkup 3.

Number Corner Checkup 3 is designed to give teachers more information about students’ current skills with story problems, addition facts, place value, adding and subtracting 2-digit numbers, time, money, and shapes. Plan for two 20-minute periods.

Break or Wrap-Up 5 minutes

If your meeting will continue, this is a good time for a stretch break. If your meeting ends or you must move on to other business, wrap up now.

Strategy Posters

Encourage teachers to download and post addition and subtraction strategy posters if they haven’t already done so. The Math Learning Center offers sets of posters for each operation in English and Spanish. Find them in the [Resources Section](#) of the Bridges Educator site.

Assessment Tools

If your teachers use Excel (or software that can work with Excel files) for recording grades, remind them of the Excel scoring guides located in the Assessment Tools sidebar of the Implementation section of the Bridges Educator site.

Bridges Unit 6 Preview 40 minutes

Students explore two-dimensional shapes, fractions (halves and fourths), congruence, symmetry, and transformations (slides, flips, turns) using geoboards, pattern blocks, colored tiles, and paper squares. They identify, describe, compare, contrast, and create various types of triangles and quadrilaterals, as well as other shapes. They are also introduced to tessellation and finding the area of shapes.

- 6 Invite teachers to open their Bridges in Mathematics Unit 6 binder to the introduction for Unit 6 and quickly scan the Overview.
- 7 Note a few key details about Unit 6:
 - In Modules 1 and 2, teachers might consider using The Math Learning Center’s free Geoboard app (catalog.mathlearningcenter.org/apps) for sessions calling for geoboards.
 - Although finding the area of a shape is a grade 3 standard, grade 2 students are asked to “partition a rectangle into rows and columns of same-size squares and count to find the total number” (2.G.2), which sets a foundation for work students will do with area in future grades.
 - Congruence, symmetry, and transformations are above-grade level standards. Discussing these ideas provides extension and challenge.
 - The Unit 6 Pre-Assessment is scheduled for Module 1, Session 1. The Unit 6 Post-Assessment comes at the end of Module 3. There are no checkpoints during this unit.
 - Geometry is identified as an additional cluster (not major or supporting), so teachers should keep a brisk pace through Unit 6 to ensure ample time for Unit 7, which contains key concepts and skills from the major work of the grade level.
 - Module 4 contains additional work with geometry concepts. If teachers won’t finish Unit 6 by the end of March, they can skip Module 4 and get ready for Unit 7 in April.
 - New Work Places are introduced: in Module 1, Session 1; Module 2, Session 4 (two related workplaces introduced during Session 4); and Module 3, Sessions 1 and 5. These Work Places can provide an opportunity for teachers to work with students who are still struggling with place value counting and computation skills.
- 8 Give teachers time to read the Unit 6 Introduction independently.
Invite teachers who finish early to skim the first few sessions in Module 1. Then, give teachers a few minutes to talk with their groups about what they’ve read.
- 9 Ask teachers to find and study the Skills Across the Grade Levels chart.
Ask: Which standards are introduced and developed in this unit? Are there any skills that must be mastered? [Yes: 2.OA.4, 2.G.1, 2.G.2, and 2.G.3]
Students have opportunities to revisit shapes, fractions, and activities that will continue to lay foundations for area and multiplication during the last two months of Number Corner.
- 10 Divide the group into four teams. Have each team read one module, then share what they’ve learned with the whole group.
- 11 Spend any remaining time discussing support and intervention.
 - Review the suggestions included in this month’s Bridges sessions and Number Corner workouts for supporting students, and discuss additional ideas teachers might have.
 - Remind teachers that differentiation opportunities are presented in the Work Place Guides, and that past Work Places can be reintroduced or assigned to give students more practice with particular skills.
 - If teachers are concerned about students who are falling behind, give them some time to review the Assessment Guide section for Unit 6. Under Support & Intervention, they’ll find suggestions for using resources to support students in and out of the classroom, as well as Bridges Intervention volumes and modules recommended by concept or skill.

