

Unit Meeting 3

Preparing to Teach Unit Four: Measurement: Area and Perimeter and Multi-Digit Multiplication (OR and WA State Supplement)

Recommended Timing

1 hour to 1.5 hours in mid to late January. Can be combined with Number Corner Meeting 3: Preparing to Teach February Number Corner

Materials You'll Need for the Meeting

Each teacher will need to bring:

- Getting Started
- State Supplement*
- pen
- notebook
- sticky notes
- ruler

***Note: If you do not want to write in your copy of the supplement, bring copies of pages A5.59 – A5.60 and D6.24 and D6.26 - D6.27**

The group will need:

- this guide, 1 copy for each teacher
- Getting into the Math of the Unit Four Supplement (Sheet U3.1), 1 copy for each teacher
- Instruction & Assessment of Key Unit Four Supplement Learning Objectives (Sheet U3.2), 1 copy for each teacher
- Sharing Responsibilities for the Unit Four Supplement (Sheet U3.3), 1 copy for each teacher

Part I: Reviewing Roles & Agenda (3 minutes)

Confirm or assign roles of facilitator, record keeper, and timekeeper. Begin the meeting by looking over the agenda on the following page, making sure to note the time and purpose of each section. Because you are using the supplement for most of this unit, the agenda for this meeting is somewhat different from your other meetings. While you could spend more time on each part of the meeting than is indicated below, follow these recommendations as much as possible in order to accomplish the goals of the meeting in about an hour. If you have more than an hour, take a moment now to identify those parts of the meeting where you'd like to spend more time.

| Part | Time | Purpose |
|--|-------------|---|
| I Reviewing Roles & Agenda | 3 minutes | Clarify group members' roles and review what will happen in today's meeting. |
| II Using the Unit Four Supplement | 10 minutes | Become familiar with the Unit Four supplement and locate resource in the Supplement that will be helpful as you plan for and teach the unit |
| III Getting into the Math of the Unit Four Supplement | 25 minutes | Allows you to try out, learn more, and investigate the math in unit four. Helps prepare you to teach the key learning objectives in this unit |
| IV Completing the Instruction & Assessment of Unit Four Supplement Key Learning Objectives Chart | 15 minutes | Identify when the most important learning objectives in the unit will be taught and assessed |
| V Sharing Advance Preparation Responsibilities | 7 minutes | Share responsibilities for preparing to teach the unit among group members and determine the place, date, and time for your next meeting |

Part II: Using the Unit Four Supplement (10 minutes)

In Unit Two, you began using the supplement with just two lessons. Unlike Unit Two, almost the entire Unit Four has been supplemented—only three of the original sessions remain (Sessions 5, 6, and 7). For this unit, you will use lessons almost entirely from the supplement. We recommend putting the Unit Four supplement pages in a binder, having them spiral bound, or developing an organizational system that works for you—which you may have already done.

The Unit Four supplement focuses on Area and Perimeter and Multi-Digit Multiplication. This unit uses Sets D6 and A5, which include the activities, independent worksheets, and assessments that comprise the sessions you will teach.

Start getting familiar with the Unit Four supplement by spending a minute or two looking over the Unit Four Planner and then discuss how you can use the information this planner provides to plan your instruction for the unit. The questions below may help structure your discussion.

- When is the pre-assessment?
- Which sessions are part of the original Bridges Unit Four?
- How often are Home Connections assigned?
- At the end of which sessions will you collect work samples?
- When is the post-assessment?

Then, take a few minutes to locate the following resources in the Unit Four supplement. We recommend marking each resource with a sticky note just as you have done with Units Two and Three. Labeling your sticky notes will help you locate the resources easily in the future.

