



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

Springfield Public Schools
Springfield, New Jersey 07081

Curriculum Guide

Grade 3
Math

2024

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

Springfield Board of Education
Approved August 26, 2024



**Springfield Public Schools
Springfield, New Jersey**

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Unit Overview Template

Content Area: Math **Grade Level:** 3 **Unit Title:** 1: Place Value, Addition, and Subtraction

Unit Summary: Students will extend their understanding of place value, round to the nearest 10 and 100, and add and subtract three-digit numbers.

Primary Interdisciplinary Connections: *ELA and Engineering*

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: This unit extends student understanding of place value, rounding, and adding and subtracting with three-digit numbers. Rounding numbers can be useful when estimating. Knowing how to round will help you with addition and subtraction. Place value can also be used to add or subtract using partial sums or partial differences. It is important for students to have a variety of strategies to solve addition and subtraction problems.

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 a brainstorming session 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.CT.2: Identify a problem and list the types of individuals and resources (e.g., school, community agencies, governmental, online) that can aid in solving the problem (e.g., 2.1.5.CHSS.1, 4-ESS3-1).
- 9.4.5.CT.3: Describe how digital tools and technology may be used to solve problems.
- 9.4.5.CT.4: Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community and global (e.g., 6.1.5.CivicsCM.3).
- 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: 3.NBT

Content Statements: Use place value understanding and properties of operations to perform multi-digit arithmetic.

CPI#:	Cumulative Progress Indicator (CPI):
3.NBT.A.1	Use place value understanding to round whole numbers to the nearest 10 or 100.
3.NBT.A.2	Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.
SEL.PK-12.1.1	Recognize one's feelings and thoughts.



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-12.4.1	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.
RI.3.4	Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 3 topic or subject area.
W.3.4	With guidance and support from adults, produce writing in which the development and organization are appropriate to task and purpose.

Unit Essential Questions:

- How does place value help you to round numbers?
- What strategies can you use to round numbers?
- How does a number line help to round numbers?
- How can you use expanded form to add and subtract numbers?
- How can you use addition to check your answers to subtraction problems?
- How do addition and subtraction relate to each other?

Unit Enduring Understandings:

- An estimate is a close guess made using mathematical thinking.
- A number line is a straight line marked at equal spaces to show numbers and can be used to round numbers.
- Place value is the value assigned to a digit based on its position in a number.
- A number can be a ten or between two tens and a number can be a hundred or between two hundreds.
- Numbers can be rounded to the nearest ten or hundred.
- If a number is less than the halfway point between two tens or two hundreds, the number will round down.
- If a number is equal to or greater than the halfway point between two tens or two hundreds, the number will round up.
- The sum is the result of addition.
- The difference is the result of subtraction.
- Place value can be used to add or to subtract numbers.
- An algorithm is a set of routine steps used to solve problems.

Unit Learning Targets:

Students will ...

- round two- and three-digit numbers to the nearest ten and nearest hundred.
- explain how to round numbers to the nearest ten and to the nearest hundred.
- use a variety of strategies to add three-digit numbers.
- use knowledge of place-value concepts to write and add numbers using expanded form.



- use a variety of strategies to subtract three-digit numbers.
- use knowledge of place-value concepts to subtract two- and three-digit numbers.
- use rounding/estimation to check reasonableness of answers.

Evidence of Learning

Summative Assessment: i-Ready Unit 1 Assessment - 2 days

Equipment Needed: Student Volume 1 Workbook, Math Manipulatives - counters, base-10 blocks, Laptop, Projector, Student iPads

Teacher Resources: Curriculum Map, i-Ready Classroom Grade 3 Teacher's Guide, online access to i-Ready Classroom Common Core Teacher Toolbox

Formative Assessments:

- i-Ready Diagnostic 1
- Exit tickets
- Self checks
- Reflect questions
- Math journal pages
- Quizzes
- Mid-unit assessments
- Online i-Ready Comprehension Checks
- Teacher observations
- Small group and whole class discussions

Lesson Plans

Lesson	Time Frame
Lesson 1 Use Place Value to Round Numbers	4 days
Lesson 2 Add Three-Digit Numbers	4 days
Lesson 3 Subtract Three-Digit Numbers	5 days

Teacher Notes:

Use the following resources to guide lessons and inform instruction: i-Ready Teacher Toolbox, Interactive Tutorials, Digital Math Tools, Learning Games, PowerPoint Slides, Prerequisites Report, Digital Comprehension Checks, Comprehension Check Reports, and math manipulatives such as, counters, base-10 blocks, and addition tables.