Bridges Giveaways

Unit 6 Family Overview

1 copy per teacher

Unit Pre- and Post-Assessment

Module 1 T4–T7

Module 3 T18–T21

1 class set per teacher

Paper Cutting

- 200 one-inch construction paper squares per teacher, 100 each in two colors
- Two-inch squares of construction paper or gift wrap: each **student** needs 2 squares in one color, 2 squares in another color, and 5 squares in a third color.
- Two-inch squares of scratch paper (any kind), two class sets per teacher

Scope & Sequence

The Scope & Sequence documents available in the Curriculum section of the Bridges Educator site offer a “big picture” of skills development throughout the year.

Bridges Unit 6 Work Places 15 minutes

Make sure your prepared Work Places are available for the group to use during this activity.

- 12 Let teachers know that five new Work Places are introduced in Unit 6, then give them 10 minutes to pair up and explore the Work Places. Let them know that they don't have to play a complete round or game of any of the Work Places—just enough to understand the general procedure of play.
- The Math Learning Center's free Geoboard app works well with Work Places 6B Find the Area and 6C Make the Area. See catalog.mathlearningcenter.org/apps for this and other free math apps.
 - You might consider using the Digital Display Materials and Pattern Block app to demonstrate 6A Last Shape in Wins or 6D Fill for Less.
- 13 Reconvene and use the Work Place Guides to discuss strategies for differentiation, including game variations, challenge and support.

Wrap-Up 5 minutes

If your meeting will continue, this is a good time for a stretch break. If your meeting ends or you must move on to other business, wrap up now.

- 14 Invite teachers to look over each module's Materials Preparation chart and come up with a plan for dividing the work.
- They might also consider working together to write a letter to send home to families to request materials for Unit 8, or reading ahead to Unit 8 to become more familiar with the materials and activities.
 - Teachers should also keep in mind that they'll need a half-class set of cardboard tubes (toilet paper cores will work) for Unit 7; they could spend a few minutes preparing a plan for collecting these over the next few weeks.
 - You might take a few minutes to talk with teachers who have other questions or concerns not addressed during the meeting.

Work Place Sentence Frames

Consider printing a set of the Work Place Sentence Frames for the unit for each teacher. These tools that help students communicate their ideas and actions during Work Places are available in English and Spanish from the [Resources section](#) of the Bridges Educator site.

Grade 2 Implementation Guide

Number Corner April

Bridges Unit 7

Materials

Teachers	Facilitator
<ul style="list-style-type: none">• Number Corner Teachers Guide, Volume 3• Bridges Teachers Guide, Unit 7• Assessment Guide (digital or print)• computer or tablet• highlighters in blue, green, and yellow	<ul style="list-style-type: none">• meeting agenda (see Preparation)• computer or tablet (with projector or display, if possible)• April Daily Planner (1 per teacher; see Preparation)• April Calendar Markers (optional)• Unit 7 Work Place materials and tubs (see Preparation)• giveaways (optional; see Preparation and sidebars)

Preparation

- Prepare an agenda using the bold headers in this guide. In one hour you can cover Number Corner April; in two hours (or in two 1-hour sessions) you can cover Bridges Unit 7 as well. Timing suggestions for each section are included in this guide.
- Print a Daily Planner for each teacher. You might laminate these so teachers can clean and reuse them. Or, use the customizable Excel format planners available from the Bridges Blog: bridges.mathlearningcenter.org/implementation/blog/customizable-number-corner-planner
- Prepare materials for the Work Places introduced in Unit 7 according to the Work Place Guides. Include the Work Place Guide and Instructions with each Work Place.
- Depending on your resources, you might prepare copies and charts for teachers as giveaways. Suggested items are listed in sidebars in this guide.

Special Preparation for Unit 8

In anticipation of the marble roll project in Unit 8, consider working with third grade teachers to send letters home to families asking for donations of paper towel and toilet paper tubes, gift wrap tubes, and any other cardboard tubes they may have. Tape and string would also be welcome donations for the project. Suggest that teachers make a note to themselves to find time to read ahead to Unit 8 in the coming week or two if they're not already familiar with it.

Teachers will also need a half-class set of cardboard tubes (toilet paper cores) for Unit 7.

Introduction & Agenda 5 minutes

1 Welcome everyone and display the agenda.

Get a quick sense of classrooms' progress in Bridges and Number Corner.

- Who is finishing up Unit 7? Is everyone ready to begin April Number Corner?
- What online resources or apps have teachers been using in their instruction?
- What family resources have they shared?
- Who has reviewed student assessment data to decide if they need to review and reteach critical areas? What areas have they identified in need of such review or reteaching?

