



SPRINGFIELD PUBLIC SCHOOLS
ENGAGING STUDENTS • FOSTERING ACHIEVEMENT • CULTIVATING 21ST CENTURY GLOBAL SKILLS

Springfield Public Schools
Springfield, New Jersey 07081

Curriculum Guide

Math
Grade 4

2024

This curriculum may be modified through varying materials, techniques, and strategies as per an individual student's IEP.

Springfield Board of Education
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Springfield Public Schools Springfield, New Jersey

**Rachel Goldberg
Superintendent of Schools**

**Erica Scudero
Assistant Superintendent**

Curriculum Developed By:

Gregory Salmon ~ STEM Supervisor

Jeneva Fiamingo ~ 4th Grade Teacher

Kelly Correia ~ 4th Grade Teacher



Unit Overview Template

Content Area:	Math	Grade Level:	4	Unit Title:	1A: Place Value and Operations with Whole Numbers
Unit Summary:	This unit extends students' understanding of adding and subtracting whole numbers.				
Primary Interdisciplinary Connections:	<i>Science, Engineering, English Language Arts</i>				
21st Century Themes	☒ Creativity and Innovation ☒ Critical Thinking and Problem Solving ☐ ICT Literacy ☐ Information Literacy ☐ Life and Career Skills ☒ Communication and Collaboration ☐ Media Literacy				
Unit Rationale:	To examine different uses and equivalent names for numbers and review the base-10 place value system. To review procedures for addition and subtraction of multi-digit whole numbers.				
Career Readiness (Standard 9):	9.1.5.CR.1: Compare various ways to give back and relate them to your strengths, interests, and other personal factors. 9.4.5.CI.3: Participate in brainstorming sessions with individuals with diverse perspectives to expand one's thinking about a topic of curiosity (e.g., 8.2.5.ED.2, 1.5.5.CR1a). 9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process (e.g., 2.1.5.EH.4, 4-ESS3-1, 6.3.5.CivicsPD.2). 9.4.5.DC.4: Model safe, legal, and ethical behavior when using online or offline technology (e.g., 8.1.5.NI.2).				

Learning Targets

Standards:	4.NBT
Content Statements:	Generalize place value understanding for multi-digit whole numbers; Use the four operations with whole numbers to solve problems. Use place value understanding and properties of operation to perform multi-digit arithmetic.
CPI#:	Cumulative Progress Indicator (CPI):
4.NBT.A.1	Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. For example, recognize that $700 \div 70 = 10$ by applying concepts of place value and division.
4.NBT.A.2	Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using $>$, $=$, and $<$ symbols to record the results of comparisons.
4.NBT.A.3	Use place value understanding to round multi-digit whole numbers to any place.
4.NBT.B.4	With accuracy and efficiency, add and subtract multi-digit whole numbers using the standard algorithm.
SEL.PK-12.1.1	Recognize one's feelings and thoughts.
SEL.PK-12.2.1	Understand and practice strategies for managing one's own emotions, thoughts and behaviors.



SEL.PK-12.4.1	Develop, implement and model effective problem solving and critical thinking skills.
SEL.PK-12.5.2	Utilize positive communication and social skills to interact effectively with others.
3-5-ETS1-2	Generate and compare multiple solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.
W.4.5	With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising and editing.

Unit Essential Questions:

- How will you use understanding of place value, rounding, and addition and subtraction when working with three-digit numbers?
- How will reading, writing, and comparing numbers to hundred thousands help you recognize that a digit in one place has 10 times the value it would have in the place to its right?
- How do you use a standard algorithm for adding and subtracting whole numbers?
- How do you round numbers to a specified place value, and round numbers to estimate solutions to problems?

Unit Enduring Understandings:

- To reinforce understanding of place value for multi-digit numbers.
- To reinforce the reading and writing of multi-digit numbers and ways to compute them.
- To demonstrate the ability to compare multi-digit numbers.

Unit Learning Targets:

Students will....

- record numbers and demonstrate understanding of place value.
- compute multi-digit numbers with accuracy and demonstrate ability to read and write multi-digit numbers.
- understand rounding to any place.
- compare two multi-digit numbers using greater than, less than, and equal to.



Evidence of Learning

Summative Assessment: Unit 1A assessment

Equipment Needed: Laptop, iPads, base-ten blocks, hundreds place-value charts, open number lines, 200 charts.

Teacher Resources: Curriculum Map, i-Ready Teacher's Guide, Teacher Toolbox, Student Workbook

Formative Assessments:

- i-Ready Diagnostic 1
- OnCourse Assessments
- Lesson Quizzes
- Unit Tests
- Exit Tickets
- Self Checks
- Reflect Questions
- Student Workbook
- Timed Math Facts
- Written Assessments
- Open Response Questions
- Teacher Observations
- Small group and whole class discussions



Lesson Plans

Lesson	Time Frame
Lesson 1 Understand Place Value	3 days
Lesson 2 Compare Whole Numbers	3 days
Lesson 3 Round Whole Numbers	3 days

Teacher Notes:

i-Ready Teacher Toolbox, i-Ready Discussion Cards, fact tables, i-Ready assigned virtual lessons, Math in Action, Digital Comprehension Checks

Curriculum Development Resources/Technology Resources:

<https://login.i-ready.com/educator>

<http://tasks.illustrativemathematics.org/4>

<https://www.brainpop.com/login>

www.ixl.com

[Grade 4 CAR - Unit 1A Map](#)

[NJ Student Learning Standards for Mathematics Grade 4](#)



Lesson Plan 1 Template

Content Area: Math Lesson Title: Understand Place Value Time Frame: 3 days

Lesson Components

21st Century Themes

- ☐ Global Awareness ☒ Financial, Economic, Business and Entrepreneurial Literacy
☐ Civic Literacy ☐ Health Literacy

21st Century Skills

- ☐ Creativity and Innovation ☐ Critical Thinking and Problem Solving ☒ Information Literacy
☒ Life and Career Skills ☐ Communication and Collaboration ☒ Media Literacy ☐ ICT Literacy

Interdisciplinary Connections: English Language Arts, Science and Engineering

Integration of Technology: iPads, Projector

Equipment Needed: Laptop, iPads, i-Ready Teacher Guide, base-ten blocks, hundreds place-value charts, open number lines, 200 charts

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Use a place value chart to understand the value of each digit in a number. - Identify the value of a digit based on its position in a number. - Demonstrate how moving a number from one place-value position changes the value of a digit by multiple of 10. - Use lesson vocabulary such as period, standard form, word form, digit, expanded form, place value, and represent.	Lesson Sequence <i>Session 1:</i> - Model It (5-10 min) Use three reads. Explore the idea that each digit in a multi-digit whole number has a specific value and that the value of each digit is determined by its place in the number on page 5. - Discuss It (10-15 min) Support partner discussions encourage students to refer to the place value chart at the top of page 6. - Exit Ticket (5 min) Students will complete the Reflect problem on page 6. - Additional Practice Prepare for Place Value on pages 7-8.	- Unit 1A Assessment - Exit tickets - Student Workbook pages 7-8, 11-12 - Lesson Quiz (Teacher Guide pages 14a-14b)
Differentiation: Give clues to help students form numbers and strengthen place-value understanding. (Activity on Teacher Guide page 6) Prerequisite: Grade 2 Lesson 13 - Read and Write Three-Digit Numbers Reteach: Tools for Instruction - Place Value in Multi-Digit Whole Number Reinforce: Math Center Activities - The Value of a Digit		



Extend: Enrichment Activities - Mystery Number

Resources Provided:

- Teacher Guide
- Student Workbook
- Math Toolkit
- Interactive Tutorial - [Place Value Part 1](#), [Place Value Part 2](#)



Lesson Plan 2 Template

Content Area: Math Lesson Title: Compare Whole Numbers Time Frame: 3 days

Lesson Components

21st Century Themes

- ☒ Global Awareness ☐ Financial, Economic, Business and Entrepreneurial Literacy
☐ Civic Literacy ☐ Health Literacy

21st Century Skills

- ☐ Creativity and Innovation ☐ Critical Thinking and Problem Solving ☒ Information Literacy
☒ Life and Career Skills ☐ Communication and Collaboration ☒ Media Literacy ☐ ICT Literacy

Interdisciplinary Connections: English Language Arts, Science and Engineering

Integration of Technology: iPads, Projector

Equipment Needed: Laptop, iPads, i-Ready Teacher Guide, base-ten blocks, hundreds place-value charts, index cards, numbers lines

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: • Use Symbols (<,>=) to show the relationship between two multi-digit numbers. • Compare multi-digit numbers to solve word problems. • Use lesson vocabulary such as compare, equal sign (=), greater than symbol (>), less than symbol (<), and position.	Lesson Sequence <i>Session 1:</i> 1. Try It (5-10 min) Use three reads. Explore the idea that place value can be used to compare whole numbers greater than 1,000 on page 17. 2. Discuss It (10-15 min) After students work on the Try It, have them respond to Discuss It with a partner on page 17. 3. Connect It (15-20 min) Look for understanding that both numbers have the same number of thousands, so students need to compare hundreds to find out which number is greater on page 18. 4. Exit Ticket (5 min) Students will complete the Reflect problem on page 18. 5. Additional Practice Prepare for Comparing Whole Numbers on pages 19-20.	• Unit 1A Assessment • Exit tickets • Student Workbook pages 19-20, 25-26 • Lesson Quiz (Teacher Guide on pages 30a-30b)
Differentiation: Use base-ten blocks to compare whole numbers. (Activity on Teacher Guide page 18).		



Prerequisite: Grade 2 Lesson 14 - Compare Three-Digit Numbers

Reteach: Tools for Instruction - Compare Multi-Digit Numbers

Reinforce: Math Center Activities - Use Place Value Vocabulary

Extend: Enrichment Activities - Let's Make a Comparison

Resources Provided:

- Teacher Guide
- Student Workbook
- Math Toolkit - base-ten blocks, hundred thousands place-value charts, index cards, number lines
- Interactive Tutorial - [Place Value Part 2](#)



Lesson Plan 3 Template

Content Area: Math Lesson Title: Round Whole Numbers Time Frame: 3 days

Lesson Components

21st Century Themes

- ☐ Global Awareness ☒ Financial, Economic, Business and Entrepreneurial Literacy
☐ Civic Literacy ☒ Health Literacy

21st Century Skills

- ☐ Creativity and Innovation ☐ Critical Thinking and Problem Solving ☒ Information Literacy
☒ Life and Career Skills ☐ Communication and Collaboration ☒ Media Literacy ☐ ICT Literacy

Interdisciplinary Connections: English Language Arts, Science and Engineering

Integration of Technology: iPads, Projector

Equipment Needed: Laptop, iPads, i-Ready Teacher Guide, hundreds thousands place-value charts, index cards, numbers lines

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Round multi-digit numbers to any place. - Explain how to round a multi-digit number to a specific place. - Use lesson vocabulary such as estimate, round, and justify.	Lesson Sequence <i>Session 1:</i> - Try It (5-10 min) Explore the idea that place value and a number line can be used to round a multi-digit number to a given place on page 33. - Discuss It (10-15 min) After students work on Try It, have them respond to Discuss It with a partner on page 33. - Connect It (10-15 min) Look for understanding that 36,219 is closer to 36,000 than to 37,000 on page 34. - Exit Ticket (5 min) Students will complete the Reflect Problem on page 34. - Additional Practice Prepare for Rounding Whole Numbers on pages 35-36.	- Unit 1A Assessment - Exit tickets - Student Workbook pages 35-36, 41-42 - Lesson Quiz (Teacher Guide on pages 46a-46b)
Differentiation: Use a rolling model to round numbers. (Activity on Teacher Guide page 34) Prerequisite: Grade 3 Lesson 1 - Use Place Value to Round Numbers Reteach: Tools for Instruction - Round Multi-Digit Numbers		



Reinforce: Math Center Activities - Rounding Whole Numbers

Extend: Enrichment Activities - Mystery Number

Resources Provided:

- Teacher Guide
- Student Workbook
- Math Toolkit- hundred thousands place-value charts, index cards, number lines
- Interactive Tutorial - [Round Whole Numbers](#), [Use Place Value to Round Numbers](#)

Lesson Reflection

Reflect on the lesson you have developed and rate the degree to which the lesson *Strongly*, *Moderately* or *Weakly* meets the criteria below.

Lesson Activities	Strongly	Moderately	Weakly
Are challenging Strongly and require higher order thinking and problem solving skills	X		
Allow for student choice		X	
Provide scaffolding for acquiring targeted knowledge/skills	X		
Integrate global perspectives		X	
Integrate 21st century skills		X	
Provide opportunities for interdisciplinary connection and transfer of knowledge and skills		X	
Foster student use of technology as a tool to develop critical thinking, creativity and innovation skills	X		
Are varied to address different student learning styles and preferences		X	
Are differentiated based on student needs	X		
Are student-centered with teacher acting as a facilitator and co-learner during the teaching and learning process			X
Provide means for students to demonstrate knowledge and skills and progress in meeting learning goals and objectives	X		
Provide opportunities for student reflection and self- assessment	X		
Provide data to inform and adjust instruction to better meet the varying needs of learners	X		

Curriculum Design Template

Content Area: Math	Grade Level: 4	Unit Title: 1A Place Value and Operations with Whole Numbers
Created: 2024		
Board Approved on: Type Here		



Unit Overview Template

Content Area: Math **Grade Level:** 4 **Unit Title:** 1B: Place Value and Operations with Whole Numbers

Unit Summary: In Grade 4, Students develop an understanding of place value skills using place value charts. Reading and writing larger numbers will be reinforced. Various computation strategies will be introduced and reviewed.

Primary Interdisciplinary Connections: *Science, Engineering, English Language Arts*

21st Century Themes ☒ Creativity and Innovation ☒ Critical Thinking and Problem Solving ☐ ICT Literacy
☒ Information Literacy ☐ Life and Career Skills ☒ Communication and Collaboration ☐ Media Literacy

Unit Rationale: To reinforce basic multiplication/division facts up to 10 x 10. To explain strategies for solving addition and subtraction number stories. To learn prime and composite numbers as well as finding factors.

Career Readiness (Standard 9):

- 9.1.5.CR.1: Compare various ways to give back and relate them to your strengths, interests, and other personal factors.
- 9.4.5.CI.3: Participate in brainstorming sessions with individuals with diverse perspectives to expand one's thinking about a topic of curiosity (e.g., 8.2.5.ED.2, 1.5.5.CR1a).
- 9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process (e.g., 2.1.5.EH.4, 4-ESS3-1, 6.3.5.CivicsPD.2).
- 9.4.5.DC.4: Model safe, legal, and ethical behavior when using online or offline technology (e.g., 8.1.5.NI.2).
- 9.4.5.IML.2: Create a visual representation to organize information about a problem or issue (e.g., 4.DL.B.5, 8.1.5.DA.3).
- 9.4.5.IML.3: Represent the same data in multiple visual formats in order to tell a story about the data

Learning Targets

Standards: 4.OA

Content Statements: Use the four operations with whole numbers to solve problems; Gain familiarity with factors and multiples; Generalize place value understanding for multi-digit whole numbers.

CPI#:	Cumulative Progress Indicator (CPI):
4.OA.C.5	Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. For example, given the rule “Add 3” and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in this way.
4.OA.B.4	Find all factor pairs for a whole number in the range 1–100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1–100 is prime or composite.



4.OA.A.1	Interpret a multiplication equation as a comparison, e.g., interpret $35 = 5 \times 7$ as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.
4.OA.A.2	Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.
4.OA.A.3	Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.
3-5-ETS1-2	Generate and compare multiple solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.
SEL.PK-12.1.4	Recognize the importance of self-confidence in handling daily tasks and challenges.
SEL.PK-12.2.2	Recognize the skills needed to establish and achieve personal and educational goals.
SEL.PK-12.3.4	Demonstrate an awareness of the expectations for social interactions in a variety of settings.
SEL.PK-12.1.4	Recognize the importance of self-confidence in handling daily tasks and challenges.
3-5-ETS1-2	Generate and compare multiple solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.
W.4.5	With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, and editing.