Curriculum Development Resources/Technology Resources:

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

www.iXL.com

<https://teacher-toolbox.i-ready.com/>

www.brainpopjr.com

[NJ Student Learning Standards for Mathematics Grade 3](#)



Lesson Plan 1 Template		
Content Area: Math	Lesson Title: Use Place Value to Round 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: i-Ready - PowerPoint slides, interactive tutorials, comprehension checks, digital math tools, and learning games; laptop; projector; student iPads		
Equipment Needed: Student Volume 1 Workbook, Math Manipulatives - counters, base-10 blocks, addition tables, Laptop, Projector, Student iPads		

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Round two- and three-digit numbers to the nearest 10. - Round two- and three-digit numbers to the nearest 100. - Explain how to round numbers to the nearest ten and to the nearest hundred.	Lesson Sequence <i>Session 1:</i> - Start (5 min) Connect to Prior Knowledge using the Start slide from the PowerPoint presentation. - Try It (5-10 min) Before students work on Try It, use the Notice and Wonder Strategy to help them make sense of the problem on page 5. Then students will work independently to solve the Try It problem. - Discuss It (10-15 min) After students work on the Try It, have them respond to Discuss It on page 5 with a partner. - Connect It (10-15 min) Guide students through the Look Back and Look Ahead	- Exit Ticket - i-Ready Student Workbook pages 5-8 - Lesson 1 Quiz - i-Ready Digital Interactive Practice



questions on page 6. Look for understanding that the lesser ten and hundred have the same tens or hundreds digit and the greater ten and hundred have 1 greater tens or hundreds digit as the original number.

5. Exit Ticket (5 min)
Students will complete the Reflect problem on page 6.

6. Additional Practice
Prepare for Rounding on pages 7-8.

Differentiation:

Prerequisite Lessons: Grade 2 Lesson 12 - Understand Three-Digit Numbers, Grade 2 Lesson 13 - Read and Write Three-Digit Numbers, and Grade 2 Lesson 14 - Compare Three-Digit Numbers

Reteach: Tools for Instruction - Model Three-Digit Numbers, Read and Write Three-Digit Numbers, Compare and Order Three-Digit Numbers, and Rounding to the Nearest Ten or Hundred

Reinforce: Center Activities - Rounding Vocabulary Match and Round Numbers

Extend: Enrichment Activity - Mystery Numbers

Resources Provided:

- Math Toolkit - counters, base-10 blocks, addition tables
- Digital Math Tools
- i-Ready Classroom Student Workbook



Lesson Plan 2 Template		
Content Area: Math	Lesson Title: Add 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: i-Ready - PowerPoint slides, interactive tutorials, comprehension checks, digital math tools, and learning games; laptop; projector; student iPads		
Equipment Needed: Student Volume 1 Workbook, Math Manipulatives - counters, base-10 blocks, addition tables, Laptop, Projector, Student iPads		

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Use a variety of strategies to add three-digit numbers - Use knowledge of place-value concepts to write and add numbers using expanded form - Use rounding/estimation to check reasonableness of answers	Lesson Sequence <i>Session 1:</i> - Start (5 min) Connect to Prior Knowledge using the Start slide from the PowerPoint presentation. - Try It (5-10 min) Before students work on Try It, use the Notice and Wonder Strategy to help them make sense of the problem on page 27. Then students will work independently to solve the Try It problem. - Discuss It (10-15 min) After students work on the Try It, have them respond to Discuss It on page 27 with a partner. - Connect It (10-15 min) Guide students through the Look Back and Look Ahead	- Exit Ticket - i-Ready Student Workbook pages 27-30 - Lesson 1 Quiz - i-Ready Digital Interactive Practice



questions on page 28. Look for understanding that the sum has $1 + 2 = 3$ hundreds, $4 + 1 = 5$ tens, and $7 + 2 = 9$ ones for an answer of 359.

5. Exit Ticket (5 min)
 Students will complete the Reflect problem on page 28.
 6. Additional Practice
 Prepare for Adding Three-Digit Numbers on pages 29-30.