April Number Corner Preview 50 minutes

- 2 Ask teachers to turn to the April section of their Number Corner Volume 3 binders and give them a few minutes to look at the sample display and review the introduction. Then have them locate the Target Skills section on page 2. Compare these to the Critical Areas of Focus in the Assessment Guide Overview.

You can also use the Achieve document, available from Achieve the Core and linked on the Math Coaches tab in the Implementation section of the Bridges Educator site:

http://achievethecore.org/content/upload/SAP_Focus_Math_2.pdf

Have teachers use colored highlighters to identify the standards that are major (green), supporting (blue) and additional (yellow). Ask: Considering these priorities, which workouts should they be sure to address this month?

Note that this month's Number Line, Daily Rectangle, and Computational Fluency workouts address many of the major-cluster standards in 2.OA and 2.NBT.

- 3 Schedule the month's Number Corner activities.

Pass out blank copies of the planner (or ask teachers to open the customizable Excel planner). Using the school or district calendar, work together to fill in dates. If your spring break is in April, you'll need to make adjustments for the actual number of teaching days. Focus on the workouts that emphasize the priorities teachers have identified.

- 4 Divide the group into teams to read the workouts for the month, then have each team teach the group what they've learned.
 - Assign one of the Number Corner workouts (Calendar Grid, Calendar Collector, Daily Rectangle, Computational Fluency, and Number Line) to each team.
 - Give teams about 10 minutes to read their workout and prepare to teach the others. Assist any team with a workout they find confusing. Fill in any additional information you feel might be helpful from the following notes.

April Number Corner Giveaways

Key Questions

Ready-to-print layouts of the Number Corner Key Questions for each month are available from the Resources section of the Bridges Educator site.

Calendar Grid Observations Chart and Daily Rectangle "Rectangle Hunters" Charts

Make and laminate blank charts with column headers and titles as shown in the Calendar Grid and Daily Rectangle workouts.

Alternatively, bring chart paper, butcher paper, markers, and samples so teachers can prepare these charts during or after the meeting.

Seedling Supplies

Each classroom needs the following to set up their seedling experiments for Calendar Collector:

- 5–6 quarts potting soil
- 12–14 peat pots
- 6–7 trays for the pots
- About 12 corn seeds and about 12 pea seeds (you can buy a few packets of each and divide them)

Calendar Grid Garden Fractions

- This month's calendar markers revolve around gardening and give students the opportunity to solidify their ability to partition rectangles and circles into 2, 3, or 4 equal parts; use fractional language; and develop understandings about what the numbers in the denominator and numerator stand for while working with both fractions of a whole and fractions of a set.
- Markers 18–21 and 25–28 combine both fractions of a whole and fractions of a set. If students are up for a challenge, have them look at the heads of lettuce or flowers on the first three cards of these sets to predict what they will see on the fourth. Press them to find relationships between the amount of lettuce/flowers on each of the first three cards and the whole set of lettuce or flowers as well as the fractional parts of the garden beds.

Calendar Collector Measuring & Plotting Plant Growth

- Groups of students plant corn and pea seeds, then measure and record the heights of their seedlings each day in centimeters. Once a week, groups enter the measurements for the day on a class line plot.
- Creating a class line plot and entering measurements once a week create an interesting and compelling set of data from which students can make hypotheses and then confirm or adjust those hypotheses each week as new sets of data are added.
- Encourage teachers to plant a few extra pots of seeds in case any of the student pots don't sprout. The plants should get water in the bottom of the tray over the weekends.

Daily Rectangle Writing Area Equations

- Students cover paper rectangles with square tiles, trace the tiles, determine how many tiles it takes to cover the rectangle, and write repeated addition or multiplication equations to match.
- Students also write repeated addition equations to find the total number of objects arranged in rectangular arrays. Many second grade students may be writing multiplication equations as well. Standard 2.G.2 goes a step further in asking students to partition existing rectangles into rows and columns of same-size squares and then count to find the total.

Computational Fluency More Addition Quick Facts

- The Quick Facts and Scout Them Out routines continue this month. Students who have mastered the addition facts can begin working on two categories of facts at a time, Leftover facts, or the additional activities included in the March Teacher Masters.