Unit Essential Questions:

- How do students build on their basic understanding of multiplication and division as they learn about multiplicative comparison and solve problems using multiplication and division?
- How do students develop an understanding of multiples and factors and the relationship between them?
- How do you use models to find factors for whole numbers within 100?
- How do students think about number relationships as they generate, extend, and analyze patterns of numbers and shapes?
- How do students use their understanding of solving problems with multiplication and division as they model and solve multi-step problems with whole numbers, including writing equations with letters to represent unknown quantities?
- How do students use area models and partial products to multiply multi-digit numbers by one-digit numbers, and two-digit numbers by two-digit numbers.
- How do students apply their understanding of the relationship between multiplication and division as they solve multi-digit division problems using strategies including area models and partial quotients?



- How do students find quotients with remainders and interpret the remainder by considering the context of the problem?

Unit Enduring Understandings:

- To practice and review basic multiplication facts.
- To use a variety of games to review multiplication facts.
- To understand prime versus composite.
- To practice finding the factors of different multi-digit numbers.

Unit Learning Targets:

Students will....

- understand the importance of mastering the multiplication facts.
- learn how the basic facts are the basis for more complex problems.
- understand the relationship between multiplication and division.
- Climate Change Example: Students may, knowing that energy and fuels are derived from natural resources and that their uses affect the climate, use the four operations to solve multi-step word problems posed with whole numbers, having whole-number answers and that are based on energy, fuels, and natural resources.



Evidence of Learning

Summative Assessment: Unit 1B assessment

Equipment Needed: Laptop, iPads, i-Ready presentation slides

Teacher Resources: Curriculum Map, i-Ready Teacher's Guide, Teacher Toolbox, Student Workbook

Formative Assessments:

- i-Ready Diagnostic 1
- OnCourse Assessments
- Lesson Quizzes
- Unit Tests
- Exit Tickets
- Self Checks
- Reflect Questions
- Student Workbook
- Timed Math Facts
- Written Assessments
- Open Response Questions
- Teacher Observations
- Small group and whole class discussions



Lesson Plans

Lesson	Time Frame
Lesson 1 Understand Multiplication as a Comparison	3 days
Lesson 2 Multiples and Factors	4 days
Lesson 3 Number and Shape Patterns	4 days

Teacher Notes:

i-Ready Teacher Toolbox, i-Ready Discussion Cards, fact tables, i-Ready assigned virtual lessons, Math in Action, Digital Comprehension Checks.

Curriculum Development Resources/Technology Resources:

Click the links below to access additional resources used to design this unit:

<https://login.i-ready.com/educator>

<http://tasks.illustrativemathematics.org/4>

<https://www.brainpop.com/login>

www.ixl.com

[Grade 4 CAR - Unit 1B Map](#)

[NJ Student Learning Standards for Mathematics Grade 4](#)



Lesson Plan 1 Template

Content Area: Math Lesson Title: Understand Multiplication as a Comparison Time Frame: 3 days

Lesson Components

21st Century Themes

- ☐ Global Awareness ☒ Financial, Economic, Business and Entrepreneurial Literacy
☐ Civic Literacy ☐ Health Literacy

21st Century Skills

- ☐ Creativity and Innovation ☐ Critical Thinking and Problem Solving ☒ Information Literacy
☒ Life and Career Skills ☐ Communication and Collaboration ☒ Media Literacy ☐ ICT Literacy

Interdisciplinary Connections: English Language Arts, Science and Engineering

Integration of Technology: iPads, Projector

Equipment Needed: Laptop, iPads, i-Ready Teacher Guide, i-Ready presentation slides

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Use a multiplication equation to represent the relationship between two numbers as a multiplicative comparison. - Identify a multiplication equation as showing two ways to describe a product as a comparison between two factors. - Write an equation to represent a multiplicative comparison word problem. - Use lesson vocabulary such as multiplicative comparison, equation, factor, multiplication, multiply, and confirm.	Lesson Sequence <i>Session 1:</i> - Model It: Bar Models and Equations (5 min) As students complete problems, have them identify how the numbers in the comparisons are shown in the bar models in the equation on page 113. - Discuss It (5-10 min) Encourage students to identify even the small differences in their bar models. Students should show understanding of how both a bar model and a verbal description can represent the same equation on page 113. - Exit Ticket (5-min) Students will complete the Connect It problem on page 114. - Additional Practice Prepare for Multiplication as a Comparison on pages 115-116.	- Unit 1B Assessment - Exit tickets - Student Workbook pages 111-112, 115-116, - Lesson Quiz (Teacher Guide on pages 118a-118b)
Differentiation: Use a number cube and hand claps to model multiplicative comparison. (Activity on Teacher Guide page 110)		



Prerequisite: Grade 2 Lesson 31 - Add Using Arrays

Reteach: Tools for Instruction - Multiplication as a Comparison

Reinforce: Math Center Activities - Writing Comparisons from Multiplication Equations

Extend: Enrichment Activities - Creating Creatures

Resources Provided:

- Teacher Guide
- Student Workbook
- Math Toolkit
- Interactive Tutorial - [Multiplicative Comparison Word Problems Part 1](#), [Part 2](#), & [Part 3](#), [Multiplication Word Problems](#), [Division Word Problems](#)



Lesson Plan 2 Template

Content Area: Math Lesson Title: Multiples and Factors Time Frame: 4 days

Lesson Components

21st Century Themes

- ☐ Global Awareness ☒ Financial, Economic, Business and Entrepreneurial Literacy
☐ Civic Literacy ☐ Health Literacy

21st Century Skills

- ☐ Creativity and Innovation ☒ Critical Thinking and Problem Solving ☐ Information Literacy
☒ Life and Career Skills ☒ Communication and Collaboration ☐ Media Literacy ☐ ICT Literacy

Interdisciplinary Connections: English Language Arts, Science and Engineering

Integration of Technology: iPads, Projector

Equipment Needed: Laptop, iPads, i-Ready Teacher Guide, i-Ready presentation slides

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: • Use basic multiplication to list all the factors of a number. • Use basic multiplication facts to determine whether a number is a multiple of another number. • Apply understanding of multiples and factors to solving problems. • Identify a number as prime or composite. • Use lesson vocabulary such as composite number, factor pair, factors of a number, multiple, prime number, array, factor multiplication, multiply, and repeat.	Lesson Sequence <i>Session 1:</i> 1. Try It (5 min) Explore the idea that when you combine equal size groups, the total is a multiple of the number in each group on page 143. 2. Discuss It (10-15 min) Ask students to respond to the Discuss It and work with a partner on page 143. 3. Connect It (10-15 min) Look for understanding that a possible number of times can be found by counting by 10 or multiplying by 10 on page 144. 4. Exit Ticket (5 min) Students will complete the Reflect problem on page 144. 5. Additional Practice Prepare for Multiples and Factors on pages 145-146.	• Unit 1B Assessment • Exit tickets • Student Workbook pages 145-146, 151-152, 157-158, 163-164 • Lesson Quiz (Teacher Guide on pages 168a-168b)

Differentiation:

Use counters to show multiples of 10. (Activity on Teacher Guide page 144)

Prerequisite: Grade 3 Lesson 5 - Multiply with 0,1,2,5 and 10

Reteach: Tools for Instruction - Factors



Reinforce: Math Center Activities - Use Multiplication Vocabulary

Extend: Enrichment Activities - Mystery Number

Resources Provided:

- Teacher Guide
- Student Workbook
- Math Toolkit- counters, index cards, multiplication models, number lines, sticky notes
- Interactive Tutorial - [Multiples](#), [Factors](#)



Lesson Plan 3 Template

Content Area: Math Lesson Title: Number and Shape Patterns Time Frame: 4 days

Lesson Components

21st Century Themes

- ☐ Global Awareness ☒ Financial, Economic, Business and Entrepreneurial Literacy
☐ Civic Literacy ☐ Health Literacy

21st Century Skills

- ☐ Creativity and Innovation ☐ Critical Thinking and Problem Solving ☒ Information Literacy
☒ Life and Career Skills ☐ Communication and Collaboration ☒ Media Literacy ☐ ICT Literacy

Interdisciplinary Connections: English Language Arts, Science and Engineering

Integration of Technology: iPads, Projector

Equipment Needed: Laptop, iPads, i-Ready Teacher Guide, i-Ready presentation slides

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: • Use rules to generate or extend a number pattern. • Use manipulatives or drawings to show a shape pattern. • Describe, analyze, and extend patterns and shapes. • Use lesson vocabulary such as rule, pattern, alternate, and repeat.	Lesson Sequence <i>Session 1:</i> 1. Try It (10-15 min) Explore the idea that a rule that describes a number pattern can be used to extend the pattern on page 171. 2. Discuss It (10-15 min) Listen for understanding that the number pattern has a rule, and that each number in the pattern follows the same rule on page 171. 3. Connect It (15-20 min) Look for understanding that each number in the pattern follows the same rule, add 5 on page 172. 4. Exit Ticket (5 min) Students will complete the Reflect problem on page 172. 5. Additional Practice Prepare for Number and Shape Patterns on pages 173-174.	• Unit 1B Assessment • Exit tickets • Student Workbook pages 173-174, 179-180, 185-196 • Lesson Quiz (Teacher Guide on pages 190a-190b)
Differentiation: Use a different pattern to model extending a pattern. (Activity on Teacher Guide page 18)		



Prerequisite: Grade 2 Lesson 32 - Even and Odd Numbers

Reteach: Tools for Instruction - Numeric Patterns

Reinforce: Math Center Activities - Use Pattern Vocabulary

Extend: Enrichment Activities - The Bead Machine

Resources Provided:

- Teacher Guide
- Student Workbook
- Math Toolkit- counters, hundred charts, index cards, number lines, unit tiles
- Interactive Tutorial - [Understand Patterns](#)



Lesson Reflection

Reflect on the lesson you have developed and rate the degree to which the lesson *Strongly*, *Moderately* or *Weakly* meets the criteria below.

Lesson Activities	Strongly	Moderately	Weakly
Are challenging Strongly and require higher order thinking and problem solving skills	X		
Allow for student choice		X	
Provide scaffolding for acquiring targeted knowledge/skills	X		
Integrate global perspectives		X	
Integrate 21st century skills			X
Provide opportunities for interdisciplinary connection and transfer of knowledge and skills	X		
Foster student use of technology as a tool to develop critical thinking, creativity and innovation skills	X		
Are varied to address different student learning styles and preferences		X	
Are differentiated based on student needs	X		
Are student-centered with teacher acting as a facilitator and co-learner during the teaching and learning process		X	
Provide means for students to demonstrate knowledge and skills and progress in meeting learning goals and objectives	X		
Provide opportunities for student reflection and self- assessment	X		
Provide data to inform and adjust instruction to better meet the varying needs of learners	X		

Curriculum Design Template

Content Area: Math	Grade Level: 4	Unit Title: 1B Place Value and Operations with Whole Numbers
Created: 2024	Board Approved Type Here on:	



Unit Overview Template

Content Area:	Math	Grade Level:	4	Unit Title:	2A: Multi-digit Multiplication and Division and Fraction Equivalence
Unit Summary:	This unit will introduce multiple strategies for solving multi-digit multiplication. These different methods will help students understand there are multiple ways to solve.				
Primary Interdisciplinary Connections:	<i>Science, Engineering, English Language Arts</i>				
21st Century Themes	☐ Creativity and Innovation ☒ Critical Thinking and Problem Solving ☐ ICT Literacy ☐ Information Literacy ☒ Life and Career Skills ☐ Communication and Collaboration ☐ Media Literacy				
Unit Rationale:	To provide different methods for students to solve multi-digit multiplication problems. To improve students' understanding of how to apply the relationship between multiplication and division. How to use different strategies including area models, partial quotients, and the traditional method of multiplication.				
Career Readiness (Standard 9):	9.1.5.CR.1: Compare various ways to give back and relate them to your strengths, interests, and other personal factors. 9.4.5.CI.3: Participate in brainstorming sessions with individuals with diverse perspectives to expand one's thinking about a topic of curiosity (e.g., 8.2.5.ED.2, 1.5.5.CR1a). 9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process (e.g., 2.1.5.EH.4, 4-ESS3-1, 6.3.5.CivicsPD.2). 9.4.5.DC.4: Model safe, legal, and ethical behavior when using online or offline technology (e.g., 8.1.5.NI.2).				

Learning Targets

Standards:	4.NBT, 4.OA, 4.M
Content Statements:	Use place value understanding and properties of operation to perform multi-digit arithmetic. Interpret multi step word problems; understand how to find area and perimeter.
CPI#:	Cumulative Progress Indicator (CPI):
4.NBT.B.5	Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.
4.NBT.B.6	Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.
4.OA.A.3	Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the



	unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.
4.M.A.3	Apply the area and perimeter formulas for rectangles in real world and mathematical problems. For example, find the width of a rectangular room given the area of the flooring and the length, by viewing the area formula as a multiplication equation with an unknown factor.
4.NBT.B.4	With accuracy and efficiency, add and subtract multi-digit whole numbers using the standard algorithm.
SEL.PK-12. 1.4	Recognize the importance of self-confidence in handling daily tasks and challenges.
SEL.PK-12. 2.2	Recognize the skills needed to establish and achieve personal and educational goals.
SEL.PK-12. 3.4	Demonstrate an awareness of the expectations for social interactions in a variety of settings.
SEL.PK-12. 1.4	Recognize the importance of self-confidence in handling daily tasks and challenges.
3-5-ETS1-2	Generate and compare multiple solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.
W.4.5	With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, and editing.

Unit Essential Questions:

- How do students use their understanding of solving problems with multiplication and division as they model and solve multi-step problems with whole numbers, including writing equations with letters to represent unknown quantities?
- How do students use area models and partial products to multiply multi-digit numbers by one-digit numbers, and two-digit numbers by two-digit numbers.
- How do students apply their understanding of the relationship between multiplication and division as they solve multi-digit division problems using strategies including area models and partial quotients?
- How do students find quotients with remainders and interpret the remainder by considering the context of the problem?

Unit Enduring Understandings:

- To reinforce understanding of place value for multi-digit numbers.
- To extend basic multiplication facts.
- To demonstrate the ability to solve multiplication problems.
- To demonstrate the ability to multiply and divide.
- To instruct students to identify the use of remainders.



Unit Learning Targets:

Students will....

- solve multiplication and division number stories.
- analyze the concept of a remainder.
- explore various strategies to solve multi-digit multiplication.
- understand the concepts of area and perimeter and how to find them.



