Unit 5: Add and Subtract Decimals

Content Area: **Template**
Course(s):
Time Period: **Full Year**
Length: **Full Year**
Status: **Published**

UNIT RATIONALE

This unit expands the study of place value to include decimals. An understanding of place value in decimals is essential in order for students to move on to reading, interpreting, and comparing decimals in later study. Writing numbers in expanded form helps student to the remember the relationship between the place values in any particular number and will help them understand the methodology behind comparing decimals as well as performing operations on decimals. Concrete and visual models will be used as students add and subtract decimals. The use of models will support students as they transition to apply other strategies to add and subtract decimals. They will use reasonableness to check their answers.

MA.5.NBT.A.1	Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left.
MATH.5.NBT.A.3.a	Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., 347.392 = 3 × 100 + 4 × 10 + 7 × 1 + 3 × (1/10) + 9 × (1/100) + 2 × (1/1000).
MATH.5.NBT.A.3.b	Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.
MA.5.NBT.B.7	Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.

ESSENTIAL QUESTIONS

How do mathematicians use place value to understand multi-digit decimal numbers?

How do mathematicians use place value to add and subtract decimals?

STANDARDS

NEW JERSEY STUDENT LEARNING STANDARDS: CONTENT AREA

MATH.5.NBT.A.1	Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left.
MATH.5.NBT.A.3.a	Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., 347.392 = 3 × 100 + 4 × 10 + 7 × 1 + 3 × (1/10) + 9 × (1/100) + 2 × (1/1000).
MATH.5.NBT.A.3.b	Compare two decimals to thousandths based on meanings of the digits in each place,

	using >, =, and < symbols to record the results of comparisons.
MATH.5.NBT.A.4	Use place value understanding to round decimals to any place.
MATH.5.NBT.B.7	Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.

NEW JERSEY STUDENT LEARNING STANDARDS: CAREER READINESS, LIFE LITERACIES AND KEY SKILLS

TECH.9.4.5.IML.2	Create a visual representation to organize information about a problem or issue (e.g., 4.MD.B.4, 8.1.5.DA.3).

NEW JERSEY STUDENT LEARNING STANDARDS: COMPUTER SCIENCE AND DESIGN THINKING

CS.3-5.8.2.5.ED.3	Follow step by step directions to assemble a product or solve a problem, using appropriate tools to accomplish the task.

PRE-ASSESSMENTS

Module 13 Decimal Place Value "Are You Ready?" pg 318

Module 14 Add and Subtract Decimals "Are You Ready?" pg 338

INSTRUCTIONAL PLAN

MODULE 14

Module 14: Add and Subtract Decimals

LESSON 14.3

Student Learning Intentions (SLI) WALT: (We are learning to…)	14.3 We are learning to assess reasonableness of sums and differences

Student Learning Strategies	• Use Rounding • Use a Number Line and Benchmarks • Notetaking • Partner Work
Success Criteria	I can use benchmarks or rounding to check the reasonableness of decimals sums and differences
Formative Assessment (drives instructional decisions)	Turn and Talk (pg 347,348) Check Understanding (pg 349) Exit Ticket (TM pg 350)
Activities and Resources	**Warm-Up**: Activate Prior Knowledge (TM pg 347B) **Mini-Lesson**: Spark Your Learning (pg 347), Build Understanding (pg 348) Step It Out (pg 349) **Guided Practice**: Check Understanding (pg 349) **Independent Practice**: On Your Own (pg 350) and Exit Ticket (TM pg 350)
Suggested Modifications	Plan For Differentiated Instruction (TM pg 347C)

5.NBT.B.7

LESSON 14.2

Student Learning Intentions (SLI) WALT: (We are learning to…)	14.2 We are learning to represent decimal subtraction
Student Learning Strategies	• Use a Quick Picture • Use Decimal Models • Partner Work • Active Listening
Success Criteria	I can use concrete models or drawings to represent

	decimal subtraction.
Formative Assessment (drives instructional decisions)	Turn and Talk (pg 343, 344) Check Understanding (pg 345) Exit Ticket (TM pg 346)
Activities and Resources	**Warm-Up**: Activate Prior Knowledge (TM pg 343B) **Mini-Lesson**: Spark Your Understanding (pg 343) Build Understanding (pg 344-345) **Guided Practice**: Check Understanding (pg 345) **Independent Practice**: On Your Own (pg 346) and Exit Ticket (TM pg 346)
Suggested Modifications	Plan For Differentiated Instruction (TM pg 343C)

MA.5.NBT.B.7	Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.