Number Line Efficient Jumps of Tens & Hundreds

- Students play Reach the Joey to practice taking forward and backward jumps on the number in increments of 1, 5, 10, and 20 at first and later, increments of 9, 11, 15, and 16.
- The game is introduced noncompetitively, and then the second and third times the teacher plays against the class.
- The game reinforces decomposing numbers like 16 into tens and ones and applying the associative and commutative properties of addition to easily make jumps along the line. For example, if you were at 530 and spun a 16, you could add 10 to get to 540 and then go 6 more to 546. Or if you were at 551 and you spun a 16, you could add 10 to get to 561, then go ahead 4 to 565 and then 2 more to 567.
- Teachers might consider introducing this game using the Digital Display Materials.

Break or Wrap-Up 5 minutes

If your meeting will continue, this is a good time for a stretch break. If your meeting ends or you must move on to other business, wrap up now.

Strategy Posters

Encourage teachers to download and post addition and subtraction strategy posters if they haven't already done so. The Math Learning Center offers sets of posters for each operation in English and Spanish. Find them in the [Resources Section](#) of the Bridges Educator site.

Bridges Unit 7 Preview 40 minutes

This unit addresses metric measurement, fractions, and multi-digit addition and subtraction—all set in the context of ants! In Module 1, students estimate, measure, and compare lengths using centimeters and meters. Module 2 highlights the relationship between division and fractions and students work with halves, thirds, fourths, and eighths. The last two modules feature story problems. Students share and discuss strategies for solving multi-digit addition and subtraction problems as well as money problems.

5 Invite teachers to open their Bridges in Mathematics Unit 7 binder to the introduction for Unit 7 and quickly scan the Overview. Note key details:

- Students discover that an army ant is about 1 centimeter in length. This helps them compare and contrast the size of a 1 centimeter and 1 inch. (Students previously made connections that an inchworm was about the size of 1 inch.)
- In Module 2, students work on figuring out how 100 or 120 ants could be divided evenly into 2, 4, and 5 lines. Moving from larger division situations to smaller ones where students divide one or two granola bars among 2, 3, or 4 hungry ants helps build associations between division and fractions.
- The Toy Store Story Problems in Modules 3 and 4 parallel the base ten pieces as toys come in cases of 100, boxes of 10, and packages of 1. A chart of strategies students might use is included in the Mathematical Background section of the unit introduction. Consider discussing or working through some of these strategies if you have time.

Note that the standard algorithm is not required until grade 4. The focus of multi-digit addition and subtraction in this unit should be on flexible strategies and methods, place value, reasoning, comparing and contrasting strategies for efficiency, and analyzing story problems. Be prepared to share, discuss, compare, and contrast the standard algorithm with other strategies second graders may have been taught.

- The Unit 7 Pre-Assessment is scheduled during Module 1, Session 1. The Metric Measuring & Fractions Checkpoint is scheduled for Module 2, Session 5. The Unit 7 Post-Assessment comes at the end of Module 3.
- New Work Places are introduced in Module 1, Sessions 1, 3, and 5; Module 2, Session 4; and Module 3, Session 1.

6 Give teachers time to read the Unit 7 Introduction independently.

Invite teachers who finish early to skim the first few sessions in Module 1. Then, give teachers a few minutes to talk with their groups about what they've read.

7 Ask teachers to find and study the Skills Across the Grade Levels chart.

Ask: Which standards are introduced and developed in this unit? Are there any skills that must be mastered? [Yes, many]

Students have opportunities to revisit and apply measurement (in customary units) and computation in May Number Corner and Unit 8.

Students have opportunities to revisit shapes, fractions, and activities that will continue to lay foundations for area and multiplication during the last two months of Number Corner.

8 Divide the group into four teams. Have each team read one module, then share what they've learned with the whole group.

Bridges Giveaways

Unit 7 Family Overview

1 copy per teacher

Unit Pre- and Post-Assessment and Checkpoint

Module 1 T2–T5

Module 2 T15–T16

Module 3 T12–T15

1 class set per teacher

Toilet Paper Tubes

Empty cardboard cores from toilet paper rolls. Each teacher needs a half-class set for students to use in Module 1, Session 3, to make their ant paths for Work Place 7C.