Evidence of Learning

Summative Assessment: Unit 2A assessment

Equipment Needed: iPads, Projector

Teacher Resources: Curriculum Map, i-Ready Teacher's Guide, Teacher Toolbox, Student Workbook

Formative Assessments:

- i-Ready Diagnostic 1
- OnCourse Assessments
- Lesson Quizzes
- Unit Tests
- Exit Tickets
- Self Checks
- Reflect Questions
- Student Workbook
- Timed Math Facts
- Written Assessments
- Open Response Questions
- Teacher Observations
- Small group and whole class discussions



Lesson Plans

Lesson	Time Frame
Lesson 1 Multiply by One-Digit Numbers	4 days
Lesson 2 Multiply by Two-Digit Numbers	3 days
Lesson 3 Divide Three-Digit Numbers	4 days

Teacher Notes:

i-Ready Teacher Toolbox, i-Ready Discussion Cards, fact tables, i-Ready assigned virtual lessons, Math in Action, Digital Comprehension Checks, bowls, counters, grid paper, number lines, sticky notes

Curriculum Development Resources/Technology Resources:

Click the links below to access additional resources used to design this unit:

<https://login.i-ready.com/educator>

<http://tasks.illustrativemathematics.org/4>

<https://www.brainpop.com/login>

www.ixl.com

[Grade 4 CAR - Unit 2A Map](#)

[NJ Student Learning Standards for Mathematics Grade 4](#)



Lesson Plan 1 Template

Content Area: Math Lesson Title: Multiply by One-Digit Numbers Time Frame: 4 days

Lesson Components

21st Century Themes

- ☐ Global Awareness ☒ Financial, Economic, Business and Entrepreneurial Literacy
☐ Civic Literacy ☐ Health Literacy

21st Century Skills

- ☐ Creativity and Innovation ☐ Critical Thinking and Problem Solving ☒ Information Literacy
☒ Life and Career Skills ☒ Communication and Collaboration ☒ Media Literacy ☐ ICT Literacy

Interdisciplinary Connections: English Language Arts, Science and Engineering

Integration of Technology: iPads, Projector

Equipment Needed: Laptop, iPads, i-Ready Teacher Guide, bowls, counters, grid paper, number lines, sticky notes

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: • Multiply whole numbers of up to four digits by one-digit whole numbers. • Use arrays, area models, and partial products to multiply. • Use estimation to determine whether answers are reasonable. • Use lesson vocabulary such as partial products, estimate, factor, factors of a number, multiple, multiplication, multiply, product, partial, and reasonable.	Lesson Sequence <i>Session 1:</i> 1. Model It (5-10 min) Use three reads. Explore the idea that breaking apart a factor can help you multiply on page 231. 2. Discuss It (10-15 min) Support partner discussions and encourage students to share strategies such as using base-ten blocks, drawing models, repeated addition, and multiplication equations on page 231. 3. Connect It (15-20 min) Look for understanding of using repeated addition or of decomposing numbers on page 232. 4. Exit Ticket (5 min) Students will complete the Reflect problem on page 232. 5. Additional Practice Prepare for Multiplying by One-Digit Numbers on pages 233-234.	• Unit 2A Assessment • Exit Tickets • Student Workbook pages 233-234, 239-240 • Lesson Quiz (Teacher Guide on pages 250a-250b)

**Differentiation:**

Use drawing of base-ten blocks to multiply numbers. (Activity on Teacher Guide page 232)

Prerequisite: Grade 3 Lesson 8 - Use Order and Grouping to Multiply

Reteach: Tools for Instruction - Multiply by One-Digit Numbers

Reinforce: Math Center Activities - Multiplying by One-Digit Numbers

Extend: Enrichment Activities - Favorite Photos

Resources Provided:

- Teacher Guide
- Student Workbook
- Math Toolkit- base-ten blocks, bowls, counters, grid paper, multiplication models, number lines, sticky notes
- Interactive Tutorial - [Multiply by One-Digit Numbers Part 1](#), [Multiply by One-Digit Numbers Part 2](#)



Lesson Plan 2 Template

Content Area: Math Lesson Title: Multiply by Two-Digit Numbers Time Frame: 3 days

Lesson Components

21st Century Themes

- ☐ Global Awareness ☒ Financial, Economic, Business and Entrepreneurial Literacy
☐ Civic Literacy ☐ Health Literacy

21st Century Skills

- ☐ Creativity and Innovation ☒ Critical Thinking and Problem Solving ☒ Information Literacy
☒ Life and Career Skills ☐ Communication and Collaboration ☐ Media Literacy ☐ ICT Literacy

Interdisciplinary Connections: English Language Arts, Science and Engineering

Integration of Technology: iPads, Projector

Equipment Needed: Laptop, iPads, i-Ready Teacher Guide, counters, grid paper, paper plates

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: • Multiply a two-digit number by a two-digit number. • Use area models and partial products to multiply. • Use estimation to determine whether an answer is reasonable. • Use lesson vocabulary such as estimate, factor, factors of a number, multiple, multiply, partial products, product, reasonableness, and row.	Lesson Sequence <i>Session 1:</i> 1. Try It (5-10 min) Explore the idea that numbers can be broken apart by place value to help you multiply 2 two-digit numbers on page 253. 2. Discuss It (10-15 min) After students work on Try It, have them respond to Discuss It with a partner on page 253. 3. Connect It (10-15 min) Look for understanding of breaking apart one or both factors, multiplying to find partial products, and adding partial products on page 254. 4. Exit Ticket (5 min) Students will complete the Reflect problem on page 254. 5. Additional Practice Prepare for Multiplying by Two-Digit Numbers on pages 255-256.	• Unit 2A Assessment • Exit Tickets • Student Workbook pages 255-256, 261-262 • Lesson Quiz (Teacher Guide on pages 266a-266b)
Differentiation: Use base-ten blocks to understand multiplying 2 two-digit numbers. (Activity on Teacher Guide page 254)		



Prerequisite: Grade 3 Lesson 9 - Use Place Value to Multiply

Reteach: Tools for Instruction - Multiply by Two-Digit Numbers

Reinforce: Math Center Activities - Multiplying by Two-Digit Numbers

Extend: Enrichment Activities - Display of Cans

Resources Provided:

- Teacher Guide
- Student Workbook
- Math Toolkit- base-ten blocks, counters, cups, grid paper, multiplication models, paper plates
- Interactive Tutorial - [Multiply Two-Digit Numbers](#), [Multiply by One Digit Numbers Part 2](#)



Lesson Plan 3 Template

Content Area: Math Lesson Title: Divide Three-Digit Numbers Time Frame: 4 days

Lesson Components

21st Century Themes

- ☐ Global Awareness ☒ Financial, Economic, Business and Entrepreneurial Literacy
☐ Civic Literacy ☐ Health Literacy

21st Century Skills

- ☐ Creativity and Innovation ☒ Critical Thinking and Problem Solving ☐ Information Literacy
☒ Life and Career Skills ☒ Communication and Collaboration ☐ Media Literacy ☐ ICT Literacy

Interdisciplinary Connections: English Language Arts, Science and Engineering

Integration of Technology: iPads, Projector

Equipment Needed: Laptop, iPads, i-Ready Teacher Guide, counters, grid paper, multiplication models, paper plates, i-Ready presentation slides

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Divide up to three-digit dividends by one-digit divisors, with remainders. - Use rectangular arrays and area models to divide. - Use the relationship between multiplication and division to estimate and find a quotient. - Use place-value understanding and properties of operations to divide. - Use lesson vocabulary such as dividend, divisor, divide, division, estimate, multiple, quotient, remainder, process, reasonable, and remain.	Lesson Sequence <i>Session 1:</i> - Try It (5-10 min) Use three reads. Explore the idea that thinking of division as equal sharing can help you divide greater numbers on page 291. - Discuss It (10-15 min) After students work on the Try It, have them respond to Discuss It with a partner on page 291. - Connect It (10-15 min) Look for understanding that students are using the operation of division to solve the problem on page 292. - Exit Ticket (5 min) Students will complete the Reflect problem on page 292. - Additional Practice Prepare for Dividing Three-Digit Numbers on pages 293-294.	- Unit 2A Assessment - Exit Tickets - Student Workbook pages 293-294, 299-300 - Lesson Quick (Teacher Guide on pages 309a-309b)
Differentiation: Use base-ten quick drawing to divide. (Activity on Teacher Guide page 292) Prerequisite: Grade 3 Lesson 10 - Understand the Meaning of Division		



Reteach: Tools for Instruction - Divide Three-Digit by One-Digit Numbers

Reinforce: Math Center Activities - Dividing by One-Digit Numbers

Extend: Enrichment Activities - Packing Boxes

Resources Provided:

- Teacher Guide
- Student Workbook
- Math Toolkit- base-ten blocks, bowls, counters, grid paper, multiplication models, paper plates
- Interactive Tutorial - [Divide Whole Numbers Part 1](#), [Divide Whole Numbers Part 2](#), [Multiply by One-Digit Numbers Part 1](#)



Lesson Reflection

Reflect on the lesson you have developed and rate the degree to which the lesson *Strongly*, *Moderately* or *Weakly* meets the criteria below.

Lesson Activities	Strongly	Moderately	Weakly
Are challenging Strongly and require higher order thinking and problem solving skills	X		
Allow for student choice	X		
Provide scaffolding for acquiring targeted knowledge/skills		X	
Integrate global perspectives		X	
Integrate 21st century skills		X	
Provide opportunities for interdisciplinary connection and transfer of knowledge and skills		X	
Foster student use of technology as a tool to develop critical thinking, creativity and innovation skills	X		
Are varied to address different student learning styles and preferences		X	
Are differentiated based on student needs	X		
Are student-centered with teacher acting as a facilitator and co-learner during the teaching and learning process		X	
Provide means for students to demonstrate knowledge and skills and progress in meeting learning goals and objectives	X		
Provide opportunities for student reflection and self- assessment	X	X	
Provide data to inform and adjust instruction to better meet the varying needs of learners	X		

Curriculum Design Template

Content Area: Math	Grade Level: 4	Unit Title: 2A Multi-digit Multiplication and Division & Fraction Equivalence
Created: 2024	Board Approved Type Here on:	



Unit Overview Template

Content Area: Math **Grade Level:** 4 **Unit Title:** 2B: Multi-digit Multiplication and Division and Fraction Equivalence

Unit Summary: In Grade 4, students will begin to review previously introduced fraction ideas and introduce and extend their knowledge by developing understanding of equivalent fractions.

Primary Interdisciplinary Connections: *Science, Engineering, English Language Arts*

21st Century Themes ☐ Creativity and Innovation ☐ Critical Thinking and Problem Solving ☐ ICT Literacy
☐ Information Literacy ☐ Life and Career Skills ☐ Communication and Collaboration ☐ Media Literacy

Unit Rationale: To review fractions as a part of a whole (ONE), fractions on number lines, and uses of fractions. To guide students as they order fractions and find fractional parts of sets and regions. To provide practice identifying equivalent fractions.

Career Readiness (Standard 9):

- 9.1.5.CR.1: Compare various ways to give back and relate them to your strengths, interests, and other personal factors.
 9.4.5.CI.3: Participate in brainstorming sessions with individuals with diverse perspectives to expand one's thinking about a topic of curiosity (e.g., 8.2.5.ED.2, 1.5.5.CR1a).
 9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process (e.g., 2.1.5.EH.4, 4-ESS3-1, 6.3.5.CivicsPD.2).
 9.4.5.DC.4: Model safe, legal, and ethical behavior when using online or offline technology (e.g., 8.1.5.NI.2).

Learning Targets

Standards: 4.NF

Content Statements: Extend understanding of fraction equivalence and ordering; build fractions from unit fractions and extend previous understanding of operations on whole numbers;
 Compare fractions.

CPI#:	Cumulative Progress Indicator (CPI):
4.NF.A.1	Explain why a fraction a/b is equivalent to a fraction $(n \times a)/(n \times b)$ by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.
4.NF.A.2	Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as $1/2$. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols $>$, $=$, or $<$.
4.NF.B.3.a	Understand addition and subtraction of fractions as joining and separating parts referring to the same whole. c. Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction.



	d. Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem.
4.NF.B.3.b	Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model. Examples: $\frac{3}{8} = \frac{1}{8} + \frac{1}{8} + \frac{1}{8}$; $\frac{3}{8} = \frac{1}{8} + \frac{2}{8}$; $2\frac{1}{8} = 1 + 1 + \frac{1}{8} = \frac{8}{8} + \frac{8}{8} + \frac{1}{8}$.
SEL.PK-12.1.4	Recognize the importance of self-confidence in handling daily tasks and challenges.
SEL.PK-12.2.2	Recognize the skills needed to establish and achieve personal and educational goals.
SEL.PK-12.3.4	Demonstrate an awareness of the expectations for social interactions in a variety of settings.
SEL.PK-12.5.4	Demonstrate the ability to prevent and resolve interpersonal conflicts in constructive ways.
SEL.PK-12.1.4	Recognize the importance of self-confidence in handling daily tasks and challenges.
3-5-ETS1-2	Generate and compare multiple solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.
W.4.5	With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, and editing.

Unit Essential Questions:

- How can I find and model equivalent fractions?
- How can I use the equation $\frac{a}{b} = \frac{(a*n)}{(b*n)}$ to find equivalent fractions?
- How can I use benchmark numbers, common numerators, or common denominators to compare two fractions?
- How can I use my knowledge of equivalent fractions to find fractions with common numerators and denominators?
- How can I add fractions?
- How can I subtract fractions?
- How can I use models, drawings, or equations to decompose fractions?

Unit Enduring Understandings:

- To instruct students as they identify fractions as equal parts of a whole or the ONE.
- To name equivalent fractions and mixed numbers.
- To be able to model fraction addition and subtraction with fraction pieces.

Unit Learning Targets:

Students will....

- practice finding fractional parts of sets and identify equal parts of a whole.
- demonstrate a basic understanding of adding and subtracting fractions using fraction pieces.



- develop a rule for generating equivalent fractions.



Evidence of Learning

Summative Assessment: Unit 2B assessment

Equipment Needed: iPads, Projector

Teacher Resources: Curriculum Map, i-Ready Teacher's Guide, Teacher Toolbox, Student Workbook

Formative Assessments:

- i-Ready Diagnostic 2
- OnCourse Assessments
- Lesson Quizzes
- Unit Tests
- Exit Tickets
- Self Checks
- Reflect Questions
- Student Workbook
- Timed Math Facts
- Written Assessments
- Open Response Questions
- Teacher Observations
- Small group and whole class discussions



Lesson Plans

Lesson	Time Frame
Lesson 1 Understand Equivalent Fractions	3 days
Lesson 2 Compare Fractions	4 days
Lesson 3 Add and Subtract Fractions	days
Teacher Notes: i-Ready Teacher Toolbox, i-Ready Discussion Cards, fact tables, i-Ready assigned virtual lessons, Math in Action, Digital Comprehension Checks.	
Curriculum Development Resources/Technology Resources: Click the links below to access additional resources used to design this unit: https://login.i-ready.com/educator http://tasks.illustrativemathematics.org/4 https://www.brainpop.com/login www.ixl.com Grade 4 CAR - Unit 2B Map NJ Student Learning Standards for Mathematics Grade 4	

Lesson Plan 1 Template

Content Area: Math	Lesson Title: Understand Equivalent Fractions	Time Frame: 3 days
Lesson Components		
<u>21st Century Themes</u> ☐ Global Awareness ☒ Financial, Economic, Business and Entrepreneurial Literacy ☐ Civic Literacy ☐ Health Literacy		
<u>21st Century Skills</u> ☐ Creativity and Innovation ☒ Critical Thinking and Problem Solving ☐ Information Literacy ☒ Life and Career Skills ☒ Communication and Collaboration ☐ Media Literacy ☐ ICT Literacy		
Interdisciplinary Connections: English Language Arts, Science and Engineering		
Integration of Technology: iPads, Projector		
Equipment Needed: Laptop, iPads, i-Ready Teacher Guide, i-Ready Presentation Slides		

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: Understand the value of a fractions.	Lesson Sequence Session 1: 1. Try It (5 min) Read the question at the top of the Workbook page, and remind	- Unit 2B Assessment - Exit Tickets - Student Workbook pages 369-370, 373-374



• Understand how a fraction models. represents a fraction. • Use models to demonstrate that two fractions are equivalent. • Represent equivalent fractions using models. • Multiply and divide to find equivalent fractions. • Use lesson vocabulary such as denominator, equivalent fractions, fraction, numerator, unit fraction, model, and shade.	students that equivalent fractions show the same amount of a whole on page 367. 2. Discuss It (5-10 min) Encourage students to refer to the models they shaded as they discuss similarities and differences between the models on page 367. 3. Model It (5-10 min) Have students think about the relationship between the number and the size of the parts on page 368. 4. Discuss It (10-15 min) Look for models showing 1,2, and 4 parts shaded on page 368. 5. Exit Ticket (5 min) Students will complete the Reflect problem on page 168. 6. Additional Practice Prepare for Equivalent Fractions pages 369-370.	• Lesson Quiz (Teacher Guide on pages 376a-376b)
Differentiation: Use fraction tiles to explore equivalent fractions. (Activity on Teacher Guide page 368) Prerequisite: Grade 3 Lesson 22 - Understand Equivalent Fractions Reteach: Tools for Instruction - Equivalent Fractions Reinforce: Math Center Activities - Find Equivalent Fractions Extend: Enrichment Activities - Water Stations		
Resources Provided: • Teacher Guide • Student Workbook • Math Toolkit • Interactive Tutorial - Find Equivalent Fractions, Understand Equivalent Fractions		



Lesson Plan 2 Template

Content Area: Math Lesson Title: Compare Fractions Time Frame: 4 days

Lesson Components

21st Century Themes

- ☐ Global Awareness ☒ Financial, Economic, Business and Entrepreneurial Literacy
☐ Civic Literacy ☐ Health Literacy

21st Century Skills

- ☐ Creativity and Innovation ☒ Critical Thinking and Problem Solving ☐ Information Literacy
☒ Life and Career Skills ☒ Communication and Collaboration ☐ Media Literacy ☐ ICT Literacy

Interdisciplinary Connections: English Language Arts, Science and Engineering

Integration of Technology: iPads, Projector

Equipment Needed: Laptop, iPads, i-Ready teacher Guide, i-Ready Presentation Slides

