Instructional Groupings

Subject Math
Teacher [redacted]
Class/Report Group
Grade 6
Diagnostic Most Recent

Key
- *Mid or Above Grade Level*
- *Early On Grade Level*
- *One Grade Level Below*
- *Two Grade Levels Below*
- *Three or More Grade Levels Below*

All Groupings

Grouping 1 (5 Students)	Grouping 2 (7 Students)	Grouping 3 (0 Students)	Grouping 4 (4 Students)	Grouping 5 (5 Students)
[redacted]				

Grouping 1

5 Students

Students

Showing 5 of 5

Student	Scale Score	Overall Placement	NO	ALG	MS	GEO
[redacted]	453	Grade 4	Grade 4	Grade 4	Grade 5	Grade 3
	467	Grade 5	Grade 5	Grade 4	Grade 5	Grade 2
	418	Grade 2	Grade 2	Grade 1	Grade 3	Grade 2
	457	Grade 4	Grade 4	Grade 5	Grade 4	Grade 3
	461	Grade 4	Grade 4	Grade 5	Grade 5	Grade 4

Students in this Grouping are two or more grade levels below in Number and Operations or Algebra and Algebraic Thinking.

*** Student Needing Additional Differentiated Instruction**

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Results indicate that these students are significantly behind in the quantitative areas of number, operations, and algebraic thinking. These students are likely to need review of many other foundational skills in the quantitative areas of number, operations, and algebraic thinking before they are ready for the level of instruction described here.

For more information about differentiating instruction to meet their needs, see their individual Student Profiles.

Instructional Priorities

Students in this profile are having difficulty with skills and concepts related to quantitative reasoning; they may struggle with skills and concepts related to fractions and whole-number operations, or they may struggle with algebraic concepts related to factors and multiples, or both.

Those students with a low score in Number and Operations are probably most challenged by fractions. They will need to focus on foundational fraction concepts in order to understand that a fraction is one number that represents a quantity, not just "one number over another number." They will need practice with how to compare fractions with different denominators, or how to express fractions as equivalent fractions or decimals. Those students with a low score in Algebra and Algebraic Thinking probably lack a sound understanding of the relationship between factors and multiples, and may be held back by lack of fluency with multiplication and division facts. They will particularly benefit from instruction on the concepts and skills described below in the section *Algebraic Thinking.* In addition to daily practice to develop fluency with basic multiplication and division facts, all students in this profile are also likely to need reinforcement of essential vocabulary.

Recommendations for Teacher-Led Instruction

Operations

- Add and subtract multi-digit numbers.
- Multiply three-digit numbers by one-digit numbers.
- Divide three-digit numbers by one-digit numbers.

Students who struggle with operations involving regrouping in any of the four operations often lack the conceptual understanding that drives the algorithms. These students may benefit from working with concrete or visual models, or alternative algorithms, in order to focus on the place value concepts behind the process. Once students understand why the process works, they can be guided to see the relationship between the models and algorithms, and eventually use a more efficient algorithm alone.

Number-Fractions

- Decompose a fraction into a sum of fractions with like denominators.
- Compare fractions with unlike denominators.
- Write equivalent fractions, including fractions in simplest terms.
- Write fractions with denominators of 10 or 100 as decimals.
- Add and subtract fractions and mixed numbers with like denominators.

Use models to reinforce at every opportunity what fraction notation represents. Be consistent about reading fraction names appropriately (*two thirds* rather than *two over three*) to help students strengthen their understanding that, for example, *two thirds* means *two copies of one third.* Use a variety of manipulatives to assist students in exploring fractions including hundred grids, fraction strips, counters, and number lines. Provide frequent practice adding like fractions, comparing unlike fractions, and finding equivalent fractions on number lines as well as with area models and set models.

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Algebraic Thinking

- Identify factor pairs for numbers to 100.
- Identify multiples of whole numbers with products to 100.
- Identify number patterns.