Rectangular Snack Bars

Such as granola bars or fruit bars; any rectangular bar that can be cut with a knife will do. Each teacher needs 5 snack bars for every 3 students.

Paper Cutting

per teacher:

- class set, 3 cm × 10 cm strips of poster board
- half-class set, 1" × 10" strips of yellow construction paper
- five 3" × 6" pieces of brown construction paper
- about 200 3" × 1 1/2" strips of brown construction paper
- 1 1/2" × 12" strips of construction paper, 2 class sets each of the following colors: white, light brown, purple, and green

- 9 Spend any remaining time reflecting on the year so far and preparing for the end of the year.
- If teachers are concerned about students who are falling behind, give them some time to review the Assessment Guide section for Unit 7. Under Support & Intervention, they'll find suggestions for using resources to support students in and out of the classroom, as well as Bridges Intervention volumes and modules recommended by concept or skill.
 - Remind teachers that differentiation opportunities are presented in the Work Place Guides, and that past Work Places can be reintroduced or assigned to give students more practice with particular skills.
 - Highlight the fact that the Resources section of the Bridges Educator site contains literature, songs, games, online activities and more to help with support and challenge.
 - Consider sharing these posts from the Bridges blog.
 - » The Power of Math Talk
bridges.mathlearningcenter.org/implementation/blog/power-math-talk
 - » Zany Ant Antics
bridges.mathlearningcenter.org/implementation/blog/zany-ant-antics
 - » Suggestions for setting next year's goals:
bridges.mathlearningcenter.org/implementation/blog/check-your-rough-edges

Bridges Unit 7 Work Places 15 minutes

Make sure your prepared Work Places are available for the group to use during this activity.

- 10 Let teachers know that five new Work Places are introduced in Unit 7, then give them 10 minutes to pair up and explore the Work Places. Let them know that they don't have to play a complete round or game of any of the Work Places—just enough to understand the general procedure of play.
- Students could use MLC's free Fractions app with computers or mobile devices at Work Place 7D Fair Shares.
 - You might consider using the Digital Display Materials to demonstrate 7A Race to the Cookie Jar. During this game, students use the associative and commutative properties of addition to help them efficiently add multiples of 10.
- 11 Reconvene and use the Work Place Guides to discuss strategies for differentiation, including game variations, challenge and support.

Wrap-Up 5 minutes

If your meeting will continue, this is a good time for a stretch break. If your meeting ends or you must move on to other business, wrap up now.

- 12 Invite teachers to look over each module's Materials Preparation chart and come up with a plan for dividing the work.
- They might also consider working together to write a letter to send home to families to request materials for Unit 8, or reading ahead to Unit 8 to become more familiar with the materials and activities.
 - You might take a few minutes to talk with teachers who have other questions or concerns not addressed during the meeting.

Work Place Sentence Frames

Consider printing a set of the Work Place Sentence Frames for the unit for each teacher. These tools that help students communicate their ideas and actions during Work Places are available in English and Spanish from the [Resources section](#) of the Bridges Educator site.

Grade 2 Implementation Guide

Bridges Unit 8

Number Corner May

Materials

Teachers	Facilitator
<ul style="list-style-type: none">• Bridges Teachers Guide, Unit 8• Number Corner Teachers Guide, Volume 3• computer or tablet• sticky notes, highlighters, etc.	<ul style="list-style-type: none">• meeting agenda (see Preparation)• computer or tablet (with projector or display, if possible)• Number Corner Daily Planner (1 per teacher; see Preparation)• school or district calendar for May (and June, if applicable)• Unit 8 Work Place materials and tubs (see Preparation)• giveaways (optional; see Preparation and sidebars)

Special Preparation for Unit 8: Building Materials

If you're preparing for your implementation meeting well in advance of the time that classrooms will begin Unit 8, consider working with second grade teachers to send letters home to families asking for donations of paper towel tubes, toilet paper tubes, gift wrap tubes, mailing or poster tubes, and hollow cardboard cores from fabric bolts or drapery rolls. If your school or district has lamination machines that use laminating film on a roll, the cores from those rolls also work well. Tape, paperclips, rubber bands, string, and twine are helpful, too. If you're able to collect large quantities of these items ahead of time, divide them up to give out to the teachers at the meeting. See the sidebar for suggested quantities.