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: • Use symbols (<,>=) to compare fractions with different numerators or denominators. • Recognize that fractions with different denominators and the same numerators represent different values. • Use common denominators and benchmark fractions to compare fractions with different denominators. • Use lesson vocabulary such as benchmark fraction, common denominator, compare, denominator, greater than and less than symbol (>,<), numerator, and connection.	Lesson Sequence <i>Session 1:</i> 1. Try It (5-10 min) Explore the idea that you can compare fractions using models to show the number and size of equal parts being compared on page 379. 2. Discuss It (10-15 min) Have students respond to the Discuss It question with a partner on page 379 3. Connect It (5-10 min) Look for understanding that Ayana eats more and $\frac{2}{4}$ is greater than $\frac{2}{5}$ because of the size of Ayana's pieces on page 380 4. Exit Ticket (5 min) Students will complete the Reflect problem on page 380. 5. Additional Practice Prepare for Comparing Fractions on pages 381-382.	• Unit 2B Assessment • Exit Tickets • Student Workbook pages 381-382, 387-388, 393-394 • Lesson Quiz (Teacher Guide on pages 389a-398b)

**Differentiation:**

Use fraction tiles to compare fractions with the same numerator. (Activity on Teacher Guide page 380)

Prerequisite: Grade 3 Lesson 25 - Use Symbols to Compare Fractions

Reteach: Tools for Instruction - Use Symbols to Compare Fractions

Reinforce: Math Center Activities - Use Fraction Vocabulary

Extend: Enrichment Activities - Colorful Quilts

Resources Provided:

- Teacher Guide
- Student Workbook
- Math Toolkit- fraction bars, fraction circles, fraction models, fraction tiles, index cards, number lines
- Interactive Tutorial - [Use Common Denominators to Compare Fractions](#), [Use a Benchmark to Compare Fractions](#), [Compare Fractions with the Same Denominator](#)



Lesson Plan 3 Template

Content Area: Math Lesson Title: Add and Subtract Fractions Time Frame: 3 days

Lesson Components

21st Century Themes

- ☐ Global Awareness ☒ Financial, Economic, Business and Entrepreneurial Literacy
☐ Civic Literacy ☐ Health Literacy

21st Century Skills

- ☐ Creativity and Innovation ☒ Critical Thinking and Problem Solving ☐ Information Literacy
☒ Life and Career Skills ☒ Communication and Collaboration ☐ Media Literacy ☐ ICT Literacy

Interdisciplinary Connections: English Language Arts, Science and Engineering

Integration of Technology: iPads, Projector

Equipment Needed: Laptop, iPads, i-Ready Teacher Guide, i-Ready Presentation Slides

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Add fractions with like denominators. - Subtract fractions with like denominators. - Decompose fractions as a sum of fractions with the same denominator is more than one way. - Use fraction models, number lines, and equations to represent word problems. - Use lesson vocabulary such as decompose, denominator, fraction, numerator, unit fraction, altogether, and rest.	Lesson Sequence <i>Session 1:</i> - Try It (5-10 min) Have students ask themselves: What do you notice about the problem? What are you wondering that mathematics can answer? on page 413 - Discuss it (10-15 min) After students work on the Try It, have them respond to the Discuss It with a partner on page 413. - Connect It (15-20 min) Look for understanding that the whole set of cards is 12 twelfths and that only some of those twelfths are left for Cristobal on page 414. - Exit Ticket (5 min) Students will complete the Reflect problem on page 414. - Additional Practice Prepare for Adding and Subtracting Fractions on pages 415-416.	- Unit 2B Assessment - Exit Tickets - Student Workbook pages 415-416, 421-422, 427-428, 433-343 - Lesson Quiz (Teacher Guide on pages 438a-438b)



Differentiation:

Use models to add fractions. (Activity on Teacher Guide page 414)

Prerequisite: Grade 3 Lesson 20 - Understand What a Fraction Is

Reteach: Tools for Instruction - Add and Subtract Fractions

Reinforce: Math Center Activities - Make a Whole!

Extend: Enrichment Activities - Addition Grids

Resources Provided:

- Teacher Guide
- Student Workbook
- Math Toolkit- counters, fraction bars, fraction circles, fraction models, fraction tiles, number lines
- Interactive Tutorial - [Add Fractions with Like Denominators](#), [Subtract Fractions with Like Denominators](#)

Lesson Reflection

Reflect on the lesson you have developed and rate the degree to which the lesson *Strongly*, *Moderately* or *Weakly* meets the criteria below.

Lesson Activities	Strongly	Moderately	Weakly
Are challenging Strongly and require higher order thinking and problem solving skills	X		
Allow for student choice		X	
Provide scaffolding for acquiring targeted knowledge/skills	X		
Integrate global perspectives		X	
Integrate 21st century skills		X	
Provide opportunities for interdisciplinary connection and transfer of knowledge and skills	X		
Foster student use of technology as a tool to develop critical thinking, creativity and innovation skills	X		
Are varied to address different student learning styles and preferences		X	



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Are differentiated based on student needs	X		
Are student-centered with teacher acting as a facilitator and co-learner during the teaching and learning process		X	
Provide means for students to demonstrate knowledge and skills and progress in meeting learning goals and objectives	X		
Provide opportunities for student reflection and self- assessment		X	
Provide data to inform and adjust instruction to better meet the varying needs of learners	X		

Curriculum Design Template

Content Area: Math	Grade Level: 4	Unit Title: 2B Multi-digit Multiplication and Division & Fraction Equivalence
Created: 2024	Board Approved on:	Type Here



Unit Overview Template

Content Area: Math **Grade Level:** 4 **Unit Title:** 3A: Building Fractions and Decimal Notation

Unit Summary: In grade 4, students will begin a formal study of decimals through tenths and hundredths. Students will extend the base-ten place value system into decimals, review and extend basic concepts, notation and application for decimals.

Primary Interdisciplinary Connections: *Science, Engineering, English Language Arts*

21st Century Themes ☒ Creativity and Innovation ☒ Critical Thinking and Problem Solving ☐ ICT Literacy

☒ Information Literacy ☐ Life and Career Skills ☒ Communication and Collaboration ☐ Media Literacy

Unit Rationale: To extend the base-ten place value system to decimals. To guide students as they compare and order decimals in tenths and hundredths. To extend methods for whole-number addition and subtractions to decimals.

Career Readiness (Standard 9):

9.1.5.CR.1: Compare various ways to give back and relate them to your strengths, interests, and other personal factors.

9.4.5.CI.3: Participate in brainstorming sessions with individuals with diverse perspectives to expand one's thinking about a topic of curiosity (e.g., 8.2.5.ED.2, 1.5.5.CR1a).

9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process (e.g., 2.1.5.EH.4, 4-ESS3-1, 6.3.5.CivicsPD.2).

9.4.5.DC.4: Model safe, legal, and ethical behavior when using online or offline technology (e.g., 8.1.5.NI.2).

Learning Targets

Standards: 4.NF, 4.M

Content Statements: Use the four operations with whole numbers to solve problems; Generalize place value understanding for multi-digit whole numbers; Understand decimal notation for fractions, and compare decimal fractions; Represent and interpret data.

CPI#:	Cumulative Progress Indicator (CPI):
4.NF.B.3.a	Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.
4.NF.B.3.b	Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model. Examples: $\frac{3}{8} = \frac{1}{8} + \frac{1}{8} + \frac{1}{8}$; $\frac{3}{8} = \frac{1}{8} + \frac{2}{8}$; $2\frac{1}{8} = 1 + 1 + \frac{1}{8} = \frac{8}{8} + \frac{8}{8} + \frac{1}{8}$
4.NF.B.3.c	Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction.
4.NF.B.3.d	Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators,



4.DL.A.1	Create data-based questions, generate ideas based on the questions, and then refine the questions.
4.DL.A.2	Develop strategies to collect various types of data and organize data digitally.
4.DL.A.3	Understand that subsets of data can be selected and analyzed for a particular purpose.
4.DL.A.4	Analyze visualizations of a single data set, share explanations, and draw conclusions that the data supports.
4.DL.B.5	Make a line plot to display a data set of measurements in fractions of a unit ($\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$). Solve problems involving addition and subtraction of fractions by using information presented in line plots. For example, from a line plot find and interpret the difference in length between the longest and shortest specimens in an insect collection.
4.NF.B.4.a	Understand a fraction $\frac{a}{b}$ as a multiple of $\frac{1}{b}$. For example, use a visual fraction model to represent $\frac{5}{4}$ as the product $5 \times (\frac{1}{4})$, recording the conclusion by the equation $\frac{5}{4} = 5 \times (\frac{1}{4})$.
4.NF.B.4.b	Understand a multiple of $\frac{a}{b}$ as a multiple of $\frac{1}{b}$, and use this understanding to multiply a fraction by a whole number. For example, use a visual fraction model to express $3 \times (\frac{2}{5})$ as $6 \times (\frac{1}{5})$, recognizing this product as $\frac{6}{5}$. (In general, $n \times (\frac{a}{b}) = (n \times a)/b$.)
4.NF.B.4.c	Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem. For example, if each person at a party will eat $\frac{3}{8}$ of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie?
SEL.PK-12.1.4	Recognize the importance of self-confidence in handling daily tasks and challenges.
SEL.PK-12.2.2	Recognize the skills needed to establish and achieve personal and educational goals.
SEL.PK-12.3.4	Demonstrate an awareness of the expectations for social interactions in a variety of settings.
SEL.PK-12.5.4	Demonstrate the ability to prevent and resolve interpersonal conflicts in constructive ways.
SEL.PK-12.1.4	Recognize the importance of self-confidence in handling daily tasks and challenges.
3-5-ETS1-2	Generate and compare multiple solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.
W.4.5	With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, and editing.
Unit Essential Questions: • How can I add mixed numbers with like denominators? • How can I subtract mixed numbers with like denominators?	



- How can I use equations and manipulatives to solve problems involving addition and subtraction of mixed numbers?
- How can I solve word problems involving addition and subtraction of mixed numbers?
- How can I use data to create a line plot?
- How can I use the data on a line plot to answer questions?
- How can I multiply fractions using the following equation - $n \times (a/b) = (n \times a)/b$?
- How can I create equations to solve word problems for multiplying fractions?

Unit Enduring Understandings:

- To identify the base-ten place value system to decimals.
- To instruct students as they compare and order decimals in tenths and hundredths.
- To demonstrate the ability to add and subtract decimals.

Unit Learning Targets:

Students will....

- know the place value of decimals through the thousandths place, relate money to place value.
- read and write decimals to the thousandths place, and solve decimal problems.
- understand decimals are fractions in a different form, decimals represent parts of a whole, and decimals are an integral part of life.
- Climate Change Example: Students may, knowing that energy and fuels are derived from natural resources and that their uses affect the climate, make a line plot to display a data set of measurements in fractions of a unit.



Evidence of Learning

Summative Assessment: Unit 3A Assessment

Equipment Needed: iPads, Projector

Teacher Resources: Curriculum Map, i-Ready Teacher's Guide, Teacher Toolbox, Student Workbook

Formative Assessments:

- i-Ready Diagnostic 1
- OnCourse Assessments
- Lesson Quizzes
- Unit Tests
- Exit Tickets
- Self Checks
- Reflect Questions
- Student Workbook
- Timed Math Facts
- Written Assessments
- Open Response Questions
- Teacher Observations
- Small group and whole class discussions



Lesson Plans

Lesson	Time Frame
Lesson 1 Fractions as Tenths and Hundredths	3 days
Lesson 2 Relate Decimals and Fractions	4 days
Lesson 3 Compare Decimals	4 days

Teacher Notes:

i-Ready Teacher Toolbox, i-Ready Discussion Cards, fact tables, i-Ready assigned virtual lessons, Math in Action, Digital Comprehension Checks

Curriculum Development Resources/Technology Resources:

Click the links below to access additional resources used to design this unit:

<https://login.i-ready.com/educator>

<http://tasks.illustrativemathematics.org/4>

<https://www.brainpop.com/login>

www.ixl.com

[Grade 4 CAR - Unit 3A Map](#)

[NJ Student Learning Standards for Mathematics Grade 4](#)



Lesson Plan 1 Template

Content Area: Math Lesson Title: Fractions as Tenths and Hundredths Time Frame: 3 days

Lesson Components

21st Century Themes

- ☐ Global Awareness ☒ Financial, Economic, Business and Entrepreneurial Literacy
☐ Civic Literacy ☐ Health Literacy

21st Century Skills

- ☐ Creativity and Innovation ☒ Critical Thinking and Problem Solving ☐ Information Literacy
☒ Life and Career Skills ☒ Communication and Collaboration ☐ Media Literacy ☐ ICT Literacy

Interdisciplinary Connections: English Language Arts, Science and Engineering

Integration of Technology: iPads, Projector

Equipment Needed: Laptop, iPads, i-Ready Teacher Guide, i-Ready Presentation Slides, base-ten blocks, hundredths grids, index cards, number lines, tenths grids

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Write a fraction that has a denominator of 10 as an equivalent fraction with a denominator of 100. - Explain the relationship between tenths and hundredths. - Add two fractions with denominators of 10 and 100. - Use lesson vocabulary such as hundredths, tenths, denominator, equivalent fractions, fraction, and numerator.	Lesson Sequence <i>Session 1:</i> - Try It (5-10 min) Use three reads. Explore the idea that fractions with a denominator of 10 can be rewritten as equivalent fractions with a denominator of 100 on page 519. - Discuss It (10-15 min) After students work on the Try It, have them respond to the Discuss It with a partner on page 519. - Connect It (15-20 min) Look for understanding that you multiply both the numerator and the denominator of $\frac{7}{10}$ by 10 to find an equivalent fraction with a denominator of 100 on page 520. - Exit Ticket (5 min) Students will complete the Reflect problem on page 520. - Additional Practice	- Unit 3A assessment - Exit Ticket - Student Workbook pages 521-522, 527-528 - Lesson Quiz (Teacher Guide on pages 532a-532b)



Prepare for Fractions as Tenths and Hundredths on pages 521-522.

Differentiation:

Use models to explore equivalent tenths and hundredths. (Activity on Teacher Guide page 520)

Prerequisite: Grade 3 Lesson 21 - Understand Fractions on a Number Line

Reteach: Tools for Instruction - Add Tenths and Hundredths

Reinforce: Math Center Activities - Tenths to Hundredths

Extend: Enrichment Activities - How Much Farther?

Resources Provided:

- Teacher Guide
- Student Workbook
- Math Toolkit- base-ten blocks, hundredths, grids, index cards, number lines, tenths grids
- Interactive Tutorial - [Fractions as Tenths and Hundredths](#), [Find Equivalent Fractions](#)



Lesson Plan 2 Template

Content Area: Math Lesson Title: Relate Decimals and Fractions Time Frame: 4 days

Lesson Components

21st Century Themes

- ☐ Global Awareness ☒ Financial, Economic, Business and Entrepreneurial Literacy
☐ Civic Literacy ☐ Health Literacy

21st Century Skills

- ☐ Creativity and Innovation ☒ Critical Thinking and Problem Solving ☒ Information Literacy
☐ Life and Career Skills ☐ Communication and Collaboration ☐ Media Literacy ☐ ICT Literacy

Interdisciplinary Connections: English Language Arts, Science and Engineering

Integration of Technology: iPads, Projector

Equipment Needed: Laptop, iPads, i-Ready Teacher Guide, i-Ready Presentation Slides, Base-ten blocks, hundredths decimal place-value charts, hundredths grids, number lines, tenths grids

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Write fractions with denominators of 10 or 100 as decimals. - Write decimals as fractions with denominators of 10 or 100. - Use lesson vocabulary such as decimal, decimal point, denominator, equivalent fractions, fraction, numerator, and shade.	Lesson Sequence <i>Session 1:</i> - Try It (5-10 min) Use three reads. Explore the idea that you can use money to relate equivalent fractions and decimals on page 535. - Discuss It (10-15 min) After students work on Try It, have them respond to the discuss It question with a partner on page 535. - Connect It (10-15 min) Look for understanding that a mixed number has a whole-number part and a fractional part on page 536. - Exit Ticket (5 min) Students will complete the Reflect problem on page 536. - Additional Practice Prepare for Relating Decimals and Fractions on pages 537-538.	- Unit 3A assessment - Exit tickets - Student Workbook pages 537-538, 543-544, 549-550 - Lesson Quiz (Teacher Guide on pages 554a-554b)

**Differentiation:**

Use base-ten blocks to model mixed numbers with denominators of 10 or 100. (Activity on Teacher Guide page 536)

Prerequisite: Grade 2 Lesson 13 - Read and Write Three-Digit Numbers

Reteach: Tools for Instruction - Write Fractions as Decimals

Reinforce: Math Center Activities - Modeling Decimals and Fractions

Extend: Enrichment Activities - What's the Cost?

