



GRADE 3

Unit 2 Introduction & Planner

Revised for 2020–2021

About Unit 2 Introduction to Multiplication

Unit 2 introduces multiplication in a variety of contexts and with a variety of models, including equal groups, arrays, the number line, and ratio tables.

- In Module 1, students examine arrays that facilitate repeated addition and skip-counting and encourage multiplicative strategies such as doubling and partial products.
- In Module 2, students explore multiples of 2–10 by iterating equal units to help them understand a linear model for multiplication.
- In Module 3, students explore patterns, solve story problems, and explore the ratio table model.
- In Module 4, students solve multi-step problems in the context of data. The problems require the use of a variety of operations—including multiplication and multi-digit addition and subtraction.

Major goals of the unit include nurturing the Standards for Mathematical Practice, introducing and developing a conceptual understanding of multiplication, the inverse operations, properties of operations, and arithmetic patterns.

***NOTE** Unit 2 introduces and develops a conceptual understanding of multiplication; however, students are not expected to demonstrate procedural fluency with multiplication facts within 100 until the end of Unit 5. The Number Corner Computational Fluency workouts will also support multiplication strategy development.*

Identifying Topics for Reengagement

Depending on their experience with the Bridges Grade 2 units of instruction during school closures, students might require opportunities to reengage with the following topics relevant to Unit 2:

- Skip-counting by 2s, 5s, and 10s
- Applying addition doubles facts

- Demonstrating an understanding of rows and columns in the area/array model and equal groups
- Fluently using grouping strategies rather than counting 1 by 1 to determine how many objects there are in an array

To assess students' current level of proficiency with some of these skills and concepts, replace the Unit 2 Pre-Assessment (Module 1 Session 2) with the Unit 2 Screener and associated Screener Implementation Guide. This short diagnostic tool will help to inform your instruction, interventions, and possible modifications to Unit 2. In addition, use selected items from the Baseline Assessment (as indicated in the Screener Implementation Guide), as well as observations and interactions with students during daily instruction, to guide your instructional decisions. **Above all, trust in the resilience and mathematical capabilities of your students, and keep moving forward.**

Recommended Modifications to Unit 2

1. As you begin this unit, you might notice that some students are consistently counting by 1s, rather than using skip-counting or repeated addition strategies. We have identified additional activities from Grade 2 Number Corner Daily Rectangle workouts and Work Places to scaffold an understanding of rows and columns in the area/array model, as well as equal groups.
2. Modules 2 and 3 each include an extra session for Work Place practice and differentiation. In addition to Grade 3 Work Places and Practice Pages, consider using selected Work Places from Grade 2 (listed in the planner later in this document) to provide students “just in time” learning.
3. Continue to use concrete materials like colored tiles with red linear pieces (and later, [grid paper](#)) to support non-count-by-1s strategies, paper-pencil representation, and mental images of quantity.

4. The context for Module 4 is data, which is not a critical area for Grade 3 students. That said, reading a variety of scaled graphs to solve problems will be necessary to solve multi-step problems. Consider spending half a session on these Problems & Investigations and the remaining half-session supporting students at Work Places.
5. We recommend you provide tiles, red linear pieces, and grid paper during every assessment, to allow students to build and sketch the area/array model, rows and columns of equal groups, and consider the dimensions and inverse operations (multiplication and division).
6. Regarding the Unit 2 Post-Assessment (Module 4 Session 4), we recommend that you have all students do only problems 2, 5, 7, and 9. They can be invited to complete some or all of other problems as time and interest allows. Abbreviating the post-assessment in this way reduces the amount of time you have to spend collecting and recording data. Problems 2, 5, 7, and 9 assess the major standards (3.OA.3, 3.OA.4, 3.OA.5, 3.OA.7, and 3.OA.9) and important models (number line and array) with minimal repetition.

Work Places

Consider making adjustments to the Work Places in this unit similar to those suggested in the Unit 1 Planner.

Number Corner

Remember that this year it might be more important than ever to implement Number Corner, as it provides ongoing opportunities to preview, review, and assess key skills.

- If time for Number Corner is limited, prioritize the workouts listed below. These recommendations are based on the major work of the grade level. You might make additional selections based on the needs of your students.

October

- **Calendar Grid** Two-Dimensional Shapes [While geometry is not considered major work of the grade level, the Calendar Grid serves as an important anchor in the flow of math instruction in many classrooms. If you decide to postpone or even skip Unit 6, Geometry, this workout can provide one of the few opportunities to address concepts related to quadrilaterals.]

- **Number Line** Changing Endpoints [Provides opportunities to solve two-step story problems and do multi-digit addition and subtraction while helping students understand that the values on a number line change when the endpoint is assigned a different value. This concept takes on added importance as students move into fractions later in the school year.]
- **Solving Problems** Subtracting Two- and Three-Digit Numbers [Features three problem strings that reinforce models and strategies students worked with in Unit 1 and will work with again in Unit 3.]

Additional Notes

- **Calendar Collector** features skills and concepts related to multi-digit addition and subtraction, fractions, and story problems set in the context of measuring liquid volume in liters and milliliters.
- **Computational Fluency** features Frog Jump Multiplication, a game that is introduced in Unit 2, Module 2, and then moved into Work Places.