Preparation

- Prepare an agenda using the bold headers in this guide. In about an hour you can cover Bridges Unit 8; in two hours (or in two 1-hour sessions) you can cover Number Corner May as well. Timing suggestions for each section are included in this guide.
- Print a copy of the May Daily Planner for each teacher. You might consider laminating these so teachers can clean and reuse them year after year. Or, use the customizable Excel format planners available from the Bridges Blog: bridges.mathlearningcenter.org/implementation/blog/customizable-number-corner-planner
- Have a copy or display of the school or district calendar for May (and June, if applicable) available for use in planning out May Number Corner.
- Prepare materials for the Work Places introduced in Unit 8 according to the instructions on the Work Place Guides. Include the Work Place Guide and Instructions with each Work Place.
- Depending on your resources, you might prepare copies, charts, and materials for teachers as giveaways. Suggested items are listed in sidebars in this guide.

Introduction & Agenda 5 minutes

- 1 Welcome everyone and display the agenda.

Suggested agenda:

- » Bridges Unit 8
- » Bridges Unit 8 Work Places
- » Break
- » May Number Corner

- 2 Get a quick sense of classrooms' progress in Bridges and Number Corner.

- Who has made it midway through Unit 7? Are classes on track to begin Unit 8 about four weeks before the end of the school year? (If not, you may want to discuss strategies for using only part of Unit 8 or accelerating the marble roll project; see ideas on page 42.)
- How many and which Number Corner workouts are in regular use in each classroom?

Marble Roll Materials

A class of 30 needs about...

200–300 toilet paper tubes

30–60 paper towel tubes

15–20 longer tubes (gift wrap tubes, mailing tubes, poster tubes, laminating film roll tubes, fabric tubes, etc.)

15 rolls of masking tape

Bridges Unit 8 Preview 40 minutes

The final unit of the school year includes three strands of study: a module revisiting place value and three-digit computation, two modules integrating science and mathematics (see “Science Concepts” in the Unit Introduction), and a final module offering early experience with surveying, data collection, and statistical analysis.

Two project-based learning opportunities are included: the marble roll project (Modules 2 and 3) and the shorter survey project (Module 4). Either project can optionally culminate in a presentation for parents, peers, or the school community.

Unit 8 is particularly rich with opportunities for challenge and extension, from further marble roll experiments to additional work representing and presenting collected data.

3 Discuss a few key details about Unit 8 with the group.

- Most classrooms should strive to complete at least the first two modules in this unit, with Module 1 being most important. Several skills in 2.NBT are addressed in Module 1 and targeted for mastery by the end of the school year. 2.MD.9 is targeted for mastery by the end of Module 3, but is also addressed in Number Corner April and May.
- The Unit 8 Pre-Assessment is scheduled during Module 1, Session 2. The post-assessment is scheduled for Module 3, Session 5. Module 4 content is not assessed formally, but provides review and extension of skills in measuring and data.
- Unit 8 contains no checkpoints, but teachers can use Work Places for informal observational assessment. The Assessment Guide contains additional information.
- New Work Places are introduced in Module 1, Sessions 4 and 6. Let teachers know that you’ll discuss them more after you review the rest of the unit, and that they’ll have a chance to test out the new Work Places themselves.

4 Give teachers time to read the Unit 8 Introduction independently.

- Give teachers a few minutes to talk with their groups about what they’ve read.
- Discuss the household materials (especially cardboard tubes in various sizes) needed for the marble roll project and give teachers time to strategize about contacting families for donations of those materials.

5 If your second grade classrooms won’t have 20 instructional days for Unit 8, work with teachers to plan how to best use the time available. Ideas:

Accelerating the Marble Roll Investigation

It’s possible to accelerate Modules 2 and 3 by covering two, three, or more sessions per day. Much of the marble roll material consists of experimental cycles in which students build a marble roll, test it, then plot and analyze their data. It’s reasonable to have students complete an entire cycle of experimentation in one day. If there will be fewer than 20 days left in the school year, but an abundance of time to use each day, consider this approach.