Differentiation:

Prerequisite Lessons: Grade 2 Lesson 6 - Add Two-Digit Numbers, Grade 2 Lesson 15 - Mental Addition and Subtraction, and Grade 2 Lesson 16 - Add Three-Digit Numbers
 Reteach: Tools for Instruction - Two-Digit Addition with Regrouping, Adding and Subtracting 10 or 100, Add Three-Digit Numbers, and Three-Digit Addition
 Reinforce: Center Activities - Model Addition and Add Within 1,000
 Extend: Enrichment Activity - Addition Grids

Resources Provided:

- Math Toolkit - counters, base-10 blocks, addition tables
- Digital Math Tools
- i-Ready Classroom Student Workbook



Lesson Plan 3 Template		
Content Area: Math	Lesson Title: Subtract Three-Digit Numbers	Time Frame: 5 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: i-Ready - PowerPoint slides, interactive tutorials, comprehension checks, digital math tools, and learning games; laptop; projector; student iPads		
Equipment Needed: Student Volume 1 Workbook, Math Manipulatives - counters, base-10 blocks, addition tables, Laptop, Projector, Student iPads		

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: • Use a variety of strategies to subtract three-digit numbers • Use knowledge of place-value concepts to subtract two- and three-digit numbers • Use rounding/estimation to check reasonableness of answers	Lesson Sequence <i>Session 1:</i> 1. Start (5 min) Connect to Prior Knowledge using the Start slide from the PowerPoint presentation. 2. Try It (5-10 min) Before students work on Try It, use the Three Reads Strategy to help them make sense of the problem on page 49. Then students will work independently to solve the Try It problem. 3. Discuss It (10-15 min) After students work on the Try It, have them respond to Discuss It on page 49 with a partner. Facilitate whole class discussion	• Exit Ticket • i-Ready Student Workbook pages 49-52 • Lesson Quiz • i-Ready Digital Interactive Practice



	and compare and contrast the representations. 4. Connect It (10-15 min) Guide students through the Look Back and Look Ahead questions on page 50. Look for understanding that the difference has $4-1=3$ hundreds, $7-3=4$ tens, $5-4=1$ one, and the answer is 341. 5. Exit Ticket (5 min) Students will complete the Reflect problem on page 50. 6. Additional Practice Prepare for Subtracting Three-Digit Numbers on pages 51-52.	
Differentiation: Prerequisite Lessons: Grade 2 Lesson 7 - Subtract Two-Digit Numbers, Grade 2 Lesson 15 - Mental Addition and Subtraction, and Grade 2 Lesson 17 - Subtract Three-Digit Numbers Reteach: Tools for Instruction - Two-Digit Subtraction, Adding and Subtracting 10 or 100, Subtract Three-Digit Numbers, and Three-Digit Subtraction Reinforce: Center Activities - Model Addition and Add Within 1,000 Extend: Enrichment Activity - Addition Grids		
Resources Provided: • Math Toolkit - counters, base-10 blocks, addition tables • Digital Math Tools • i-Ready Classroom Student Workbook		



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: 3	Unit Title: Unit 1: Place Value, Addition, and Subtraction
Created: 2024	Board Approved on: Type Here	



Unit Overview Template

Content Area: Math	Grade Level: 3	Unit Title: 1A: Introductory Multiplication and Division Concepts
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Unit Summary: Students will be introduced to multiplication and division concepts and strategies.

Primary Interdisciplinary Connections: *ELA and Engineering*

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: This unit will focus on multiplication and division skills and facts and the relationship between multiplication and division. Multiplication is a way of combining equal groups. Knowing how to work with equal groups will help students with multiplication and division problems. There are many models and strategies for multiplication, such as arrays, drawing pictures, and breaking apart facts. These strategies will help students become more fluent with multiplication and division facts.

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 a brainstorming session 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.CT.2: Identify a problem and list the types of individuals and resources (e.g., school, community agencies, governmental, online) that can aid in solving the problem (e.g., 2.1.5.CHSS.1, 4-ESS3-1).
- 9.4.5.CT.3: Describe how digital tools and technology may be used to solve problems.
- 9.4.5.CT.4: Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community and global (e.g., 6.1.5.CivicsCM.3).
- 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: 3.OA

Content Statements: Represent and solve problems involving multiplication and division. Understand properties of multiplication and the relationship between multiplication and division. Multiply and divide within 100. Solve problems involving the four operations, and identify and explain patterns in arithmetic.