Resources Provided:

- Teacher Guide
- Student Workbook
- Math Toolkit- base-ten blocks, hundredths grids, index cards, play money
- Interactive Tutorial - [Understand and Model Decimals, Fractions as Tenths and Hundredths](#)



Lesson Plan 3 Template

Content Area: Math Lesson Title: Compare Decimals Time Frame: 3 days

Lesson Components

21st Century Themes

- ☐ Global Awareness ☒ Financial, Economic, Business and Entrepreneurial Literacy
☐ Civic Literacy ☐ Health Literacy

21st Century Skills

- ☐ Creativity and Innovation ☒ Critical Thinking and Problem Solving ☒ Information Literacy
☒ Life and Career Skills ☐ Communication and Collaboration ☐ Media Literacy ☐ ICT Literacy

Interdisciplinary Connections: English Language Arts, Science and Engineering

Integration of Technology: iPads, Projector

Equipment Needed: Laptop, iPads, i-Ready Teacher Guide, i-Ready Presentation Slides, Base-ten blocks, hundredths decimal place-value charts, hundredths grids, number lines, tenths grids

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Compare two decimals to hundredths, using the $<$, $>$, and $=$ symbols. - Solve word problems involving comparisons of decimals in tenths and hundredths. - Use lesson vocabulary such as compare, decimal, equal, equal sign ($=$), greater than and less than ($>$, $<$) symbol, and location.	Lesson Sequence <i>Session 1:</i> - Try it (5-10 min) Use three reads. Explore the idea that decimals can be compared if they refer to the same whole on page 557. - Discuss It (10-15 min) After the students complete the Try It, have completed the Discuss It questions with a partner on page 557. - Connect It (15-20 min) Look for understanding that Raul has more water left because .5 is greater than .4 on page 558. - Exit Ticket (5 min) Students will complete the Reflect problem on page 558. - Additional Practice Prepare for Comparing Decimals on pages 559-560.	- Unit 3A assessment - Exit Tickets - Student Workbook pages 559-560, 565-566, 571-572 - Lesson Quiz (Teacher Guide on pages 576a-576b)
Differentiation: Use cardboard tubes to compare tenths and hundredths. (Activity on Teacher Guide page 558)		



Prerequisite: Grade 4 Lesson 18 - Compare Fractions

Reteach: Tools for Instruction - Use Symbols to Compare Decimals to Hundredths

Reinforce: Math Center Activities - Comparing Decimals

Extend: Enrichment Activities - Mystery Comparisons

Resources Provided:

- Teacher Guide
- Student Workbook
- Math Toolkit- base-ten blocks, hundredths decimal place-value charts, index cards, number lines, tenths grids
- Interactive Tutorial - [Compare Decimals](#), [Use Common Denominators to Compare Fractions](#), [Understand and Model Decimals](#)



Lesson Reflection

Reflect on the lesson you have developed and rate the degree to which the lesson *Strongly*, *Moderately* or *Weakly* meets the criteria below.

Lesson Activities	Strongly	Moderately	Weakly
Are challenging Strongly and require higher order thinking and problem solving skills	X		
Allow for student choice		X	
Provide scaffolding for acquiring targeted knowledge/skills	X		
Integrate global perspectives	X		
Integrate 21st century skills		X	
Provide opportunities for interdisciplinary connection and transfer of knowledge and skills		X	
Foster student use of technology as a tool to develop critical thinking, creativity and innovation skills		X	
Are varied to address different student learning styles and preferences	X		
Are differentiated based on student needs	X		
Are student-centered with teacher acting as a facilitator and co-learner during the teaching and learning process		X	
Provide means for students to demonstrate knowledge and skills and progress in meeting learning goals and objectives		X	
Provide opportunities for student reflection and self- assessment	X		
Provide data to inform and adjust instruction to better meet the varying needs of learners	X		

Curriculum Design Template

Content Area: Math	Grade Level: 4	Unit Title: 3A Building Fractions and Decimal Notation
Created: 2024	Board Approved on:	Type Here



Unit Overview Template

Content Area: Math **Grade Level:** 4 **Unit Title:** 3B: Building Fractions and Decimal Notation

Unit Summary: In grade 4, students will begin a formal study of decimals through tenths and hundredths. Students will extend the base-ten place value system into decimals, review and extend basic concepts, notation and application for decimals.

Primary Interdisciplinary Connections: *Science, Engineering, English Language Arts*

21st Century Themes **X** Creativity and Innovation **X** Critical Thinking and Problem Solving ☐ ICT Literacy
X Information Literacy ☐ Life and Career Skills **X** Communication and Collaboration **X** Media Literacy

Unit Rationale: To extend the base-ten place value system to decimals. To guide students as they compare and order decimals in tenths and hundredths. To extend methods for whole-number addition and subtractions to decimals.

Career Readiness (Standard 9):

9.1.5.CR.1: Compare various ways to give back and relate them to your strengths, interests, and other personal factors.
 9.4.5.CI.3: Participate in brainstorming sessions with individuals with diverse perspectives to expand one's thinking about a topic of curiosity (e.g., 8.2.5.ED.2, 1.5.5.CR1a).
 9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process (e.g., 2.1.5.EH.4, 4-ESS3-1, 6.3.5.CivicsPD.2).
 9.4.5.DC.4: Model safe, legal, and ethical behavior when using online or offline technology (e.g., 8.1.5.NI.2).

Learning Targets

Standards: 4.NF, 4.M, 4.NBT, 4.OA

Content Statements: Use the four operations with whole numbers to solve problems; Generate and analyze patterns; Generalize place value understanding for multi-digit whole numbers; Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.

CPI#:	Cumulative Progress Indicator (CPI):
4.NF.C.5	Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100. For example, express $\frac{3}{10}$ as $\frac{30}{100}$, and add $\frac{3}{10} + \frac{4}{100} = \frac{34}{100}$
4.NF.C.6	Use decimal notation for fractions with denominators 10 or 100. For example, rewrite 0.62 as $\frac{62}{100}$; describe a length as 0.62 meters; locate 0.62 on a number line diagram.
4.NF.C.7	Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols $>$, $=$, or $<$.
4.M.A.1	Know relative sizes of measurement units within one system of units including km, m, cm. mm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table. For example, know that 1 ft is 12



	times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36),...
4.M.A.2	Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.
4.NBT.B.4	With accuracy and efficiency, add and subtract multi-digit whole numbers using the standard algorithm.
4.OA.A.3	Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.
SEL.PK-12.1.4	Recognize the importance of self-confidence in handling daily tasks and challenges.
SEL.PK-12.2.2	Recognize the skills needed to establish and achieve personal and educational goals.
SEL.PK-12.3.4	Demonstrate an awareness of the expectations for social interactions in a variety of settings.
SEL.PK-12.5.4	Demonstrate the ability to prevent and resolve interpersonal conflicts in constructive ways.
SEL.PK-12.1.4	Recognize the importance of self-confidence in handling daily tasks and challenges.
3-5-ETS1-2	Generate and compare multiple solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.
W.4.5	With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, and editing.

Unit Essential Questions:

- How can I add fractions with denominators of 10 and 100?
- How can I represent a fraction or decimal using a 100s grid?
- How can I compare decimals?
- How can I solve word problems involving decimals?
- How can I use my knowledge of measurement conversions to solve problems?
- How can I use place value to accurately solve problems with decimals?

Unit Enduring Understandings:

- To reinforce the understanding of place value for multi-digit numbers.
- To reinforce the reading and writing of multi-digit numbers and ways to compute them.
- To reintroduce and extend ideas about data collection, organization, display, and analysis.

Unit Learning Targets:

Students will....

- record numbers and demonstrate understanding of place value.



- compute multi-digit numbers with accuracy and demonstrate ability to read and write multi-digit numbers.
- explore the application of area with scale drawings by using their division skills to compare two quantities with like units.
- Climate Change Example: Students may, knowing that energy and fuels are derived from natural resources and that their uses affect the climate, use the four operations to solve word problems related to the use of natural resources and involving distance, time, liquid volume, and/or the mass of objects.



Evidence of Learning

Summative Assessment: Unit 3B Assessment

Equipment Needed: iPads, Projector

Teacher Resources: Curriculum Map, i-Ready Teacher's Guide, Teacher Toolbox, Student Workbook

Formative Assessments:

- i-Ready Diagnostic 2
- OnCourse Assessments
- Lesson Quizzes
- Unit Tests
- Exit Tickets
- Self Checks
- Reflect Questions
- Student Workbook
- Timed Math Facts
- Written Assessments
- Open Response Questions
- Teacher Observations
- Small group and whole class discussions



Lesson Plans

Lesson	Time Frame
Lesson 1 Multiply Fractions by Whole Numbers	3 days
Lesson 2 Problems About Time and Money	4 days
Lesson 3 Problems about Length, Liquid Volume, Mass and Weight	5 days

Teacher Notes:

i-Ready Teacher Toolbox, i-Ready Discussion Cards, fact tables, i-Ready assigned virtual lessons, Math in Action, Digital Comprehension Checks

Curriculum Development Resources/Technology Resources:

Click the links below to access additional resources used to design this unit:

<https://login.i-ready.com/educator>

<http://tasks.illustrativemathematics.org/4>

<https://www.brainpop.com/login>

www.ixl.com

[Grade 4 CAR - Unit 3B Map](#)

[NJ Student Learning Standards for Mathematics Grade 4](#)



Lesson Plan 1 Template

Content Area: Math Lesson Title: Multiply Fractions by Whole Numbers Time Frame: 3 days

Lesson Components

21st Century Themes

- ☒ Global Awareness ☐ Financial, Economic, Business and Entrepreneurial Literacy
☐ Civic Literacy ☐ Health Literacy

21st Century Skills

- ☐ Creativity and Innovation ☒ Critical Thinking and Problem Solving ☐ Information Literacy
☐ Life and Career Skills ☐ Communication and Collaboration ☐ Media Literacy ☐ ICT Literacy

Interdisciplinary Connections: English Language Arts, Science and Engineering

Integration of Technology: iPads, Projector

Equipment Needed: Laptop, iPads, i-Ready Teacher Guide, i-Ready Presentation Slides

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Solve word problems that involve multiplying a fraction by a whole number. - Use lesson vocabulary such as denominator, fraction, multiply, numerator, product, and batch.	Lesson Sequence <i>Session 1:</i> - Try It (5-10 min) Use three reads. Explore the idea that word problems about combining equal sized parts can be solved by multiplying a fraction by a whole number on page 503. - Discuss It (10-15 min) After students work on Try It, have them respond to Discuss It with a partner on page 503. - Connect It (15-20 min) Look for students to understand that the fraction of the bag of birdseed that the pigeons eat can be found by adding or multiplying $3/10 + 3/10 + 3/10$ or $3 \times 3/10$ on page 504. - Exit Ticket (5 min) Students will complete the Reflect problem on page 504. - Additional Practice Prepare for Multiplying Fractions by Whole Numbers on pages 505-506.	- Unit 3B assessment - Exit Tickets - Student Workbook pages 505-506, 511-512 - Lesson Quiz (Teacher Guide on pages 516a-516b)

**Differentiation:**

Use tens rods to multiply a fraction by a whole number (Activity on Teacher Guide page 504)

Prerequisite: Grade 3 Lesson 17 - Solve One-Step Word Problems Using Multiplication and Division

Reteach: Tools for Instruction - Multiply a Whole Number and a Fraction

Reinforce: Math Center Activities - Fraction Word Problems

Extend: Enrichment Activities - Fill in the Blanks

Resources Provided:

- Teacher Guide
- Student Workbook
- Math Toolkit- fraction bars, fraction circles, fraction models, fraction tiles, grid paper, number lines
- Interactive Tutorial - [Multiply a Unit Fraction by a Whole Number](#), [Multiply a Fraction by a Whole Number](#)



Lesson Plan 2 Template

Content Area: Math Lesson Title: Problems About Time and Money Time Frame: 4 days

Lesson Components

21st Century Themes

☒ Global Awareness ☒ Financial, Economic, Business and Entrepreneurial Literacy
☐ Civic Literacy ☐ Health Literacy

21st Century Skills

☐ Creativity and Innovation ☒ Critical Thinking and Problem Solving ☐ Information Literacy
☒ Life and Career Skills ☒ Communication and Collaboration ☐ Media Literacy ☐ ICT Literacy

Interdisciplinary Connections: English Language Arts, Science and Engineering

Integration of Technology: iPads, Projector

Equipment Needed: Laptop, iPads, i-Ready Teacher Guide, i-Ready Presentation Slides, counters, math reference sheet, number lines, rulers

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Solve work problems involving time and money. - Convert larger units of measure to smaller units in order to solve work problems about time. - Convert amounts of money in bills to coins to solve work problems about money. - Write and solve equations in order to solve work problems involving time and money. - Use lesson vocabulary such as convert, equation, expression, and counterexample.	Lesson Sequence <i>Session 1:</i> - Try It (5-10 min) Use three reads. Explore the idea that different strategies can be used to solve work problems about time on page 579. - Discuss It (10-15 min) After students work on Try It, have them respond to Discuss It with a partner on page 579. - Connect It (10-15 min) Look for understanding that 1 hour needs to be converted to 60 minutes and then the total number of minutes spent on Wednesday and Thursday is subtracted from 115 minutes on page 580. - Exit Ticket (5 min) Students will complete the Reflect problem on page 580. - Additional Practice Prepare for Problems About Time and Money on pages 581-582.	- Unit 3B Assessment - Exit Tickets - Student Workbook pages 581-582, 587-588, 593-594. - Lesson Quiz (Teacher Guide on pages 598a-598b)



Differentiation:

Use clocks to show the relationship between hours and minutes. (Activity on Teacher Guide page 580)

Prerequisite: Grade 3 Lesson 18 - Solve Two-Step Word Problems Using the Four Operations

Reteach: Tools for Instruction - Solve Measurement Word Problems

Reinforce: Math Center Activities - Multi-Step Money Problems

Extend: Enrichment Activities - Carnival

Resources Provided:

- Teacher Guide
- Student Workbook
- Math Toolkit- clocks, index cards, math reference sheet, number lines
- Interactive Tutorial - [Solve Problems about Time](#)



Lesson Plan 3 Template

Content Area: Math Lesson Title: Problems about Length, Liquid Volume, Mass, and Weight Time Frame: 5 days

Lesson Components

21st Century Themes

☐ Global Awareness ☒ Financial, Economic, Business and Entrepreneurial Literacy
☐ Civic Literacy ☐ Health Literacy

21st Century Skills

☐ Creativity and Innovation ☒ Critical Thinking and Problem Solving ☐ Information Literacy
☒ Life and Career Skills ☒ Communication and Collaboration ☒ Media Literacy ☐ ICT Literacy

Interdisciplinary Connections: English Language Arts, Science and Engineering

Integration of Technology: iPads, Projector

Equipment Needed: Laptop, iPads, i-Ready teacher Guide, i-Ready Presentation Slides, counters, math reference sheet, number lines, rulers

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Solve word problems involving length, liquid volume, mass and weight. - Convert larger units of measure to smaller units in order to solve measurement word problems. - Write and solve equations in order to solve measurement word problems. - Use lesson vocabulary such as weight, convert, equation, expression, length, liquid volume, mass, and given.	Lesson Sequence <i>Session 1:</i> - Try It (5-10 min) Use three reads. Explore the idea that converting units can help you solve a multi-step measurement problem on page 601. - Discuss It (10-15 min) After students work on Try It, have them respond to Discuss It with a partner on page 601. - Connect It (15-20 min) Look for understanding that 12 yards and 4 yards 2 feet must first be converted to feet then the total number of feet used for both projects is subtracted from the number of feet in 12 yards on page 602. - Exit Ticket (5 min) Students will complete the Reflect problem on page 602. - Additional Practice	- Unit 3B assessment - Exit Tickets - Student Workbook pages 603-604, 609-610, 615-616, 621-622 - Lesson Quiz (Teacher Guide on pages 626a-626b)



Prepare for Problems About Length, Liquid Volume, Mass, and Weight on pages 603-604.