Place Value, Computation & Marble Rolls (Modules 1–2 or Modules 1–3)

The key skills of this unit are addressed in the first two modules (more experiments in Module 3 offer additional work with measurement and data). Note that Sessions 5 and 6 in Module 3 should be allotted more time than most; see the Teaching Tips in the Unit 8 Introduction.

Place Value, Computation & Surveys (Modules 1 and 4)

As long as students are doing well with measuring lengths, recording the measurements, and representing the data on line plots (2.MD.9) in Number Corner April and May, and have mastered other measurement and data skills targeted earlier in the year, it’s feasible to omit the marble roll project entirely.

Bridges Giveaways

Unit 8 Family Overview

1 copy per teacher

Unit 8 Pre- & Post-Assessments

Module 1 TMs T1–T3

Module 3 TMs T2–T4

1 class set per teacher

Line Plot Forms

Module 2 TM T1

5 class sets per teacher

(3 sets for Module 2,

2 sets for Module 3)

- 6 Divide the group into teams. Have each team read one module, then share key details with the group.
- 7 If you have time, share and discuss ideas for the marble roll project.
 - This blog post shows how classes can create a Wonder Wall for the project: bridges.mathlearningcenter.org/implementation/blog/questions-wonders-excitement
 - Additional resources and ideas for extending the marble roll project: bridges.mathlearningcenter.org/implementation/blog/mega-marble-rolls

Bridges Unit 8 Work Places 15 minutes

- 8 Let teachers know that two new Work Places are introduced in Unit 8, and they'll explore these in pairs today.
 - In the two new Work Places, students work on 3-digit comparisons and computation. Work Place 8A addresses sums to 1,000 while Work Place 8B deals with subtraction.
 - Give the group 5–7 minutes to pair up and explore the Work Places you have set up.
- 9 Reconvene the group and use copies of each Work Place Guide to discuss strategies for differentiation, including game variations, challenge, and support.
- 10 Note that Work Places from Units 6 and 7 continue to be available during Unit 8, and teachers can opt to bring out other Work Places from previous units for review and extension as well.

Here's a post that describes a way to have students help select Work Places to review. (Author Marion Leonard uses the kindergarten kit's Work Place Menu Cards to help students select a Work Place to vote for. In Grades 1 and 2, teachers could use a game board, spinner, or simply the name of the Work Place for this purpose.)

bridges.mathlearningcenter.org/implementation/blog/celebrating-year-bridges

Break or Wrap-Up 5 or 10 minutes

If your meeting will continue, this is a good time for a 5-minute stretch break. If you must move on to other business, wrap up now (see "Wrap-Up" on page 45 for some end-of-year items you might want to discuss or plan).

Work Place Sentence Frames

Consider printing a set of the Work Place Sentence Frames for the unit for each teacher. These tools that help students communicate their ideas and actions during Work Places are available in English and Spanish from the Resources section of the Bridges Educator site.

May Number Corner Preview 40 minutes

- 11 Ask teachers to turn to May in their Number Corner Volume 3 binders. Give them a moment to review the Sample Display and Daily Planner, then pass out blank copies of the Daily Planner (or ask teachers to open the customizable Excel planner). Work together, using the school or district calendar, to fill in dates, making adjustments as necessary based on the actual number of instructional days remaining in the school year.
- Calendar Grid Activities 3–5 can be done at any time (they are not dependent on the status of the Calendar Grid display); however, Activity 1 and 2 should be done before 3–5 so that students are familiar with the hidden picture concept. All 31 Calendar Markers need to be displayed to complete the May Hidden Picture Grid; if some markers are still not revealed on the last day of school, teachers can just reveal them then and complete the hidden picture.
 - May Calendar Collector does not have a daily update this month, so the activities can be done at any time. Schedule them, as well as activities for Daily Rectangle, Computational Fluency, and Number Line, where they fit best.
- 12 Divide the group into teams to read the workouts for the month, then have each team teach the group what they've learned.
- Assign one of the Number Corner workouts (Calendar Grid, Calendar Collector, Daily Rectangle, Computational Fluency, and Number Line) to each team.
 - Give teams about 10 minutes to read their workout and prepare to share with the group.
 - Have each team give an overview of their workout's activities for the month.
 - Fill in any additional information you feel might be helpful from the following notes.

Calendar Grid Where's Joey on the Calendar Grid?