CPI#:	Cumulative Progress Indicator (CPI):
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3.OA.A.1	Interpret products of whole numbers, e.g., interpret 5×7 as the total number of objects in 5 groups of 7 objects each. For example, describe and/or represent a context in which a total number of objects can be expressed as 5×7 .
3.OA.A.2	Interpret whole-number quotients of whole numbers, e.g., interpret $56 \div 8$ as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. For example, describe and/or represent a context in which a number of shares or a number of groups can be expressed as $56 \div 8$.
3.OA.A.3	Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.
SEL.PK-12.1.1	Recognize one's feelings and thoughts.
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-12.4.1	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.
RI.3.4	Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 3 topic or subject area.
W.3.4	With guidance and support from adults, produce writing in which the development and organization are appropriate to task and purpose.

Unit Essential Questions:

- What strategies can you use to solve multiplication and division problems?
- How does addition relate to multiplication?
- How does subtraction relate to division?
- How do multiplication and division relate to each other?
- How can you interpret multiplication problems using pictures, objects, words, numbers, and equations?
- How can you represent multiplication and division equations?

Unit Enduring Understandings:

- In multiplication, the symbol $\times$ can mean *groups of*.
- Multiplication problems can be interpreted using pictures, objects, words, numbers, and equations.
- Repeated addition and skip-counting are strategies for finding a product.
- Multiplication is a way of finding the total number of items in equal-size groups.
- Division can be expressed as sharing, knowing the number of equal shares or groups, and finding the number in each share or group.



Unit Learning Targets:

Students will ...

- represent and solve problems involving multiplication and division.
- interpret the products of whole numbers.
- interpret quotients of whole numbers.
- multiply and divide within 100.
- use multiplication and division to solve word problems involving equal groups and arrays.
- Climate Change Example: Students may solve multiplication and division word problems involving measurement quantities related to glacier retreat.



Evidence of Learning

Summative Assessment: Unit 1A Assessment - 1-2 days

Equipment Needed: Student Volume 1 Workbook, Math Manipulatives - counters, fact triangles, Laptop, Projector, Student iPads

Teacher Resources: Curriculum Map, i-Ready Classroom Grade 3 Teacher's Guide, online access to i-Ready Classroom Common Core Teacher Toolbox

Formative Assessments:

- i-Ready Diagnostic 1
- Exit tickets
- Self checks
- Reflect questions
- Math journal pages
- Quizzes
- Mid-unit assessments
- Online i-Ready Comprehension Checks
- Teacher observations
- Small group and whole class discussions



Lesson Plans

Lesson	Time Frame
Lesson 1 Understand the Meaning of Multiplication	3 days
Lesson 2 Multiply with 0, 1, 2, 5, and 10	4 days
Lesson 3 Understand the Meaning of Division	3 days

Teacher Notes:

Use the following resources to guide lessons and inform instruction: i-Ready Teacher Toolbox, Interactive Tutorials, Digital Math Tools, Learning Games, PowerPoint Slides, Prerequisites Report, Digital Comprehension Checks, Comprehension Check Reports, and math manipulatives such as, counters, fact triangles, and fact tables.

Curriculum Development Resources/Technology Resources:

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

www.ixl.com

<https://teacher-toolbox.i-ready.com/>

[Grade 3 CAR - Unit 1A Map](#)

www.brainpopjr.com

[NJ Student Learning Standards for Mathematics Grade 3](#)



Lesson Plan 1 Template

Content Area: Math Lesson Title: Understand the Meaning of Multiplication 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: i-Ready - PowerPoint slides, interactive tutorials, comprehension checks, digital math tools, and learning games; laptop; projector; student iPads

Equipment Needed: Student Volume 1 Workbook, Math Manipulatives - counters, fact triangles, Laptop, Projector, Student iPads