Differentiation:

Use yardsticks to show the relationship between yards and feet. (Activity on Teacher Guide page 602)

Prerequisite: Grade 4 Lesson 13 Use Multiplication to Convert Measurements, Grade 4 Lesson 26 Relate Decimals and Fractions, Grade 4 Lesson 28 Problems About Time and Money

Reteach: Tools for Instruction: Problems about Length, Liquid Volume, Mass, and Weight, Liquid Volume, Estimating Mass, Find Equivalent Measurements, Write Fractions as Decimals, Solve Measurement Word Problems

Reinforce: Distance Problems

Resources Provided:

- Teacher Guide
- Student Workbook
- Math Toolkit- counters, math reference sheet, number lines, rulers
- Interactive Tutorial - [Express Measurements in Larger Units](#)



Lesson Reflection

Reflect on the lesson you have developed and rate the degree to which the lesson *Strongly*, *Moderately* or *Weakly* meets the criteria below.

Lesson Activities	Strongly	Moderately	Weakly
Are challenging Strongly and require higher order thinking and problem solving skills	X		
Allow for student choice		X	
Provide scaffolding for acquiring targeted knowledge/skills	X		
Integrate global perspectives		X	
Integrate 21st century skills		X	
Provide opportunities for interdisciplinary connection and transfer of knowledge and skills	X		
Foster student use of technology as a tool to develop critical thinking, creativity and innovation skills	X		
Are varied to address different student learning styles and preferences	X		
Are differentiated based on student needs		X	
Are student-centered with teacher acting as a facilitator and co-learner during the teaching and learning process	X		
Provide means for students to demonstrate knowledge and skills and progress in meeting learning goals and objectives		X	
Provide opportunities for student reflection and self- assessment	X		
Provide data to inform and adjust instruction to better meet the varying needs of learners	X		

Curriculum Design Template

Content Area: Math	Grade Level: 4	Unit Title: 3B: Building Fraction and Decimal Notation
Created: 2024	Board Approved on:	Type Here



Unit Overview Template

Content Area:	Math	Grade Level:	4	Unit Title:	4A: Geometry and Measurement
Unit Summary: The principal focus of this unit is geometry. Students will practice using geometry tools, to classify quadrilaterals, and to explore and identify polygons.					
Primary Interdisciplinary Connections: <i>Science, Engineering, English Language Arts</i>					
21st Century Themes ☒ Creativity and Innovation ☒ Critical Thinking and Problem Solving ☒ ICT Literacy ☐ Information Literacy ☐ Life and Career Skills ☒ Communication and Collaboration ☐ Media Literacy					
Unit Rationale: To introduce tools for geometry; to review points, line segments, lines, and rays. To guide students in the construction of angles, triangles, and quadrilaterals and in the classification of quadrilaterals.					
Career Readiness (Standard 9): 9.1.5.CR.1: Compare various ways to give back and relate them to your strengths, interests, and other personal factors. 9.4.5.CI.3: Participate in brainstorming sessions with individuals with diverse perspectives to expand one's thinking about a topic of curiosity (e.g., 8.2.5.ED.2, 1.5.5.CR1a). 9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process (e.g., 2.1.5.EH.4, 4-ESS3-1, 6.3.5.CivicsPD.2). 9.4.5.DC.4: Model safe, legal, and ethical behavior when using online or offline technology (e.g., 8.1.5.NI.2).					

Learning Targets

Standards:	4.G.A
Content Statements:	Draw and identify lines and angles, and classify shapes by properties of their lines and angles; Understand Lines of symmetry and how to find/create them.
CPI#:	Cumulative Progress Indicator (CPI):
4.G.A.1	Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.
4.G.A.2	Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles.
4.G.A.3	Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.
SEL.PK-12.1.4	Recognize the importance of self-confidence in handling daily tasks and challenges.
SEL.PK-12.2.2	Recognize the skills needed to establish and achieve personal and educational goals.
SEL.PK-12.3.4	Demonstrate an awareness of the expectations for social interactions in a variety of settings.



SEL.PK-12.5.4	Demonstrate the ability to prevent and resolve interpersonal conflicts in constructive ways.
SEL.PK-12.1.4	Recognize the importance of self-confidence in handling daily tasks and challenges.
3-5-ETS1-2	Generate and compare multiple solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.
W.4.5	With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, and editing.

Unit Essential Questions:

- How can I identify and categorize differences between lines, points, line segments and rays?
- How can I use my knowledge of lines, points, line segments, and rays to describe 2-D shapes?
- How can I identify angle types?
- How can I use my knowledge of angle types to describe 2-D shapes?
- How can I divide shapes and identify lines of symmetry?
- How can I use geometric vocabulary to describe shapes?

Unit Enduring Understandings:

- To instruct students in the creation of angles, triangles, and quadrilaterals.
- To guide in the classification of angles.
- To compare the qualities of different shapes.

Unit Learning Targets:

Students will....

- develop a familiarity with the content and organization of the math program and materials.
- complete practice problems reviewing points, line, line segments, and rays.
- construct and classify angles/triangles.



Evidence of Learning

Summative Assessment: Unit 4A assessment

Equipment Needed: iPads, Projector

Teacher Resources: Curriculum Map, i-Ready Teacher's Guide, Teacher Toolbox, Student Workbook

Formative Assessments:

- i-Ready Diagnostic 3
- OnCourse Assessments
- Lesson Quizzes
- Unit Tests
- Exit Tickets
- Self Checks
- Reflect Questions
- Student Workbook
- Timed Math Facts
- Written Assessments
- Open Response Questions
- Teacher Observations
- Small group and whole class discussions



Lesson Plans

Lesson	Time Frame
Lesson 1 Points, Lines, Rays and Angles	5 days
Lesson 2 Angles	4 days
Lesson 3 Add and Subtract with Angles	4 days

Teacher Notes:

i-Ready Teacher Toolbox, i-Ready Discussion Cards, fact tables, i-Ready assigned virtual lessons, Math in Action, Digital Comprehension Checks

Curriculum Development Resources/Technology Resources:

Click the links below to access additional resources used to design this unit:

<https://login.i-ready.com/educator>

<http://tasks.illustrativemathematics.org/4>

<https://www.brainpop.com/login>

www.ixl.com

[Grade 4 CAR - Unit 4A Map](#)

[NJ Student Learning Standards for Mathematics Grade 4](#)



Lesson Plan 1 Template

Content Area: Math Lesson Title: Points, Lines, Rays and Angles Time Frame: 5 days

Lesson Components

21st Century Themes

☒ Global Awareness ☐ Financial, Economic, Business and Entrepreneurial Literacy
☐ Civic Literacy ☐ Health Literacy

21st Century Skills

☐ Creativity and Innovation ☒ Critical Thinking and Problem Solving ☐ Information Literacy
☐ Life and Career Skills ☒ Communication and Collaboration ☐ Media Literacy ☐ ICT Literacy

Interdisciplinary Connections: English Language Arts, Science and Engineering

Integration of Technology: iPads, Projector

Equipment Needed: Laptop, iPads, i-Ready teacher Guide, i-Ready Presentation Slides, geoboards, grid paper, rulers

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Identify and draw points, lines, line segments, rays and angles and identify them in two-dimensional figures. - Recognize an angle as a geometric shape. - Identify acute, right and obtuse angles in two-dimensional figures. - Identify and draw parallel lines, distinguish between the two, and identify them in two-dimensional figures. - Use lesson vocabulary such as acute angle, angle, line, line segment, obtuse angle, parallel lines, perpendicular lines, point, ray, right angle, and vertex.	Lesson Sequence <i>Session 1:</i> - Try It (5-10 min) Use three reads. Explore the idea that a rectangle has specific attributes that define the figure on page 645. - Discuss It (10-15 min) After students work on Try It, have them respond to Discuss It with a partner on page 645. - Connect It (10-15 min) Look for understanding that a rectangle has 4 straight sides with opposite sides equal in length and 4 right angles on page 646. - Exit Ticket (5 min) Students will complete the Reflect problem on page 646. - Additional Practice Prepare for Points, Lines, Rays, and Angles on pages 647-648.	- Unit 4A assessment - Exit Tickets - Student Workbook pages 647-648, 653-654, 659-660, 665-666 - Lesson Quiz (Teacher Guide on pages 670a-670b)

**Differentiation:**

Use geoboards to describe a shape. (Activity on Teacher Guide page 646)

Prerequisite: Grade 2 Lesson 28 Recognize and Draw Shapes, Grade 3 Lesson Understand Categories of Shapes

Reteach: Tools for Instruction- Rays and Angles, Draw and Describe Shapes, Categories of Shapes

Reinforce: Geometry Vocabulary Match, Drawing for Geometry

Extend: Enrichment Activities- New Roads

Resources Provided:

- Teacher Guide
- Student Workbook
- Math Toolkit- chenille stems, geoboards, grid paper, rulers
- Interactive Tutorial - [Identify Angles](#), [Identify Points](#), [Lines and Rays](#)



Lesson Plan 2 Template

Content Area: Math Lesson Title: Angles Time Frame: 4 days

Lesson Components

21st Century Themes

- ☐ Global Awareness ☒ Financial, Economic, Business and Entrepreneurial Literacy
☐ Civic Literacy ☐ Health Literacy

21st Century Skills

- ☐ Creativity and Innovation ☒ Critical Thinking and Problem Solving ☐ Information Literacy
☐ Life and Career Skills ☒ Communication and Collaboration ☐ Media Literacy ☐ ICT Literacy

Interdisciplinary Connections: English Language Arts, Science and Engineering

Integration of Technology: iPads, Projector

Equipment Needed: Laptop, iPads, i-Ready teacher Guide, i-Ready Presentation Slides, protractors, rulers, sticky notes, index cards

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Recognize the relationship between the measure of an angle and the part of a circle that the angle turns through. - Use a protractor to measure an angle. - Use benchmark angle measures to estimate the measure of an angle. - Draw an angle of a specific degree. - Use lesson vocabulary such as acute angle, angle, obtuse angle, ray, right angle, vertex, exactly, line up, and section.	Lesson Sequence <i>Session 1:</i> - Try It (5-10 min) Use three reads. Explore the idea of comparing two angles to determine which has the greater angle measure on page 673. - Discuss It (10-15 min) After students work on Try It, have them respond to Discuss It with a partner on page 673. - Connect It (10-15 min) Look for students to understand that Ezra's angle has a wider opening than Ana's angle, so Era makes the greater angle on page 674. - Exit Ticket (5 min) Students will complete the Reflect problem on page 674. - Additional Practice Prepare for Angles on pages 675-676.	- Unit 4A assessment - Exit Tickets - Student Workbook pages 675-676, 681-682, 687-688 - Lesson Quiz (Teacher Guide on pages 692a-692b)
Differentiation: Use heavy paper to make an angle. (Activity on Teacher Guide page 674)		



Prerequisite: Grade 3 Lesson 30 Understand Categories of Shapes, Grade 4 Lesson 30 Points, Lines, Rays, and Angles

Reteach: Tools for Instruction- Measure Angles, Categories of Shapes, Rays and Angles

Reinforce: Angle Vocabulary Match, Angles and Circles, Measuring Angles, Drawing Angles

Extend: Angles in Shapes

Resources Provided:

- Teacher Guide
- Student Workbook
- Math Toolkit- chenille stems, rulers, tracing paper
- Interactive Tutorial - [Measure Angles](#), [Identify Angles](#)



Lesson Plan 3 Template

Content Area: Math Lesson Title: Add and Subtract with Angles Time Frame: 4 days

Lesson Components

21st Century Themes

☒ Global Awareness ☐ Financial, Economic, Business and Entrepreneurial Literacy
☐ Civic Literacy ☐ Health Literacy

21st Century Skills

☐ Creativity and Innovation ☒ Critical Thinking and Problem Solving ☐ Information Literacy
☒ Life and Career Skills ☒ Communication and Collaboration ☐ Media Literacy ☒ ICT Literacy

Interdisciplinary Connections: English Language Arts, Science and Engineering

Integration of Technology: iPads, Projector

Equipment Needed: Laptop, iPads, i-Ready teacher Guide, i-Ready Presentation Slides

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Recognize that an angle can be decomposed into several smaller angles. - Recognize that several smaller angles can be combined to form a larger angle. - Add and subtract to find angle measures. - Use addition and subtraction to solve word problems about angle measures. - Use lesson vocabulary such as angle, compose, decompose, degree ($^{\circ}$), protractor, and relationship.	Lesson Sequence <i>Session 1:</i> - Try It (5 min) Use three reads. Explore the idea that an angle can be decomposed into smaller angles on page 695. - Discuss It (5-10 min) Ask students to respond to the Discuss It and work with a partner on page 695. - Connect It (10-15 min) Look for understanding that the sum of the measures of angle a and angle b is the same as the measure of the uncut angle, which is a right angle and has a measure of 90° on page 696. - Exit Ticket (5 min) Students will complete the Reflect problem on page 696. - Additional Practice Prepare for Adding and Subtracting with Angles on pages 697-698.	- Unit 4A Assessment - Exit Tickets - Student Workbook pages 697-698, 709-710, - Lesson Quiz (Teacher Guide on pages 714a-714b)

**Differentiation:**

Use a protractor, index card, ruler, and scissors to model decomposing angle. (Activity on Teacher Guide page 695)

Prerequisite: Grade 4 Lesson 30 Points, Lines, Rays, and Angles, Grade 4 Lesson 31 Classify Quadrilaterals

Reteach: Tools for Instruction - Solve for Angle Measures, Categories of Shapes, Rays and Angles, Measure Angles

Reinforce: Adding Angles, Unknown Angle Measures

Extend: Enrichment Activities - Angles in Triangles

Resources Provided:

- Teacher Guide
- Student Workbook
- Math Toolkit- index cards, protractors, rulers, sticky notes
- Interactive Tutorial: [Measure Angles](#)



Lesson Reflection

Reflect on the lesson you have developed and rate the degree to which the lesson *Strongly, Moderately* or *Weakly* meets the criteria below.

Lesson Activities	Strongly	Moderately	Weakly
Are challenging Strongly and require higher order thinking and problem solving skills	X		
Allow for student choice		X	
Provide scaffolding for acquiring targeted knowledge/skills		X	
Integrate global perspectives	X		
Integrate 21st century skills		X	
Provide opportunities for interdisciplinary connection and transfer of knowledge and skills		X	
Foster student use of technology as a tool to develop critical thinking, creativity and innovation skills	X		
Are varied to address different student learning styles and preferences	X		
Are differentiated based on student needs	X		
Are student-centered with teacher acting as a facilitator and co-learner during the teaching and learning process		X	
Provide means for students to demonstrate knowledge and skills and progress in meeting learning goals and objectives		X	
Provide opportunities for student reflection and self- assessment	X		
Provide data to inform and adjust instruction to better meet the varying needs of learners	X		

Curriculum Design Template

Content Area: Math	Grade Level: 4	Unit Title: 4A: Geometry and Measurement
Created: 2024	Board Approved on: Type Here	



Unit Overview Template

Content Area:	Math	Grade Level:	4	Unit Title:	4B: Geometry and Measurement
Unit Summary: The principal focus of this unit is geometry. Students will practice using geometry tools, to classify quadrilaterals, and to explore and identify polygons. Students will work with protractors to measure angles, create angles, and add and subtract angle measurements.					
Primary Interdisciplinary Connections: <i>Science, Engineering, English Language Arts</i>					
<u>21st Century Themes</u> ☒ Creativity and Innovation ☐ Critical Thinking and Problem Solving ☐ ICT Literacy ☒ Information Literacy ☐ Life and Career Skills ☒ Communication and Collaboration ☐ Media Literacy					
Unit Rationale: To introduce using a protractor; To guide the discovery of basic properties of reflections, involving 2-dimensional figures and the connection with the line symmetry.					
Career Readiness (Standard 9): 9.1.5.CR.1: Compare various ways to give back and relate them to your strengths, interests, and other personal factors. 9.4.5.CI.3: Participate in brainstorming sessions with individuals with diverse perspectives to expand one's thinking about a topic of curiosity (e.g., 8.2.5.ED.2, 1.5.5.CR1a). 9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process (e.g., 2.1.5.EH.4, 4-ESS3-1, 6.3.5.CivicsPD.2). 9.4.5.DC.4: Model safe, legal, and ethical behavior when using online or offline technology (e.g., 8.1.5.NI.2).					