- Students navigate a number grid using clues from the month's calendar markers. Each day they color in one square on the grid, eventually revealing a hidden picture. Other Calendar Grid activities this month offer number puzzle sheets with hidden pictures and problems involving adding and subtracting 10s and 100s to and from numbers to 1,000.
- The hidden pictures and calendar markers have an Australian theme. Teachers might share information or books about Australia or kangaroos with their students this month.

Calendar Collector Measuring & Plotting Student Heights

- Building on last month's Calendar Collector project, students measure the heights of kindergartners, second graders, and fifth graders. Each set of measurements is entered on a class line plot as well as on students' individual line plots. Students discuss and compare the data through the month and summarize their findings at the end of the month.
- Teachers will need to make arrangements to visit a kindergarten classroom and a fifth grade classroom (or be visited by the students of those classrooms). Schools that do not have these grades (for example, a K-3 school) can substitute others; choose age ranges as far apart as possible. Note that substituting an older group of people (e.g., eighth graders, everyone who works in the school office) will require teachers to make a customized line plot form with heights up to 78" or more; the chart included in the Number Corner Student Book is intended for likely heights of elementary school students.

Daily Rectangle Arrays to Thirty-One

- Over the course of the month, the class works to record rectangles for values 1–31. Occasionally they record *all* the possible arrays for each day that has passed so far, then record the dimensions and an equation for each. Toward the end of the month, they examine and discuss the relationship between the dimensions and area of rectangles.
- Call attention to the challenge extension described at the end of Activity 1. This extension affords an opportunity to introduce and explore the concept of prime and composite numbers. Teachers might want to plan ahead to introduce these ideas early in the month if they believe their students are ready for them.

Number Corner Giveaways

Key Questions

Ready-to-print layouts of the Number Corner Key Questions for each month are available from the [Resources section](#) of the Bridges Educator site.

Observations Charts

Make and laminate blank charts with column headers and title as shown in the Teachers Guide for May Calendar Grid. Alternatively, bring chart paper, markers, and a sample so teachers can prepare charts during or after the meeting.

Number Corner Checkup 4 (TM T6–T10)

1 class set per teacher

Computational Fluency Quick Facts Finale

- Students continue the Quick Facts and Scout Them Out routines to develop mastery of addition facts to 20, as well as to practice the related subtraction facts.

Number Line Adding & Subtracting Tens & Hundreds

- This month's workout focuses on adding and subtracting 10 and 100, and multiples of 10 and 100, from 3-digit numbers.
- Students and teachers may recognize Race Up to One Thousand and Race Back to Zero as more sophisticated versions of the number line game they played last month. Classrooms with more than 20 instructional days left in the school year can benefit from repetition of these games after other activities are complete.

- 13 Once everyone has shared, invite teachers to turn to the May Assessment page in their binders, and quickly discuss Number Corner Checkup 4.

At the end of this month, students will take the last of the quarterly Number Corner checkups. This checkup is designed to assess progress toward the standards listed. Note that the final checkup of the year is not a summative assessment; it does not check *all* of the mathematics skills students have studied over the school year.

The Comprehensive Growth Assessment included in the Assessment Guide can serve as a summative assessment or as the material for creating such an assessment.

- 14 Depending on the needs of your group, spend additional time on Key Questions or differentiation suggestions for each activity.

This article offers some ideas for helping students approach and reflect on the Quick Facts routine: bridges.mathlearningcenter.org/implementation/blog/quick-facts-ready-or-more-practice

More Quick Facts tips:

bridges.mathlearningcenter.org/implementation/blog/quick-facts-tips

Wrap-Up 10 minutes

- 15 Take a few minutes to discuss the end of the school year. Possible topics:

- If your school has an end-of-year parent night or community open house, ask teachers to consider planning to display students' final marble rolls and data, or their survey projects, at the event.
- Let teachers know how to refer students who may need additional support in mathematics in order to approach the work in Grade 3—screening, intervention, summer opportunities, etc.
- You might also stay for a few minutes to talk with teachers who have concerns and questions that weren't addressed during the meeting, or to share some more information from the Bridges blog.
 - » Ideas for having students help clean and organize materials at the end of the year: bridges.mathlearningcenter.org/implementation/blog/wrapping-year-together