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Understand that the symbol x means groups of. - Understand that multiplication is another way to find the total of groups. - Interpret a multiplication problem situation using pictures, objects, words, numbers, and equations. - Understand that repeated addition and skip-counting are strategies for finding a product. - Use lesson vocabulary such as expression, factor, and product to	Lesson Sequence <i>Session 1:</i> - Model It (5 min) Use three reads for the Model It problem on page 93. Model how multiplication is a form of repeated addition. - Discuss It (5-10 min) Whole and small group discussions where students practice using the language of multiplication. Students will explain that x is the symbol for multiplication and it can be read with the words “groups of”. - Model It (5-10 min) Use three reads for the Model It problem on page 94. Students will now think about different ways to model multiplication	- Exit Ticket - i-Ready Student Workbook pages 93-96 - Lesson Quiz (Teacher Guide pages 102a-102b) - i-Ready Digital Interactive Practice



describe a multiplication problem. Describe how equal groups and arrays show multiplication.	and how they relate to each other. 4. Discuss It (5-10 min) Partner discussion about how the numbers are used in each model. 5. Exit Ticket (5 min) Students will complete the Reflect problem on page 94.	
Differentiation: Prerequisite Lessons: Grade 2 Lesson 31 - Add Using Array and Grade 2 Lesson 32 - Even and Odd Numbers Reteach: Tools for Instruction - Adding Using Arrays, Identifying Even and Odd Numbers, Multiplication Concepts and Equations Reinforce: Center Activities - Multiplication Vocabulary Match and Multiplication Stories Extend: Enrichment Activity - Arranging Desks		
Resources Provided: - Math Toolkit - counters - Digital Math Tools - i-Ready Classroom Student Workbook		



Lesson Plan 2 Template		
Content Area: Math	Lesson Title: Multiply with 0, 1, 2, 5, and 10	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: i-Ready - PowerPoint slides, interactive tutorials, comprehension checks, digital math tools, and learning games; laptop; projector; student iPads		
Equipment Needed: Student Volume 1 Workbook, Math Manipulatives - counters, fact triangles, fact tables, Laptop, Projector, Student iPads		

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: • Use strategies such as repeated addition and skip-counting by twos, fives, and tens to solve multiplication problems involving multiplying with 0, 1, 2, 5, and 10. • Use models such as arrays and equal groups. • Interpret a multiplication problem situation using pictures, objects, words, numbers, and equations. • Use lesson vocabulary such as factor, product, and array to describe multiplication.	Lesson Sequence <i>Session 1:</i> 1. Try It (5-10 min) Before students work on Try It, use the Three Reads Strategy to help them make sense of the problem on page 105. Then students will work independently to solve the Try It problem. 2. Discuss It (10-15 min) After students work on the Try It, have them respond to Discuss It on page 105 with a partner. 3. Connect It (10-15 min) Look for understanding that there were 6 groups of 10 legs, with a total of 60 legs. 4. Exit Ticket (5 min) Students will complete the Reflect problem on page 106.	• Exit Ticket • i-Ready Student Workbook pages 105-108 • Lesson Quiz (Teacher Guide pages 124a-124b) • i-Ready Digital Interactive Practice



5. Additional Practice
Prepare for Multiplying with 0,
1, 2, 5, and 10 on pages
107-108.

Differentiation:

Prerequisite Lessons: Grade 2 Lesson 31 - Add Using Array and Grade 2 Lesson 32 - Even and Odd Numbers

Reteach: Hands-On Activity on Teacher's Guide page 106; Tools for Instruction - Adding Using Arrays, Identifying Even and Odd Numbers, Multiplication Facts with 0, 1, 2, 5, and 10

Reinforce: Center Activities - Multiplication Race 1

Extend: Enrichment Activity - Shopping Spree

Resources Provided:

- Math Toolkit - counters, fact triangles, fact table
- Digital Math Tools
- i-Ready Classroom Student Workbook



Lesson Plan 3 Template		
Content Area: Math	Lesson Title: Understand the Meaning of Division	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: i-Ready - PowerPoint slides, interactive tutorials, comprehension checks, digital math tools, and learning games; laptop; projector; student iPads		
Equipment Needed: Student Volume 1 Workbook, Math Manipulatives - counters, fact triangles, fact tables, Laptop, Projector, Student iPads		

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Understand division as sharing, knowing the number of equal shares or groups and finding the number in each share or group. - Understand division as separating equal shares of groups and finding the number or shares or groups. - Describe stories or context for division expressions. - Understand and use the terms divide, division, division equation, and array.	Lesson Sequence <i>Session 1:</i> Model It (5 min) Read the question at the top of the page. Guide students through the Model It activity on page 227. Introduce the terms - divide, division, and division equation. Discuss It (5-10 min) Students will discuss the Discuss It questions on page 227 with a partner. Model It (5-10 min) Guide students through the Model It problem on page 228. Students will now think about using division to find the number of groups.	- Exit Ticket - i-Ready Student Workbook pages 227-230 - Lesson Quiz (Teacher Guide pages 236a-236b) - i-Ready Digital Interactive Practice