LESSON 14.1

Student Learning Intentions (SLI) WALT: (We are learning to…)	14.1 We are learning to represent decimal addition
Student Learning Strategies	• Quick Picture • Decimal Model • Error Analysis
Success Criteria	I can use concrete models or drawings to represent decimal addition
Formative Assessment (drives instructional decisions)	Turn and Talk (pg 339, 340, 341) Check Understanding (pg 341) Exit Ticket (pg TM 342)
Activities and Resources	**Warm-Up**: Activate Prior Knowledge (TM 339B) **Mini-Lesson**: Spark Your Learning (pg 339) Build Your Understanding (pg 340 - 341) **Guided Practice**: Check Understanding (pg 341) **Independent Practice**: On Your Own (pg 342)

Suggested Modifications	Plan for Differentiated Instruction (TM pg 339C)

MA.5.NBT.B.7	Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.

LESSON 14.4

Student Learning Intentions (SLI) WALT: (We are learning to…)	14.4 We are learning to add decimals
Student Learning Strategies	• Error Analysis • Partner Work • Summarizing
Success Criteria	I can use a written method and strategies based on place value to add decimals
Formative Assessment (drives instructional decisions)	Turn and Talk (pg 351, 352) Check Understanding (pg 352) Exit Ticket (TM pg 354)
Activities and Resources	**Warm-Up**: Activate Prior Knowledge (TM pg 351B) **Mini-Lesson**: Step It Out (pg 351-352) **Guided Practice**: Check Understanding (pg 352) **Independent Practice**: On Your Own (pg 353-354) and Exit Ticket (TM pg 354)
Suggested Modifications	Plan For Differentiated Instruction (TM pg 351C)

MA.5.NBT.B.7	Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.

LESSON 14.5

Student Learning Intentions (SLI) WALT: (We are learning to…)	14.5 We are learning to subtract decimals

Student Learning Strategies	• Error Analysis • Concept Map • Active Listening
Success Criteria	I can use a written lesson and strategies based on place value to subtract decimals
Formative Assessment (drives instructional decisions)	Turn and Talk (pg 355, 356) Check Understanding (pg 356) Exit Ticket (TM pg 358)
Activities and Resources	**Warm-Up**: Activate Prior Knowledge (TM pg 355B) **Mini-Lessons**: Step It Out (pg 355-356) **Guided Practice**: Check Understanding (pg 356) **Independent Practice**: On Your Own (pg 357-358)
Suggested Modifications	Plan for Differentiated Instruction (TM pg 355C)

MA.5.NBT.B.7	Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.

LESSON 14.6

Student Learning Intentions (SLI) WALT: (We are learning to…)	14.6 We are learning to use strategies and reasoning to add and subtract decimals
Student Learning Strategies	• Error Analysis • Questioning • Deliberate Practice
Success Criteria	I can add and subtract decimals by using reasoning and strategies involving addition properties or friendly numbers.
Formative Assessment (drives instructional decisions)	Turn and Talk (pg 359, 360) Check Understanding (pg 360) Exit Ticket (TM pg 362)

Activities and Resources	**Warm-Up**: Activate Prior Knowledge (TM pg 359B) **Mini-Lesson**: Step It Out (pg 359 - 360) **Guided Practice**: Check Understanding (pg 360) Independent Practice: On Your Own (pg 361 - 362) and Exit Ticket (TM pg 362)
Suggested Modifications	Plan For Differentiated Instruction (TM pg 359C)

MA.5.NBT.B.7	Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.