November

- **Calendar Grid** Multiplication Arrays [Prepares students to work with the area model of multiplication.]
- **Calendar Collector** Unit Fraction Race [Introduces skills and concepts related to fractions prior to Unit 4.]
- **Number Line** Rounding to the Nearest Ten [Reinforces skills with rounding and place value addressed in Unit 3.]

Additional Notes

- **Computational Fluency:** Students play a game in which they roll two dice, multiply the results, then frame and shade the results on a 10-by-10 grid. After three rounds, they find the sum of the products. Students first play the game as a class and then with a partner. Consider using this game as an additional Work Place during Unit 2 for more practice with dimensions and arrays, as needed.
- **Solving Problems:** Students solve one-step story problems involving addition, subtraction, multiplication, or division and write equations using a variable to represent the unknown quantity.

Grade 3 Unit 2 Introduction to Multiplication Planner

| Module | Session | Session Title | Session Notes | Activities for Reengagement |
|---|---------|--|---|---|
| Module 1 Multiplication in Context | 1 | Pet Store | Teach the entire session. | Focus A Skip-count by 2s, 5s, and 10s |
| | 2 | Unit 2 Pre-Assessment | Teach the entire session. Replace Unit Pre-Assessment with the Unit 2 Screener. | Work Places from Previous Grade Level <ul style="list-style-type: none"> WP1F Count & Compare Fives WP1H Count & Compare Twos Bridges Intervention Volume 5 <ul style="list-style-type: none"> Module 1 Session 1: Equal Groups of Two Module 1 Sessions 2–4: Warm-Ups 1 & 2 Focus B Understand the operation of multiplication and the multiplication array On-Grade Work Place Observations <p>Observe students’ repeated addition strategies while they play WP2A Loops & Groups.</p> Number Corner Workouts from Previous Grade Level October Daily Rectangle : The Day’s Arrays |
| | 3 | Stamps & Assessment Reflections | Teach steps 1–8. Skip steps 9–12. | |
| | 4 | Stamps | Teach the entire session. | |
| | 5 | Seascape Problems Work Place 2A Loops & Groups | Teach the entire session. | |
| | 6 | Seascape Forum | Teach the entire session. | |
| Module 2 Multiplying with Number Lines & Arrays | 1 | Count-Arounds | Teach the entire session, or use the four Checkpoint problems as exit slips. | |
| | 2A | Cube Trains & Multiples Strips, Work Place Practice | Teach session 2, steps 1–10, then go to Work Places for differentiation. | On-Grade Work Place Observations <p>Observe students’ repeated addition strategies and equations while they play WP2B Frog Jump Multiplication and WP2C Cover Up.</p> Work Places from Previous Grade Level <ul style="list-style-type: none"> WP6B Find the Area (use with Geoboard app) WP6C Make the Area (use with Geoboard app) Number Corner Workouts from Previous Grade Level <ul style="list-style-type: none"> November Daily Rectangle: Rows & Columns December Daily Rectangle: Rows & Columns Revisited |
| | 2B | Cube Trains & Multiples Strips, Work Place Practice | Teach session 2, steps 11–18, then go to Work Places for differentiation. | |
| | 3 | Watertown’s Window Washer Work Place 2B Frog Jump Multiplication | Teach the entire session. | |
| | 4 | Wally Keeps Washing | Teach the entire session. | |
| | 5 | The Watertown Post Office Work Place 2C Cover Up | Teach the entire session. | |

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| Module | Session | Session Title | Session Notes | Activities for Reengagement |
|---|---------|--|--|--|
| Module 3 Ratio Tables & the Multiplication Table | 1 | Doubling String & Pet Store Story Problems | Teach the entire session. Use the work sample as a formative assessment of 3.OA.A. | Focus Understand the operation of multiplication and the multiplication array; Develop fact strategies _____ On-Grade Work Place Observations Observe students using the doubling strategy and recording multiplication equations while they play WP2D Doubles Help. Focus on the properties and patterns on the multiplication table. Number Corner Workouts from Previous Grade Level January Daily Rectangle : Arrays on the Hundreds Grid |
| | 2 | Price Lists | Teach the entire session. | |
| | 3 | Multiplication Strategies Part 1 | Teach the entire session. | |
| | 4A | Multiplication Strategies Part 2, Work Place Practice | Teach session 4, steps 1–7. Focus on 10 and 5 as factors and the area model. | |
| | 4B | Multiplication Strategies Part 2, Work Place Practice | Teach session 4, steps 8–9. Focus on 6 and 9 as factors and patterns. | |
| | 5 | Ice Cream Survey Work Place 2D Doubles Help | Teach the entire session. | |
| Module 4 Story Problems with Graphs & Multiple Operations | 1 | Book Lovers Survey | Teach the entire session. | Focus Understand the operation of multiplication and the multiplication array; Develop fact strategies _____ On-Grade Work Place Observations Observe students’ strategies while they play Unit 2 Work Places. Focus on the area/array and number line models, equal groups, and non-count-by-1 strategies for multiplying by 0, 1, 2, 5 and 10. Number Corner Workouts from Previous Grade Level May Daily Rectangle : Arrays to Thirty-One |
| | 2 | Library Books Data | Teach the entire session. | |
| | 3 | Library Book Problems | Teach the entire session. | |
| | 4 | Unit 2 Post-Assessment | Teach the entire session. Recommendation: Have all students do problems 2, 5, 7, and 9 on the post-assessment. Invite them to complete some or all of other problems as time and interest allows. | |