Identifying factors and multiples plays a role in dividing multi-digit numbers, finding a common factor to simplify fractions, and finding a common multiple to add or subtract unlike fractions. The ability to identify factors and multiples also provides a foundation for factoring algebraic expressions in later years. Give students ample opportunity to determine the factor pairs for a given number in various situations, such as finding the side lengths of all rectangles with a given area. Recognize that students often confuse the terms *factor* and *multiple* with each other; encourage students to use their own best strategies for learning the difference.

Fluency

- Know multiplication and division fact families through 100.

The students in this group may have difficulty recalling basic multiplication facts. Discuss with them strategies for remembering facts, or recalling facts based on other known facts. Give students smaller goals for remembering facts, starting first with 1s, 2s, 5s, and 10s, then moving on to the more difficult-to-recall facts. Remind students that once they know one fact in a family, they can use that fact to recall the other facts in the family.

Provide daily practice as necessary. Have each student keep a personal record of which facts they know and which they still need to learn.

Essential Vocabulary

- Math terms related to essential concepts at this level include *fraction, numerator, denominator, equivalent, factor, multiple, product, quotient, dividend,* and *divisor*.

Fluency with select math vocabulary terms enables students to understand instruction, follow directions, process and discuss mathematical ideas, and work more confidently. Help students build essential math vocabulary, especially by encouraging them to use the words in discussions.

Resources

Tools for Instruction

English (21) | Spanish (21)

Number and Operations

- Add Multi-Digit Numbers
- Subtract Multi-Digit Numbers
- Multiply by One-Digit Numbers
- Divide Three-Digit by One-Digit Numbers
- Compare Fractions
- Equivalent Fractions

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- Write Fractions as Decimals
- Compare Decimals to Hundredths
- Multiply by Two-Digit Numbers
- Divide Four-Digit by One-Digit Numbers
- Understand Fraction Addition and Subtraction
- Add and Subtract Fractions
- Add Tenths and Hundredths
- Understand Fraction Multiplication

Algebra and Algebraic Thinking

- Factors
- Multiples
- Numeric Patterns
- Multiplication as Comparison
- Solve Comparison Problems
- Solve Multi-Step Word Problems
- Identify True and False Equations

Additional Resources

Ready® Mississippi Math Instruction
Or
Digital access to Ready® through Teacher Toolbox

Grade 4

- Lesson 1: Understand Place Value
- Lesson 2: Compare Whole Numbers
- Lesson 3: Add and Subtract Whole Numbers
- Lesson 4: Round Whole Numbers
- Lesson 5: Understand Multiplication
- Lesson 6: Multiplication and Division in Word Problems
- Lesson 7: Multiples and Factors
- Lesson 8: Number and Shape Patterns
- Lesson 9: Model Multi-Step Problems

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Lesson 10: Solve Multi-Step Problems
Lesson 11: Multiply Whole Numbers
Lesson 12: Divide Whole Numbers
Lesson 13: Understand Equivalent Fractions
Lesson 14: Compare Fractions
Lesson 15: Understand Fraction Addition and Subtraction
Lesson 16: Add and Subtract Fractions
Lesson 17: Add and Subtract Mixed Numbers
Lesson 18: Understand Fraction Multiplication
Lesson 19: Multiply Fractions
Lesson 20: Fractions as Tenths and Hundredths
Lesson 21: Relate Decimals and Fractions
Lesson 22: Compare Decimals

Grouping 2
7 Students

Students

Showing 7 of 7

Student	Scale Score	Overall Placement	NO	ALG	MS	GEO
[redacted]	491	Grade 5	Grade 5	Early 6	Grade 5	Grade 5
	506	Early 6	Grade 5	Early 6	Mid 6	Mid 6
	466	Grade 5	Grade 5	Grade 5	Grade 5	Grade 3
	488	Grade 5	Early 6	Grade 5	Grade 5	Grade 5
	494	Grade 5	Early 6	Grade 5	Early 6	Early 6
	463	Grade 4	Grade 5	Grade 5	Grade 3	Grade 3
	495	Early 6	Grade 5	Grade 5	Early 6	Mid 6

Students in this Grouping are one grade level below in Number and Operations or Algebra and Algebraic Thinking.