- | | | |
|--|---|--|
| | <p>4. Discuss It (10-15 min)
Students will discuss the Discuss It questions on page 228 with a partner and determine what each number in the division equation means.</p> <p>5. Exit Ticket (5 min)
Students will complete the Reflect problem on page 228.</p> <p>6. Additional Practice
Prepare for Exploring the Meaning of Division on pages 229-230.</p> | |
|--|---|--|

Differentiation:

Prerequisite Lessons: Grade 2 Lesson 31 - Add Using Array and Grade 2 Lesson 32 - Even and Odd Numbers

Reteach: Hands-On Activity on Teacher's Guide page 106; Tools for Instruction - Adding Using Arrays, Identifying Even and Odd Numbers, Solve Problems Involving Equal Shares

Reinforce: Center Activities - Division Stories and Division Vocabulary

Extend: Enrichment Activity - Party Bags

Resources Provided:

- Math Toolkit - counters, fact triangles, fact table
- Digital Math Tools
- i-Ready Classroom Student Workbook



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: 3	Unit Title:	1A: Introductory Multiplication and Division Concepts
Created: 2024	Board Approved on:	Type Here	



Unit Overview Template

Content Area: Math **Grade Level:** 3 **Unit Title:** 1B: Introductory Multiplication and Division Concepts

Unit Summary: Students will further explore multiplication and division concepts and strategies and become more proficient with fact fluency.

Primary Interdisciplinary Connections: *ELA and Engineering*

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: This unit will focus on multiplication and division skills and facts and the relationship between multiplication and division. Multiplication is a way of combining equal groups. Knowing how to work with equal groups will help students with multiplication and division problems. There are many models and strategies for multiplication, such as arrays, drawing pictures, and breaking apart facts. These strategies will help students become more fluent with multiplication and division facts. Multiplication can be done in any order. Students will use place value to multiply. Division means separating a total number of objects into equal-sized groups. Knowing how to divide will help students find the number of groups of the number of items in a group.

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 a brainstorming session 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.CT.2: Identify a problem and list the types of individuals and resources (e.g., school, community agencies, governmental, online) that can aid in solving the problem (e.g., 2.1.5.CHSS.1, 4-ESS3-1).
- 9.4.5.CT.3: Describe how digital tools and technology may be used to solve problems.
- 9.4.5.CT.4: Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community and global (e.g., 6.1.5.CivicsCM.3).
- 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: 3.OA

Content Statements: Represent and solve problems involving multiplication and division. Understand properties of multiplication and the relationship between multiplication and division. Multiply and divide within 100. Solve problems involving the four operations, and identify and explain patterns in arithmetic.

CPI#: **Cumulative Progress Indicator (CPI):**



3.OA.A.4	Determine the unknown whole number in a multiplication or division equation relating three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations $8 \times ? = 48$, $5 = ? \div 3$, $6 \times 6 = ?$.
3.OA.B.5	Apply properties of operations as strategies to multiply and divide.2 Examples: If $6 \times 4 = 24$ is known, then $4 \times 6 = 24$ is also known. (Commutative property of multiplication.) $3 \times 5 \times 2$ can be found by $3 \times 5 = 15$, then $15 \times 2 = 30$, or by $5 \times 2 = 10$, then $3 \times 10 = 30$. (Associative property of multiplication.) Knowing that $8 \times 5 = 40$ and $8 \times 2 = 16$, one can find 8×7 as $8 \times (5 + 2) = (8 \times 5) + (8 \times 2) = 40 + 16 = 56$. (Distributive property.)
3.OA.B.6	Understand division as an unknown-factor problem. For example, find $32 \div 8$ by finding the number that makes 32 when multiplied by 8.
3.OA.C.7	With accuracy and efficiency, multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that $8 \times 5 = 40$, one knows $40 \div 5 = 8$) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.
3.OA.D.8	Solve two-step word problems, including problems involving money, using the four operations. 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. (Clarification: This standard is limited to problems posed with whole numbers and having whole number answers; students should know how to perform operations in the conventional order when there are no parentheses to specify a particular order) (Order of Operations)
3.OA.D.9	Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. For example, observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two equal addends.
SEL.PK-12.1.1	Recognize one's feelings and thoughts.
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-12.4.1	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.
RI.3.4	Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 3 topic or subject area.
W.3.4	With guidance and support from adults, produce writing in which the development and organization are appropriate to task and purpose.