Learning Targets

Standards:	4.M, 4.OA
Content Statements:	Geometric measurement: understand concepts of angle and measure angles. To guide the discovery of basic properties of reflections, involving 2-dimensional figures and the connection with the line symmetry. Geometric measurement: understand concepts of angle and measure angles; Draw and identify lines and angles, and classify shapes by properties of their lines and angles.
CPI#:	Cumulative Progress Indicator (CPI):
4.M.B.4	Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement: a. An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through $\frac{1}{360}$ th of a circle is called a “one-degree angle,” and can be used to measure angles. b. An angle that turns through n one-degree angles is said to have an angle measure of n degrees.
4.M.B.5	Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.



4.M.B.6	Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure.
4.OA.A.3	Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.
4.NBT.B.4	With accuracy and efficiency, add and subtract multi-digit whole numbers using the standard algorithm.
SEL.PK-12.1.4	Recognize the importance of self-confidence in handling daily tasks and challenges.
SEL.PK-12.2.2	Recognize the skills needed to establish and achieve personal and educational goals.
SEL.PK-12.3.4	Demonstrate an awareness of the expectations for social interactions in a variety of settings.
SEL.PK-12.5.4	Demonstrate the ability to prevent and resolve interpersonal conflicts in constructive ways.
SEL.PK-12.1.4	Recognize the importance of self-confidence in handling daily tasks and challenges.
W.4.5	With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, and editing.
3-5-ETS1-2	Generate and compare multiple solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.

Unit Essential Questions:

- How can I use my knowledge of angle types to estimate the measure of an angle?
- How can I use a half-circle protractor to measure angles?
- How can I use fraction pieces to estimate the measure of an angle?
- How can I use my knowledge of rays to draw angles of different sizes?
- How can I use my knowledge of angle measures to determine the measure of part of an angle?
- How can I use my knowledge of addition, subtraction, multiplication, and division to answer multi-step problems?

Unit Enduring Understandings:

- To explore the reflections of 2-dimensional figures.
- To identify lines of reflection.
- To discover the connection between reflections and lines of symmetry.

Unit Learning Targets:

Students will....

- identify and draw reflections of 2-dimensional figures.
- explore lines of reflection.



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- discover the connection between lines of symmetry and reflections.



Evidence of Learning

Summative Assessment: Unit 4B assessment

Equipment Needed: iPads, Projector

Teacher Resources: Curriculum Map, i-Ready Teacher's Guide, Teacher Toolbox, Student Workbook

Formative Assessments:

- i-Ready Diagnostic 3
- OnCourse Assessments
- Lesson Quizzes
- Unit Tests
- Exit Tickets
- Self Checks
- Reflect Questions
- Student Workbook
- Timed Math Facts
- Written Assessments
- Open Response Questions
- Teacher Observations
- Small group and whole class discussions



Lesson Plans

Lesson	Time Frame
Lesson 1 Classify Two-Dimensional Figures	5 days
Lesson 2 Symmetry	3 days
Lesson 3 Classify Shapes and Angles	2 days

Teacher Notes:

gr

i-Ready Teacher Toolbox, i-Ready Discussion Cards, fact tables, i-Ready assigned virtual lessons, Math in Action, Digital Comprehension Checks.

Curriculum Development Resources/Technology Resources:

Click the links below to access additional resources used to design this unit:

<https://login.i-ready.com/educator>

<http://tasks.illustrativemathematics.org/4>

<https://www.brainpop.com/login>

www.ixl.com

[Grade 4 CAR - Unit 4B Map](#)

[NJ Student Learning Standards for Mathematics Grade 4](#)



Lesson Plan 1 Template

Content Area: Math Lesson Title: Classify Two-Dimensional Figures Time Frame: 5 days

Lesson Components

21st Century Themes

☐ Global Awareness ☐ Financial, Economic, Business and Entrepreneurial Literacy
X Civic Literacy ☐ Health Literacy

21st Century Skills

☐ Creativity and Innovation **X** Critical Thinking and Problem Solving ☐ Information Literacy
X Life and Career Skills **X** Communication and Collaboration ☐ Media Literacy ☐ ICT Literacy

Interdisciplinary Connections: English Language Arts, Science and Engineering

Integration of Technology: iPads, Projector

Equipment Needed: Laptop, iPads, i-Ready teacher Guide, i-Ready Presentation Slides

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Sort two-dimensional figures based on parallel or perpendicular sides and on acute, obtuse, or right angles. - Recognize that triangles can be classified based on the lengths of their sides (isosceles, equilateral, scalene). - Name a triangle based on the kind of angles it has (acute, obtuse, right). - Use lesson vocabulary such as acute triangle, equilateral triangle, hexagon, isosceles triangle, obtuse triangle, polygon, right triangle, scalene triangle, trapezoid (exclusive and inclusive), parallel lines, parallelogram, and perpendicular lines.	Lesson Sequence <i>Session 1:</i> - Try It (5-10 min) Use three reads. Explore the idea that knowing the definitions of <i>parallel</i> and <i>perpendicular</i> can help you sort two-dimensional shapes on page 717. - Discuss It (10-15 min) After students work on Try It, have them respond to Discuss It with a partner on page 717. - Connect It (10-15 min) Look for understanding that both the rectangle and the square have 2 pairs of parallel sides and 2 pairs of perpendicular sides on page 718. - Exit Ticket (5 min) Students will complete the Reflect problem on page 718. - Additional Practice Prepare for Classifying Two-Dimensional Figures on pages 719-720.	- Unit 4B Assessment - Exit Tickets - Student Workbook pages 719-720, 725-726, 731-732, 737-738 - Lesson Quiz (Teacher Guide on pages 742a-742b)

**Differentiation:**

Use pattern blocks to sort shapes. (Activity on Teacher Guide page 718)

Prerequisite: Grade 3 Lesson 30 Understand Categories of Shapes and Grade 3 Lesson 31 Classify Quadrilaterals

Reteach: Tools for Instruction - Attributes of Shapes, Categories of Shapes, Categories of Plane Figures

Reinforce: Triangle Vocabulary Match, Classifying Shapes

Extend: Enrichment Activities- Which One is Different?

Resources Provided:

- Teacher Guide
- Student Workbook
- Math Toolkit- index cards, pattern blocks, protractors, rulers
- Interactive Tutorial: [Classify Quadrilaterals](#), [Classify Triangles](#), [Understand Categories of Shapes](#), [Classify and Compare Quadrilaterals](#)



Lesson Plan 2 Template

Content Area: Math Lesson Title: Symmetry Time Frame: 3 days

Lesson Components

21st Century Themes

- ☐ Global Awareness ☐ Financial, Economic, Business and Entrepreneurial Literacy
☐ Civic Literacy ☐ Health Literacy

21st Century Skills

- X** Creativity and Innovation **X** Critical Thinking and Problem Solving **X** Information Literacy
☐ Life and Career Skills **X** Communication and Collaboration ☐ Media Literacy ☐ ICT Literacy

Interdisciplinary Connections: English Language Arts, Science and Engineering

Integration of Technology: iPads, Projector

Equipment Needed: Laptop, iPads, i-Ready teacher Guide, i-Ready Presentation Slides

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Recognize lines of symmetry in two-dimensional figures. - Draw lines of symmetry in two-dimensional figures. - Use lesson vocabulary such as line of symmetry, at least, and exactly.	Lesson Sequence <i>Session 1:</i> - Try It (5-10 min) Use three reads. Explore the idea that folding paper over a given line to see if the two parts match up tells whether it is a line of symmetry on page 745. - Discuss It (10-15 min) After students work on Try It, have them respond to Discuss It with a partner on page 745. - Connect It (10-15 min) Look for understanding that two parts of a shape fit exactly on top of each other when all the sides or curves line up with each other on page 746. - Exit Ticket (5 min) Students will complete the Reflect problem on page 746. - Additional Practice Prepare for Symmetry on pages 747-748.	- Unit 4B Assessment - Exit Tickets - Student Workbook pages 747-748, 753-754 - Lesson Quiz (Teacher Guide on pages 758a-758b)
Differentiation: Use a folded sheet of paper to identify lines of symmetry. (Activity on Teacher Guide page 746)		



Prerequisite: Grade 3 Lesson 30 Understand Categories of Shapes and Grade 3 Lesson Partition Shapes into Parts with Equal Areas

Reteach: Tools for Instruction - Lines of Symmetry, Categories of Shapes, Partitioning Shapes

Reinforce: Recognizing Lines of Symmetry, Drawing Lines of Symmetry

Extend: Enrichment Activities- Mystery Shapes

Resources Provided:

- Teacher Guide
- Student Workbook
- Math Toolkit- geoboards, grid paper, pattern blocks, rulers, tracing paper
- Interactive Tutorial: [Line Symmetry](#)



Lesson Plan 3 Template

Content Area: Math Lesson Title: Classify Shapes and Angles Time Frame: 2 days

Lesson Components

21st Century Themes

- ☐ Global Awareness ☒ Financial, Economic, Business and Entrepreneurial Literacy
☐ Civic Literacy ☐ Health Literacy

21st Century Skills

- ☐ Creativity and Innovation ☒ Critical Thinking and Problem Solving ☒ Information Literacy
☐ Life and Career Skills ☒ Communication and Collaboration ☐ Media Literacy ☐ ICT Literacy

Interdisciplinary Connections: English Language Arts, Science and Engineering

Integration of Technology: iPads, Projector

Equipment Needed: Laptop, iPads, i-Ready teacher Guide, i-Ready Presentation Slides

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Examine a problem that involves classifying shapes based on their sides and angles. - Analyze a sample solution to identify what makes it a good solution. - Demonstrate that the problem has more than one approach and more than one solution.	Lesson Sequence <i>Session 1:</i> - Study an Example Problem and Solution (5-10 min) Present the Wood Scraps problem and Bella's solution, prompt students to share their ideas about how they might solve this problem on pages 760-761. - Plan and Solve It (10-15 min) After students review the Wood Scraps problem and Bella's solution, have students respond to Plan It and Solve It on pages 762-763. - Exit Ticket (5 min) Students will complete the Reflect problem on page 763. - Additional Practice Preserve On Your Own Mosaic Art on pages 766-767.	- Unit 4B Assessment - Exit Tickets - Student Workbook pages 762-763, 764-765, 766-768
Differentiation: Use a Venn Diagram to explore categories. (Activity on Teacher Guide page 762)		



Extend: Enrichment Activity- Symmetric Mosaic

Resources Provided:

- Teacher Guide
- Student Workbook
- Math Toolkit- activity sheets ([Solution Sheet 2](#) and [Symmetric Mosaic](#)), [oral presentation checklist](#), string circles, paper



Lesson Reflection

Reflect on the lesson you have developed and rate the degree to which the lesson *Strongly*, *Moderately* or *Weakly* meets the criteria below.

Lesson Activities	Strongly	Moderately	Weakly
Are challenging Strongly and require higher order thinking and problem solving skills	X		
Allow for student choice		X	
Provide scaffolding for acquiring targeted knowledge/skills		X	
Integrate global perspectives	X		
Integrate 21st century skills	X		
Provide opportunities for interdisciplinary connection and transfer of knowledge and skills		X	
Foster student use of technology as a tool to develop critical thinking, creativity and innovation skills		X	
Are varied to address different student learning styles and preferences	X		
Are differentiated based on student needs	X		
Are student-centered with teacher acting as a facilitator and co-learner during the teaching and learning process		X	
Provide means for students to demonstrate knowledge and skills and progress in meeting learning goals and objectives		X	
Provide opportunities for student reflection and self- assessment	X		
Provide data to inform and adjust instruction to better meet the varying needs of learners	X		

Curriculum Design Template

Content Area: Math	Grade Level: 4	Unit Title: 4A: Geometry and Measurement
Created: 2024	Board Approved Type Here on:	



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GLOBAL SKILLS

IEP AND 504 ACCOMMODATIONS AND MODIFICATIONS FOR EARLY CHILDHOOD AND ELEMENTARY SCHOOL STUDENTS:

Large print textbooks
Textbooks for at-home use
Additional time for assignments
Review of directions
Use of mnemonics
Have student restate information
Concrete examples
Adaptive writing utensils
Support auditory presentations with visuals
Use of a study carrel
Assistance in maintaining uncluttered space
Weekly home-school communication tools (notebook, daily log, phone calls or email messages)
Space for movement or breaks
Study sheets and teacher outlines
Extra visual and verbal cues and prompts
Math sheets with highlighted instructions
Graph paper to assist in organizing or lining up math problems
Use of computers and calculators
Books on tape
Graphic organizers
Quiet corner or room to calm down and relax when anxious
Preferential seating
Alteration of the classroom arrangement
Reduction of distractions
Answers to be dictated
Hands-on activities
Use of manipulatives
No penalty for spelling errors or sloppy handwriting
Follow a routine/schedule
Alternate quiet and active time
Teach time management skills
Rest breaks
Verbal and visual cues regarding directions and staying on task
Agenda book and checklists
Adjusted assignment timelines
Visual daily schedule



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**ENGAGING STUDENTS • FOSTERING ACHIEVEMENT • CULTIVATING 21ST CENTURY
GLOBAL SKILLS**

Varied reinforcement procedures
Immediate feedback
Work-in-progress check
Personalized examples

TESTING AND ASSESSMENT ACCOMMODATIONS AND MODIFICATIONS:

Answers to be dictated
Frequent rest breaks
Additional time
Oral testing
Untimed tests
Choice of test format (multiple-choice, essay, true-false)
Alternate ways to evaluate (projects or oral presentations instead of written tests)
Accept short answers
Open-book tests
Read test and directions to student
Provide study outline prior to tests
Highlight key directions
Test in alternative site
Use of calculator
Extra credit option
Preview test procedures
Simplified test wording; rephrased test questions and/or directions

GENERAL ACCOMMODATIONS AND MODIFICATIONS:

Use of alternative books or materials on the topic being studied
Computerized spell-check support
Word bank of choices for answers to test questions
Provision of calculator and/or number line for math tests
Reworded questions in simpler language
Projects instead of written reports
Highlighting important words or phrases in reading assignments
Modified workload or length of assignments/tests
Modified time demands
Modified grades based on IEP

BEHAVIOR ACCOMMODATIONS MODIFICATIONS:



SPRINGFIELD PUBLIC SCHOOLS

**ENGAGING STUDENTS • FOSTERING ACHIEVEMENT • CULTIVATING 21ST CENTURY
GLOBAL SKILLS**

Breaks between tasks
Cue expected behavior
Daily feedback to student
Have contingency plans
Use de-escalating strategies
Use positive reinforcement
Use proximity/touch control
Use peer supports and mentoring
Model expected behavior by adults
Have parent sign homework
Have parent sign behavior chart
Set and post class rules
Chart progress and maintain data



SPRINGFIELD PUBLIC SCHOOLS

**ENGAGING STUDENTS • FOSTERING ACHIEVEMENT • CULTIVATING 21ST CENTURY
GLOBAL SKILLS**

IEP AND 504 ACCOMODATIONS AND MODIFICATIONS FOR MIDDLE AND HIGH SCHOOL STUDENTS:

Large print textbooks
Textbooks for at-home use
Additional time for assignments
A locker with adapted lock
Review of directions
Review sessions
Use of mnemonics
Have student restate information
Provision of notes or outlines
Concrete examples
Adaptive writing utensils
Support auditory presentations with visuals
Weekly or bi-weekly home-school communication
Space for movement or breaks
Study sheets and teacher outlines
Extra visual and verbal cues and prompts
Lab and math sheets with highlighted instructions
Graph paper to assist in organizing or lining up math problems
Use of tape recorder for lectures
Use of Interactive notebook
Use of a scribe
Use of computers and calculators
Books on tape
Graphic organizers
Quiet corner or room to calm down and relax when anxious
Preferential seating
Alteration of the classroom arrangement
Reduction of distractions
Answers to be dictated
Hands-on activities
Ability to type all assignments
Follow a routine/schedule
Teach time management and organizational skills
Rest breaks
Verbal and visual cues regarding directions and staying on task
Agenda book and checklists
Daily check-in with case manager or special education teacher
Adjusted assignment timelines
Visual daily schedule