| Grade 4 Unit Four Supplement Helpful Resources | | |
|---|--|--|
| Pages | Resource | Description |
| Set D6: first page | Set D6 Measure- ment: Area & Perimeter | Lists the activities and worksheets used in this set. Includes the skills and concepts addressed in these activities. Note that activities include pre- and post-assessments as well as games. |
| Set A5: first page | Set A5 Multi-Digit Multiplica- tion | Lists the activities and worksheets used in this set. Includes the skills and concepts addressed in these activities. Note that activities include pre- and post-assessments as well as games. |
| A5.1– A5.10 | Giving and Evaluating the Set A5 Pre- Assessment | Describes how to administer the Pre-assessment and provides item-by-item answer key and scoring suggestions, also includes sample answers. Provides information about what to look for and helps you know how to support your students during the remainder of the Multi-digit Multiplication study. |
| A5.11– A5.12 | Pre- and Post- Assessment Scoring & Comparison | Sheets to see how individual students performed. Filling out both sheets will create a concrete record of student improvement during this study as well as pointing out areas where individual students need more support. |
| A.14– A.16 | Multi-Digit Multiplica- tion Reflection Sheet | Reflection sheets for students to fill out at the beginning of the Multi-Digit Multiplication study. These sheets will help students address their own strengths and needs as well as helping you understand their outlook, competency, and needs. |
| A5.95– A5.104 | Giving and Scoring the Set A5 Post- Assessment | Describes how to administer the Post-assessment and provides item-by-item answer key and scoring suggestions, also includes sample answers. Page A5.96 provides approximate correlations between points scored and levels (e.g. working above, at, or below grade level). |
| Getting Started | | |
| 40–47 | Grade 4 Yearlong Content Synopsis | Shows the components of each Unit (Problems & Investigations, Work Places, Assessments, and Home Connections) and Number Corner month (Workouts, Assessments, and Support Activities). |
| 50 | Yearlong Pacing Chart | This chart shows a recommended calendar for pacing units and Number Corner Studies. In your first year, do not worry if you do not complete all of the units. See notes on pages 52 and 53 regarding what to do if you get behind. |

Part III: Getting into the Math of the Unit Four Supplement (25 minutes)

Developing an understanding of a variety of efficient multiplication strategies and being able to use these strategies effectively and flexibly are critical for fourth graders. Similarly, fourth graders need to be able to understand and use formulas and strategies for finding the area and perimeter of various regular and non-regular shapes. These skills are reflected by the Curriculum Focal Points released in 2006 by the National Council of Teachers of Mathematics and by state standards across the country.

In this section, you will have a chance to get into the mathematical skills and concepts addressed in a more hands-on way. For the next 25 minutes, you'll explore some of the problems, strategies, and visual models featured in this unit, which will help prepare you to guide students toward a deeper and more fluent understanding of multiplication and division. In order to teach mathematics, teachers must have a strong foundation in mathematics themselves.

Use sheet U3.1 to guide your mathematical investigation. The prompts will ask you to imagine ways that your students will solve different kinds of problems and will direct you to key activities in the supplement. Approaching the mathematics from a student's perspective—while also reflecting on how students' strengths, needs, and sources of confusion might impact your teaching—will leave you better prepared to teach this unit.

Part IV: Completing the Instruction & Assessment of Key Unit Four Supplement Learning Objectives Chart (15 minutes)

As a group, read the paragraph at the top of the Instruction & Assessment of Key Unit Four Supplement Learning Objectives (sheet U3.2). Work together with your colleagues to identify when each of the three learning objectives is taught.

Then, work together to identify the assessments that will allow you to determine whether every student in your class has met the three learning objectives. Remember to consider both formative and summative assessments, and don't limit your list to formal paper-and-pencil tasks: also consider opportunities for observation and other informal assessments.

This discussion and exercise should be a collaborative effort. It is important to help and support each other as you continue to work through implementing Bridges. Note that this sheet may be turned in to your administrator, if that is what you agreed upon in the initial meeting.

Part V: Sharing Advance Preparation Responsibilities (7 minutes)

Use the Sharing Responsibilities for the Unit Four Supplement chart (sheet U3.3) to

assign advance preparation tasks to specific group members. For example, one person might take responsibility for running copies of all the blacklines, while someone else agrees to run copies of all the assessment blacklines. If you have reliable parent volunteers or an assistant, you could also use this list to identify what they can do to help you.

Remember to try out the two strategies or solutions you selected during the Successes, Challenges & Solutions section of the last meeting. You will report back on these solutions in the next meeting.