Unit Essential Questions:

- How can you represent multiplication and division equations?
- What strategies can you use to solve multiplication and division problems?
- How do multiplication and division relate to each other?



- What tools can be used to better understand the relationship between multiplication and division?
- How can knowing a multiplication fact help you find the missing number in a division fact?
- What strategies can help improve fact fluency?
- How can you interpret multiplication and division problems using pictures, objects, words, numbers, and equations?

Unit Enduring Understandings:

- Multiplication problems can be modeled and interpreted using pictures, objects, words, numbers, and equations.
- The commutative property of multiplication can be used to make multiplication problems easier to solve and shows how numbers can be multiplied in any order and the product will be the same.
- Factors can be broken apart as a strategy for multiplying.
- The distributive property of multiplication is a strategy to learn multiplication facts and to solve multiplication problems.
- The associative property of multiplication is a strategy to solve problems and shows how three or more factors in a problem can be grouped in different ways and the product will be the same.
- Related multiplication and division equations form fact families.
- To fluently multiply and divide within 100.
- Word problems can be solved using equations with the unknown whole number in different places in the equations.

Unit Learning Targets:

Students will ...

- represent and solve problems involving multiplication and division.
- interpret the products of whole numbers.
- interpret quotients of whole numbers.
- multiply and divide within 100.
- use multiplication and division to solve word problems involving equal groups and arrays.
- understand the relationship between multiplication and division.
- demonstrate that related multiplication and division equations form fact families.
- find the unknown number in a whole-number multiplication or division equation.
- understand and use lesson vocabulary such as quotient, multiplication, division, and fact family.
- use fact families and the relationship between multiplication and division to find unknown whole numbers in multiplication and division equations.
- solve word problems using equations with the unknown whole number in different places in the equation.
- explain in writing how to solve word problems using equations with the unknown whole numbers in different places in the equations.
- use hundred charts, addition tables, and multiplication tables to model addition and multiplication patterns and explain why these patterns make sense.
- use number properties to find and explain patterns.
- use knowledge of even and odd numbers to find and explain patterns.



Evidence of Learning

Summative Assessment: i-Ready Unit 2 Assessment - 1-2 days

Equipment Needed: Student Volume 1 Workbook, Math Manipulatives - counters, fact triangles, Laptop, Projector, Student iPads

Teacher Resources: Curriculum Map, i-Ready Classroom Grade 3 Teacher's Guide, online access to i-Ready Classroom Common Core Teacher Toolbox

Formative Assessments:

- i-Ready Diagnostic 1
- Exit tickets
- Self checks
- Reflect questions
- Math journal pages
- Quizzes
- Mid-unit assessments
- Online i-Ready Comprehension Checks
- Teacher observations
- Small group and whole class discussions



Lesson Plans

Lesson	Time Frame
Lesson 1 Understand How Multiplication and Division are Connected	3 days
Lesson 2 Multiplication and Division Facts	4 days
Lesson 3 Understand Patterns	3 days

Teacher Notes:

Use the following resources to guide lessons and inform instruction: i-Ready Teacher Toolbox, Interactive Tutorials, Digital Math Tools, Learning Games, PowerPoint Slides, Prerequisites Report, Digital Comprehension Checks, Comprehension Check Reports, and math manipulatives such as, counters, fact triangles, and fact tables.

Curriculum Development Resources/Technology Resources:

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

www.ixl.com

<https://teacher-toolbox.i-ready.com/>

[Grade 3 CAR - Unit 1B Map](#)

www.brainpopjr.com

[NJ Student Learning Standards for Mathematics Grade 3](#)



Lesson Plan 1 Template

Content Area: Math Lesson Title: Understand How Multiplication and Division Are Connected 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: i-Ready - PowerPoint slides, interactive tutorials, comprehension checks, digital math tools, and learning games; laptop; projector; student iPad

Equipment Needed: Student Volume 1 Workbook, Math Manipulatives - counters, fact triangles, and fact tables, Graph Paper, Laptop, Projector, Student iPads