SPRINGFIELD PUBLIC SCHOOLS

**ENGAGING STUDENTS • FOSTERING ACHIEVEMENT • CULTIVATING 21ST CENTURY
GLOBAL SKILLS**

Varied reinforcement procedures
Immediate feedback
Work-in-progress check
Personalized examples

TESTING AND ASSESSMENT ACCOMMODATIONS AND MODIFICATIONS:

Answers to be dictated
Frequent rest breaks
Additional time
Oral testing
Choice of test format (multiple-choice, essay, true-false)
Alternate ways to evaluate (projects or oral presentations instead of written tests)
Accept short answers
Open-book or open-note tests
Read test and directions to student
Provide study guides prior to tests
Highlight key directions
Test in alternative site
Use of calculator
Extra credit option
Pace long-term projects
Preview test procedures
Simplified test wording; rephrased test questions and/or directions

GENERAL ACCOMMODATIONS AND MODIFICATIONS:

Allow outlining, instead of writing for an essay or major project
Use of alternative books or materials on the topic being studied
Computerized spell-check support
Word bank of choices for answers to test questions
Provision of calculator for math tests
Film or video supplements in place of reading text
Reworded questions in simpler language
Projects instead of written reports
Highlighting important words or phrases in reading assignments
Modified workload or length of assignments/tests
Modified time demands



SPRINGFIELD PUBLIC SCHOOLS

**ENGAGING STUDENTS • FOSTERING ACHIEVEMENT • CULTIVATING 21ST CENTURY
GLOBAL SKILLS**

Pass/no pass option
Modified grades based on IEP

BEHAVIOR ACCOMMODATIONS FOR STUDENTS:

- Breaks between tasks
- Cue expected behavior
- Daily feedback to student
- Have contingency plans
- Use de-escalating strategies
- Use positive reinforcement
- Use proximity/touch control
- Use peer supports and mentoring
- Model expected behavior by adults
- Have parent sign homework
- Set and post class rules
- Chart progress and maintain data



SPRINGFIELD PUBLIC SCHOOLS

ENGAGING STUDENTS • FOSTERING ACHIEVEMENT • CULTIVATING 21ST CENTURY
GLOBAL SKILLS

Accommodations and Modifications for ESL Students

- Give tests orally
- Give instructions/directions in writing and orally
- Assign a peer tutor, same language or English speaking
- Allow use of bilingual/translation dictionary
- Provide summaries of text or study guides of particular chapters
- Allow errors in speaking
- Allow errors in writing
- Accept writing in first language
- Highlight key vocabulary
- Reduce amount of work required
- Assess comprehension through demonstration or other alternative means (gestures, drawings)
- Rephrase questions, directions, and explanations
- Reduce multiple choices on assessments
- Provide study guides and/ or outlines
- Shorten reading assignments
- Allow extended time for test/project completion
- Use of audio books
- Use of graphic organizers
- Use reduced text, so that print is not dense
- Use visuals/pictures throughout lesson/unit/assignment
- Adapt homework to reflect language proficiency/home support
- Adapt homework to reflect home support
- Provide hands-on activities and explanations
- Allow extended time to answer questions, and permit drawing, as an explanation
- Use of translation dictionaries to locate words in the native language
- Use anecdotal records and portfolio of work as forms of assessment
- Use story retellings to assess comprehension

What Does the Gifted and Talented Experience Look Like? *Springfield Public Schools*

Mission Statement

The Gifted and Talented Program of the Springfield Public Schools aims to provide a meaningful and rigorous education that instills the value of lifelong learning and empowers all students to reach their full potential and become self-fulfilled creative leaders in accordance with the comprehensive standards of our state. We accomplish this by offering challenging, real-world experiences in a student-centered environment.

We recognize that students come from diverse socioeconomic, cultural, and ethnic backgrounds, and the mission of the gifted and talented program is to provide opportunities for students to explore their intellectual, creative, and artistic gifts and talents within the classroom and with beyond-the-classroom experiences. It is essential to provide diverse, appropriate, and ongoing learning experiences and environments that incorporate students' academic, psychological, and social needs. Our responsibility is to provide students with educational alternatives that teach, challenge, and expand their knowledge, while simultaneously stressing the development of independent and self-directed learners who continuously generate questions, analyze, synthesize, and evaluate information and ideas.

New Jersey Administrative Code 6A:8-3.1 defines students who are gifted and talented as those students who possess or demonstrate high levels of ability in one or more content areas when compared to their chronological peers in the local district and who require modification of their educational program if they are to achieve in accordance with their capabilities.

Goals:

To support our mission, we have established the following goals to guide our work:

- To infuse into the general education program a broad range of activities for high-level learning that will challenge all students to perform at advanced levels, and provide extended opportunities, resources, and support in particular areas where student interest or talent is demonstrated.
- To provide a continuum of gifted education services that will strengthen the total school program, offer enriching and challenging learning opportunities for all students, and provide specialized learning experiences
- To promote achievement of students' best potentials and increased ability.

Through a productive and collaborative relationship among the building principals, classroom teachers, and the Gifted and Talented teacher, our schools can create programming that will enhance the learning experience for every student and serve the unique and specialized needs of students currently demonstrating gifted behaviors.

Elements of the Schoolwide Enrichment Model, W.I.N (What I Need), differentiated instruction, advanced classes, or individual programs into a student's regular instruction program are integral to this overarching framework for gifted education in the Springfield School District.

Reference Board Policy and Regulation 2464 – Gifted and Talented Pupils (M)

Early Childhood Center **Edward V. Walton**

Schoolwide Virtual Enrichment

All first and second grade students have access to the [Gifted and Talented Virtual Classroom](#). This virtual classroom is a space for students to complete various challenges and enrichment opportunities at their own pace. Students can receive feedback and additional adaptable resources to meet their individual learning needs. The virtual classroom design expands accessibility to enrichment resources and allows students to choose learning activities according to their unique interests and abilities. The purpose of the activities is to encourage problem-solving, develop critical thinking

skills, and expand curiosity and imagination. Activities are aligned to the New Jersey Student Learning Standards.

Gifted and Talented Teacher as a Resource

The Gifted and Talented teacher serves as a resource to all teachers within Edward V. Walton School. Teachers seeking resources for their high-ability learners will receive additional support from the Gifted and Talented teacher in various ways. This support may include additional units of study, challenging resources, and student projects.

Elementary Schools **James Caldwell** **Thelma L. Sandmeier**

The goal is to engage small groups of students in intensive learning experiences through standards-based, rigorous, and relevant units of study that supplement, not supplant, the grade-level curriculum and support students' unique learning needs.

Enrichment Experience Grade 3

Beginning in third grade, the G&T teacher will cycle through all classrooms to work on problem-solving and enrichment tasks with students. Driven by assessment data, academic performance, student interest, and teacher observation, small groups of students will meet with the G&T teacher during W.I.N. (What I Need) periods throughout the week that the teacher is assigned to their classroom teacher. Groupings will be flexible and monitored to best meet each student's needs throughout the school year. Activities will include brain teasers, puzzles, strategic thinking, problem-solving, and STEM challenges.

Targeted Gifted and Talented Programing Grades 4-5

Students may become identified as Gifted and Talented in fourth grade. Students that are identified may receive support from the G&T Teacher for up to five periods (200 minutes) a week during W.I.N. (What I Need) periods. Identified students will meet to explore grade-level content while incorporating depth and complexity in a student-centered, problem-based environment. The Gifted and Talented Program aims to provide students with various advanced and challenging learning experiences across content areas to promote independent thinking skills, refine critical thinking and communication skills, cultivate joy in learning, and expand student interests through problem-solving. The instruction that students receive incorporates 21st Century Skills and advanced content that is challenging, hands-on, and relevant to the real world.

Strategies and Practices that Support Gifted and Talented Students

- Adjusted Pace of Lessons
- Inquiry-Based Instruction
- Higher-Order Thinking Activities
- Interest-Based Content
- Real World Problem Solving/Problem Based Learning
- Independent Study/Passion Projects
- Units of Study with Like-Minded Peers

Schoolwide Virtual Enrichment

All JCS and TLS students have access to grade level-specific [Gifted and Talented Virtual Classrooms](#). These virtual classrooms are a space for students to complete various challenges and enrichment opportunities at their own pace. Students are able to receive feedback and additional opportunities based on their needs. The virtual classrooms have expanded the accessibility of enrichment resources directly to the students and allows for students to choose opportunities according to their interests and abilities. The purpose of the activities is to encourage problem solving, develop critical thinking skills, and expand curiosity and imagination in conjunction with the New Jersey Student Learning Standards.

Gifted and Talented Teacher as a Resource

In addition to classroom support, the Gifted and Talented teacher also serves as a resource to all teachers in the building. Teachers that are seeking resources for their high ability learners will receive additional support from the Gifted and Talented teacher in various ways. This may include additional units of study, challenging resources, student projects, and meeting with the G&T teacher as needed.

Additional Enrichment Opportunities

Across all grade levels 3-5, as recommended by the classroom teacher, students exhibiting a need for additional enrichment may have the opportunity to meet with the G&T teacher as the schedule allows. Groupings will be flexible and monitored to best meet the students' needs throughout the school year. Activities will include, brain teasers, puzzles, strategic thinking activities, problem-solving challenges, and STEM challenges. Students engage in an extended process of asking questions, using resources, and developing answers that lead to thinking about what and how they are learning. Students are held accountable for how they work and use their time by demonstrating their learning through products or presentations.

Students self-select to participate in individual and/or group projects based on interest and commitment. The classroom teacher and/or the enrichment teacher will help guide and monitor student exploration of chosen topics, facilitating their learning with resources and teaching of needed skills.

Secondary Schools
Florence M. Gaudineer Middle School
Jonathan Dayton High School

Grades 6-12: Access to specific content programs with higher levels of academic challenges (i.e. Pre-Algebra, Accelerated Communication Arts, and Advanced Placement Classes)

Dual Credit Courses provide students the opportunity to obtain high school credit, and college credit, simultaneously through partnerships with several institutions.

Project Lead the Way (PLTW) students become builders of technology by engaging in real world activities. Students are empowered as design thinkers collaborating on real world projects.

Gifted and Talented Identification Criteria

The Springfield Schools Gifted and Talented Program recognizes that students require differentiated learning experiences beyond the core curriculum being taught because of their advanced abilities in one or more content areas. These students may also have other cognitive qualities such as curiosity, creativity, motivation, leadership, and passion that require modifications to their academic experience.

Multiple Measures of Eligibility

Kindergarten through grade twelve identification process for gifted and talented students includes multiple measures. Multiple measures may include but are not limited to: achievement test scores; grades; student performance or products; intelligence testing; parent, student, and/or teacher recommendation; and other appropriate measures. The identification methodology is developmentally appropriate, non-discriminatory, and related to the programs and services offered by the Springfield School District. The identification procedures are reviewed annually.

According to N.J.A.C. 6A:8-3.1, all public school districts must have a board-approved gifted and talented identification process and provide services for identified students enrolled in the grades of that school district. The regulations require that identification and services be made available to students in grades K-12.

When students are recommended for the Gifted and Talented Program there are multiple measures that are considered to determine if services are necessary and appropriate. The assessments used are as follows:

- Cognitive Abilities Test (CogAT)
- Classroom Performance/Student Portfolios
- DRA2 Level
- iReady Diagnostic Scores
- Gifted Indicators Checklist
- Start Strong/NJSLA Assessment Data

The N.J.A.C. requires that students be compared to their chronological peers in the local school district. The New Jersey Department of Education has not established state-level criteria for identifying students who are gifted, such as mandated tests or assessments, grade point averages, or IQ scores. Local school districts must use multiple measures to identify students.

Procedures

<https://www.straussesmay.com/seportal/Public/DistrictPolicy.aspx?policyid=2464&id=b8a33a9f505e4998a6db3fb8e1de778b>

Gifted and Talented Program Identification Matrix

Minimum Score Required for Consideration: 14 Points

1 Point	2 Points	3 Points
Cogat Assessment Overall Stanine Score of a 7	Cogat Assessment Overall Stanine Score of an 8	Cogat Assessment Overall Stanine Score of a 9
iReady Math Assessment Just Below Current Grade Level	iReady Math Assessment On Grade Level	iReady Math Assessment ½ Year + Above Current Level
iReady ELA On Grade Level	iReady ELA ½ Year Above Current Level	iReady ELA One Full Grade Level + Above Current Level
NJSLA Math Approaching Expectations	NJSLA Math Met Expectations	NJSLA Math Exceed Expectations
NJSLA ELA Approaching Expectations	NJSLA ELA Met Expectations	NJSLA ELA Exceed Expectations
HOPE Teacher Rating Scale Raw Score: 11 - 29	HOPE Teacher Rating Scale Raw Score: 30 - 49	HOPE Teacher Rating Scale Raw Score: 50-66

Team meetings present the opportunity to review data and assess the educational needs of all students. Teacher provides examples of student work exhibiting above and beyond grade level expectations, creativity, leadership, critical and abstract thinking. Programs for gifted and talented students will be periodically evaluated for their continuing efficacy and adjusted accordingly. The parent of any student identified as gifted or talented shall be consulted regarding any program designed to address the student's particular needs.

Resource Links

https://riversideinsights.com/cognitive_abilities_test

<https://www.curriculumassociates.com/programs/i-ready-learning>

<https://www.nj.gov/education/assessment/resources/>

<https://www.routledge.com/HOPE-Teacher-Rating-Scale-Involving-Teachers-in-Equitable-Identification/Gentry-Pereira-Peters-McIntosh-Fugate/p/book/9781618214522#:~:text=The%20HOPE%20Teacher%20Rating%20Scale,making%20it%20easy%20to%20use.>

Gifted and talented student: The “*[Strengthening Gifted and Talented Education Act](#)*” defines a gifted and talented student as a “student who possesses or demonstrates a high level of ability in one or more content areas when compared to their chronological peers in the school district and who require modifications of their educational program if they are to achieve in accordance with their capabilities.”

Twice-exceptional (2E) students: A twice-exceptional (2E) student is defined as “a student who is both gifted and a student with a disability. These students may also be referred to as having dual exceptionalities or as being gifted with learning disabilities (GT/LD). This also applies to students who are gifted with ADHD or gifted with autism” (New Jersey Association for Gifted Children, www.nagc.org).

Instructional adaptation: An adjustment or modification to instruction enabling a student who is gifted and talented to participate in, benefit from, and demonstrate knowledge and application of the New Jersey Student Learning Standards in one or more content areas at the instructional level of the student, not just the student's grade level.

Identifying gifted and talented students: The focus of identification is to provide programming and services in which students' specific learning needs and potential are appropriately addressed and met. In every New Jersey school district, there are students who require modifications to the general education curriculum if they are to achieve in accordance with their abilities. By identifying a student's general intellectual ability, creativity, or specific academic area aptitudes, we are acknowledging that they need programming and services outside of the general education/grade level curriculum to advance their learning.

NJDOE Fast Facts

<https://www.nj.gov/education/standards/gifted/>

<https://www.nj.gov/education/standards/gifted/legislation.shtml>

Supplemental Resources/Programming for Gifted Students

Edward V. Walton

- PETS Program – Primary Education Thinking Skills
- Group Solutions/Group Solutions 2 – Cooperative Logic Activities
- Lollipop Logic
- Beginning Thinking Skills
- AIMS Education Programming

James Caldwell and Thelma L. Sandmeier

Math/ELA

- Project M3: Mentoring Mathematical Minds
- Junior Great Books
- AIMS Education Programming
- Borenson Hands on Equations
- BizWorld
- Perplexors
- Advanced Math Explorations grade 3-5
- Challenging Units for Gifted Learners (ELA and Math)
- Creative Curriculum Extenders
- Differentiated Lessons & Projects
- Challenge Math Grades 4+
- Differentiating Instruction with Menus (All Content Areas)
- Jacob's Ladder
- Genius Hour/Passion Project
- Spatial Reasoning
- Logic Puzzles, Brain Games, Analogies

STEM

- Engineering is Elementary
- Engineer Throughout the Year
- PBS Design Squad
- DefinedSTEM
- Project Lead the Way (PLTW)

Enrichment Events

Experience for all students to be enriched through events related to the curricular or extracurricular activities. Examples include after school clubs, PTA-sponsored events, leadership opportunities, visual and performing arts, and community service opportunities.