Assign one person to photocopy and distribute finished copies of all the work products from this meeting (including any copies your principal has requested). Also establish the date, time, and location of the next meeting, in which you'll prepare for Unit Five.

Sheet U3.1

Getting into the Math of the Unit Four Supplement

Part III

For each prompt, follow the sequence of activities from left to right. Locate the specified activities in the supplement, read the designated pages, and complete the assigned problems, and then discuss the questions. You can work through the problems independently or together, but do be sure to share your work and discuss the questions. Take notes in the right-hand column—jot down anything that may help you when it is time to teach these activities. You can be flexible in deciding which questions to discuss (or address your own questions).

| Activity | Read | Complete | Share/Discuss | Notes |
|-----------------------|---|---|--|-------|
| Set A5, Activity 8 | A5.55 – A5.60 | 1.) Page A5.59 Double-Digit Multiplication Sketches, Problems 1a and 1b 2.) Page A5.60 Problem 3a, 3b OR 3c | How is the area model for multiplication similar to or different from how you learned multiplication? What is confusing or clarifying to you or to your students? | |
| Set A5, Activity 5 | Introducing the Standard Algorithm, pages A5.35 – A5.38 | Read pages A5.35 – A5.38, focusing in particular on the Instructions parts 2 and 3. | How do the multiplication sketches in Activity 8 relate to the standard algorithm for multiplication? How would the sketches help students understand how to use the standard algorithm? | |
| Set D6, Activity 4 | D6.21 – D6.26 | 1.) Page D6.24 Measuring Hexarights Problems 3a and 3b 2.) Discuss (or complete if you have time) Page D6.26, Hexarights, Perimeter = 24 cm | How would students use formulas for area and perimeter to measure Hexarights? What happens the area of a rectangle as the perimeter gets bigger or smaller? What happens to the perimeter of a rectangle as the area gets bigger or smaller? | |

Sheet U3.2

(Part IV)

Instruction & Assessment of Key Unit Four Supplement Learning Objectives

This unit addresses many important skills and concepts. The three skills on the chart below are arguably the most critical. Record when each skill is taught and assessed; a few examples are filled in for you as a starting point. Keep in mind that paper-pencil assessments are not the only type of assessments—games, discussions, and group work, for example, are all opportunities to gather information about what your students know and where they need support. These features provide recurring opportunities for instruction, practice, and assessment of key skills. Try to identify both formative and summative assessments for each skill.

| Learning Objective | Instruction of Learning Objective | Assessment of Learning Objective |
|---|---|---|
| <p>1. Multiply 2- and 3-digit by 1- and 2-digit numbers, using efficient methods, including the standard algorithm</p> | <p>Key Activities</p> | <p>Key Activities</p> |
| <p>2 Multiply 1- and 2-digit numbers by numbers through 10 and multiples of 10</p> | <p>Key Activities Set A5: Activity 2: Multiplying by 10, 100, and 1,000</p> | <p>Key Activities Set A5: Activity 2: Multiplying by 10, 100, and 1,000</p> |
| <p>3 Determine the perimeters and areas of squares and other rectangles using formulas and explain why the formulas work</p> | <p>Key Activities Set D6: Activity 1: Measuring Area</p> | <p>Key Activities Set D6: Activity 1: Measuring Area</p> |

Sheet U3.3

Sharing Responsibilities for Unit Four

(Part V)

| Task | Team Member | Date Due to Others |
|---|--------------------|---------------------------|
| 1. Run and distribute copies of the completed master copies of the Instruction & Assessment of Key Unit Four Supplement Learning Objectives sheet and this Sharing Responsibilities for the Unit Four Supplement sheet. This includes providing your principal with a copy of any sheets she or he has requested. | | |
| 2. Prepare for and host Meeting 4. This involves some prep work (e.g., copies). | | |
| 4. Run off copies of all Blacklines for Set D6 for each class | | |
| 5. Run off copies of Blacklines needed for Set A5 for each class. Note—do not run assessment or assessment-related Blacklines—see below | | |
| 6. Run off copies of all assessments and assessment related Blacklines for Set A5 for each class. See Activity 1 (page A5.1) and Activity 14 (page A5.95) for the lists of assessments. | | |
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