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Instructional Priorities

Students in this profile are having difficulty with skills and concepts related to quantitative reasoning and representation; this may include concepts related to operations with decimals and fractions or algebra skills related to number patterns and expressions, or both.

Those students with a low score in Number and Operations may struggle with understanding the relative size of decimals and fractions and have difficulty with comparing decimals and fractions. These students will benefit from review of foundational fraction and base-ten decimal representation in order to understand operations with these numbers. Those students with a low score in Algebra and Algebraic Thinking may have trouble identifying and expressing relationships between numbers; they will particularly benefit from instruction on the concepts and skills described below in the section *Algebraic Thinking*. All students in this profile likely need to develop fluency with basic multiplication and division facts. They also likely need reinforcement of essential vocabulary.

Recommendations for Teacher-Led Instruction

Number-Base Ten

- Read, write, and compare decimals through thousandths.
- Express decimals through thousandths as fractions.

Students will benefit from repeated reminders that with decimals, as with whole numbers, each place is 10 times the value of the one to the right. This may help them understand why decimal places start with tenths. This group will also benefit from being able to use decimal grids and play money to model decimals and compare or reason with decimals.

Operations

- Add and subtract decimals.
- Multiply decimals through hundredths.

Students who struggle with multi-digit operations often lack the conceptual understanding that drives the algorithms. These students may benefit from working with alternative algorithms that focus on the number sense and place value concepts and properties of operations. For example, 0.2 × 0.2 can be "translated" to 2 times a tenth times 2 times a tenth, or 2 times 2 times a tenth of a tenth, or 4 times a hundredth. Once students focus on the meaning of the expression, they can be guided to understand the standard algorithm.

Number-Fractions

- Add and subtract fractions and mixed numbers with unlike denominators.
- Multiply a fraction by a whole number.
- Multiply fractions.

Use a variety of manipulatives to assist students in exploring fractions, such as grids, fraction strips, fraction circles, two-color counters, area models, and so on. Give students repeated opportunities to practice adding and subtracting fractions with unlike denominators, with an emphasis on understanding the reason for first finding a common denominator. For multiplying fractions, guide students to use array models. Have the students then explain how the array model relates to the number sentence and find real-life examples of fractions of arrays, such as half of a dozen eggs. In all cases, use fractions that are easy to grasp; until students are comfortable, avoid problems that yield denominators greater than about 16.

Algebraic Thinking

- Analyze and extend numeric patterns.

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- Evaluate expressions with grouping symbols.

These introductory pre-algebra skills require students to think in new, somewhat more abstract ways. Have students first analyze very simple number patterns, such as adding two; and then make their own. Have the students try to find the next number in each other´s number patterns. Have the solver and the pattern maker discuss how the pattern was developed and solved. As students continue to talk about how patterns are made, they will become more familiar with the types of number patterns they may see.

Fluency

- Know multiplication and division fact families through 100.

The students in this group may have difficulty recalling basic multiplication facts. Discuss with them strategies for remembering facts, or recalling facts based on other known facts, such as that multiplying by 4 is the same as multiplying by 2 twice. Give students small goals for remembering facts, building mastery of a few facts at a time. Have each student keep a personal record of which facts they know and which they still need to learn.

Essential Vocabulary

- Math terms related to essential concepts at this level include *tenths, hundredths, thousandths, numerator, denominator, common denominator, common multiple,* and *equivalent*.

Fluency with select math vocabulary terms enables students to understand instruction, follow directions, process and discuss mathematical ideas, and work more confidently. Help students build essential math vocabulary, especially by encouraging them to use the words in discussions.

Resources

Tools for Instruction

English (23) | Spanish (23)

Number and Operations

- Read and Write Decimals to Thousandths
- Compare Decimals to Thousandths
- Multiply Decimals
- Add Fractions with Unlike Denominators
- Multiply a Whole Number and a Fraction
- Multiply Fractions
- Subtract Fractions and Mixed Numbers with Unlike Denominators
- Understand Fraction Multiplication
- Understand Multiplication as Scaling
- Multiplying Fractions to Solve Word Problems
- Interpreting Fractions as Division