



Previewing Unit Content for English Language Learners

Multiplication and Division Strategies and Story Problems

As students continue to refine their ability to use strategies efficiently to multiply and divide with large numbers, English Language Learners may need additional support to explain their strategies and reasoning and to write their own story problems. Encourage students to sketch their ideas first and then get help putting them into words. Classroom tools such as color tiles and grid paper (used for arrays) provide visual images of multiplication and division. Encourage English Language Learners to use those visual images to help communicate their ideas.

Vocabulary To support English Language Learners, preview and reinforce vocabulary using concrete models and/or visuals. For example, before Session 1.1, meet with English Language Learners to review the language involved in working with *arrays*. Make an array (e.g., 4×5) with color tiles and say: **The tiles are arranged in an array.** Have students identify the number of tiles in each *row* and *column*. Point out that those numbers represent the *dimensions* of the array. Help students see, for example, that each *row* is a *group* of tiles, and the number of rows is the *number of groups* in the *array*. **How many tiles are in this array? How do you know?** As new math terms are introduced, add them to the Math Vocabulary chart with examples. Use the *Math Words and Ideas* digital resource for additional support.

Preparing for Class Discussions To help English Language Learners develop confidence in explaining their reasoning and sharing their story problems, give them opportunities to rehearse their ideas with partners before sharing with the whole class. Make a chart (e.g., *Words I Can Use*) for English Language Learners to reference as they prepare to explain their thinking. Include sequential terms such as *first*, *next*, *then*, and *finally*; encourage students to use those terms when explaining the steps they used to solve problems. Also include terms such as *compare*, *same*, *similar*, *different*, *more than*, *less than*, *greater than*, *equal*, and *related*; encourage students to use those terms when comparing their reasoning with that of their classmates. As new terms are introduced, add them to the chart and include specific examples.

Games Play a few rounds of each new game with English Language Learners prior to having them participate in the whole-class activity. Introduce the vocabulary of the new games and review the rules. For example, before students play *Multiplication Compare* (in Session 2.3), demonstrate thinking aloud as you take a few turns, emphasizing terms such as *compare*, *greater*, *product*, and *equal*. Encourage students to do the same, and to help each other explain how they know which product is greater.

Expanded Differentiation Activities

These activities, which take between 15 and 30 minutes, can be done in small groups, in pairs, or with individuals. It may be appropriate for some students to complete more than one of the activities within an investigation or unit.

INVESTIGATION 1 Properties of Numbers

- Intervention: **Multiples and Factors**
Use after Session 1.2.
- Practice: **Number Puzzles with 4 Clues**
Use after Session 1.3.
- Extension: **Another Number Puzzle**
Use after Session 1.3.

INVESTIGATION 2 Multiplication Strategies

- Intervention: **Breaking Numbers Apart**
Use after Session 2.1.
- Practice: **Multiplying 2-Digit by 2-Digit Numbers**
Use after Session 2.1.
- Extension: **Multiplication Compare with Digit Cards**
Use after Session 2.4.

INVESTIGATION 3 Division Strategies

- Intervention: **Building Multiple Towers**
Use after Session 3.2.
- Practice: **Dividing by 2-Digit Numbers**
Use after Session 3.5.
- Extension: **Creating Cluster Problems**
Use after Session 3.5.

	SESSION	INTERVENTION	PRACTICE	EXTENSION	ELL SUPPORT
INVESTIGATION 1	1.1	●			●
	1.2	● ■		●	● ■
	1.3		■	● ■	● ■ ■
	1.4	●		●	●
	1.5				
INVESTIGATION 2	2.1	● ■	■		● ■ ■
	2.2	●			●
	2.3	●			●
	2.4	● ● ●		● ● ■	● ■
	2.5				
	2.6	●		●	●
	2.7	●		●	●
INVESTIGATION 3	3.1				●
	3.2	● ■			■
	3.3	●			●
	3.4	●			●
	3.5	●	■	● ■	● ■ ■
	3.6	●		●	●
	3.7				

- Session-level support
- Expanded Differentiation Activity

Supporting the Range of Learners

See *Implementing Investigations in Grade 5* for more information.

The *Investigations* program is designed to engage and support the range of learners. Throughout the unit, you will find session-specific suggestions for Intervention and Extension in the **Differentiation: Supporting the Range of Learners** feature.

Each Intervention or Extension is labeled with a specific strategy to support students with the content of the session. These strategies include:

- Adapt the Learning Situation
- Adapt the Problem
- Adapt a Material
- Clarify the Problem
- Vary the Problem
- Scaffold a Solution
- Extend Thinking
- Suggest a Tool

At the end of each investigation, you will find three different **Expanded Differentiation Activities** to address the needs of the range of learners.

- **Intervention** activities are designed to support the students who are having difficulty with a particular concept.
- **Practice** activities provide additional opportunities for students to practice important ideas and concepts.
- **Extension** activities support and engage students who are ready for additional challenges.

Supporting English Language Learners (ELL)

See *Implementing Investigations in Grade 5* for more information.

In each of the **Expanded Differentiation Activities** and in some sessions, you will find embedded ELL support, again labeled with a specific strategy. These strategies include:

- Model Thinking Aloud
- Partner Talk
- Provide Vocabulary Support
- Provide Sentence Stems
- Repeat and Clarify
- Provide a Sequence
- Provide Opportunities for Practice
- Allow Varied Responses