MODULE 13

Module 13 Decimal Place Value

LESSON 13.1

Student Learning Intentions (SLI) WALT: (We are learning to…)	13.1 We are learning to understand thousandths.
Student Learning Strategies	• Use a Place Value Chart • Use Repeated Addition • Active Listening • Partner work
Success Criteria	I can describe the relationship between two decimal place value positions to the thousandths place.
Formative Assessment (drives instructional decisions)	Turn and Talk (pg 319, 321) Check Understanding (pg 321) Exit Ticket (TM pg 322)
Activities and Resources	**Warm-up**: Activate Prior Knowledge (TM pg 319B) **Mini-Lesson**: Spark Your Learning (pg 319), Build Your Understanding (pg 320 & 321) **Guided Practice**: Check Understanding (pg 321)

	Independent Practice: On Your Own (pg 322)
Suggested Modifications	Plan for Differentiated Instruction (TM pg 319)

MA.5.NBT.A.1	Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left.

LESSON 13.2

Student Learning Intentions (SLI) WALT: (We are learning to…)	13.2 We are learning to read and write decimals to thousandths.
Student Learning Strategies	• Read a Decimal to Thousandths • Understand Decimal Place Value • Notetaking • Partner Work
Success Criteria	I can read, write, and represent decimals to thousandths.
Formative Assessment (drives instructional decisions)	Turn and Talk (pg 323, 324, 325) Check Understanding (pg 325 Exit Ticket (TM pg 326)
Activities and Resources	**Warm-up**: Activate Prior Knowledge (TM pg 323) **Mini-Lesson**: Spark Your Learning (pg 323) Build Understanding (pg 324-325 **Guided Practice**: Check Understanding (pg 325) **Independent Practice**: On Your Own (pg 326)
Suggested Modifications	Plan For Differentiated Instruction (TM 323)

MATH.5.NBT.A.3.a	Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., 347.392 = 3 × 100 + 4 × 10 + 7 × 1 + 3 × (1/10) + 9 × (1/100) + 2 × (1/1000).

LESSON 13.3

Student Learning Intentions (SLI) WALT: (We are learning to…)	13.3 We are learning to round decimals
Student Learning Strategies	• Use Place Value • Use a Number Line • Active Listening • Partner Work
Success Criteria	I can use an understanding of place value to round decimals to a given place.
Formative Assessment (drives instructional decisions)	Turn and Talk (pg 327, 328, 329) Check Understanding (pg 329) Exit Ticket (TM pg 330)
Activities and Resources	**Warm-Up**: Activate Prior Knowledge (TM pg 327B) **Mini-Lesson**:Spark Your Learning (pg 327) Build Understanding (pg 328) Step It Out (pg 329) **Guided Practice**: Check Understanding (pg 329) **Independent Practice**: On Your Own (pg 330) Exit Ticket (TM pg 330)
Suggested Modifications	Plan For Differentiated Instruction (TM pg 327C)

MA.5.NBT.A.4 Use place value understanding to round decimals to any place.

LESSON 13.4

Student Learning Intentions (SLI) WALT: (We are learning to…)	13.4 We are learning to compare and order decimals.
Student Learning Strategies	• Error Analysis: Round to Compare • Notetaking • Partner Work
Success Criteria	I can use place value to compare and order decimal to thousandths

Formative Assessment (drives instructional decisions)	Turn and Talk (pg 331,332) Check Your Understanding (pg 332) Exit Ticket (TM pg 334)
Activities and Resources	**Warm-Up**: Activate Prior Knowledge (TM pg 331B) **Mini-Lesson:** Step It Out (pg 331-332) **Guided Practice**: Check Understanding (pg 332) **Independent Practice**: On Your Own (pg 333-334) and Exit Ticket (TM pg 334)
Suggested Modifications	Plan for Differentiated Instruction (TM pg 331C)

MATH.5.NBT.A.3.b	Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.

REFLECTIONS

INTERDISCIPLINARY CONNECTIONS: NEW JERSEY STUDENT LEARNING STANDARDS FOR ELA, SOCIAL STUDIES, SCIENCE AND/OR MATHEMATICS

LA.W.5.1.B	Provide logically ordered reasons that are supported by facts and details from text(s), quote directly from text when appropriate.
LA.W.5.1.C	Link opinion and reasons using words, phrases, and clauses (e.g., consequently, specifically).
LA.W.5.2.D	Use precise language and domain-specific vocabulary to inform about or explain the topic.