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Understand the relationship between multiplication and division. - Demonstrate that related multiplication and division equations form fact families. - Find the unknown number in a whole-number multiplication or division equation. - Understand and use lesson vocabulary such as quotient, multiplication, division, and fact family.	Lesson Sequence <i>Session 1:</i> Model It (5 min) Read the problem at the top of page 239. Review that arrays have equal rows and columns of objects and are used to represent both multiplication and division. Guide students through the Model It. Discuss It (5-10 min) Students will discuss the Discuss It questions on page 239 with a partner. Model It (5-10 min) Use the Three Reads strategy to guide students through the Model It problem on page 240.	- Exit Ticket - i-Ready Student Workbook pages 239-242 - Lesson Quiz (Teacher Edition pages 248a-248b) - i-Ready Digital Interactive Practice



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|--|--|--|
| | <p>4. Discuss It (10-15 min)
Students will discuss the Discuss It questions on page 240 with a partner.</p> <p>5. Exit Ticket (5 min)
Students will complete the Reflect problem on page 240.
Check for student understanding.</p> <p>6. Additional Practice
Prepare for Exploring How Multiplication and Division Are Connected on pages 241-242.</p> | |
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Differentiation:

Prerequisite Lessons: Grade 2 Lesson 31 - Add Using Array

Reteach: Tools for Instruction - Adding Using Arrays and Relate Multiplication and Division

Reinforce: Center Activities - Use a Related Fact, Find the Missing Number, Use Multiplication to Solve Division

Extend: Enrichment Activity - Arranging Desk

Resources Provided:

- Math Toolkit - counters, fact triangles, fact table
- Graph Paper
- Digital Math Tools
- i-Ready Classroom Student Workbook



Lesson Plan 2 Template		
Content Area: Math	Lesson Title: Multiplication and Division Facts	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: i-Ready - PowerPoint slides, interactive tutorials, comprehension checks, digital math tools, and learning games; laptop; projector; student iPad		
Equipment Needed: Student Volume 1 Workbook, Math Manipulatives - counters, fact triangles, and fact tables, Graph Paper, Laptop, Projector, Student iPads		

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Fluently multiply and divide within 100. - Use fact families and the relationship between multiplication and division to find unknown whole numbers in multiplication and division equations. - Solve word problems using equations with the unknown whole number in different places in the equation. - Explain in writing how to solve word problems using equations with the unknown whole numbers in different places in the equations.	Lesson Sequence <i>Session 1:</i> Try It (5-10 min) Before students work on Try It, use the Three Reads Strategy to help them make sense of the problem on page 251. Then students will work independently to solve the Try It problem. Discuss It (10-15 min) After students work on the Try It, have them respond to the Discuss It questions on page 251 with a partner. Connect It (10-15 min) Look for understanding that there are 8 balls in each bag because 3 groups of 8 make 24.	- Exit Ticket - i-Ready Student Workbook pages 251-254 - Lesson Quiz (Teacher Guide pages 270a-270b) - i-Ready Digital Interactive Practice



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| | <p>4. Exit Ticket (5 min)
Students will complete the
Reflect problem on page 252.</p> <p>5. Additional Practice
Prepare for Multiplication and
Division Facts on pages
253-254.</p> | |
|--|---|--|

Differentiation:

Prerequisite Lessons: Grade 2 Lesson 31 - Add Using Array and Grade 2 Lesson 32 - Even and Odd Numbers

Reteach: Tools for Instruction - Adding Using Arrays, Identifying Even and Odd Numbers, and Write Multiplication and Division Facts

Reinforce: Center Activities - Place Missing Numbers and Complete a Fact Family

Extend: Enrichment Activity - Display of Cars

Resources Provided:

- Math Toolkit - counters, fact triangles, fact table
- Graph Paper
- Digital Math Tools
- i-Ready Classroom Student Workbook



Lesson Plan 3 Template		
Content Area: Math	Lesson Title: Understand Patterns	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: i-Ready - PowerPoint slides, interactive tutorials, comprehension checks, digital math tools, and learning games; laptop; projector; student iPad		
Equipment Needed: Student Volume 1 Workbook, Math Manipulatives - counters, fact triangles, and fact tables, Graph Paper, Laptop, Projector, Student iPads		

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: • Use hundred charts, addition tables, and multiplication tables to model addition and multiplication patterns and explain why these patterns make sense. • Use number properties to find and explain patterns. • Use knowledge of even and odd numbers to find and explain patterns. • Use lesson vocabulary such as pattern and rule.	Lesson Sequence <i>Session 1:</i> 1. Model It (5 min) Read the question at the top of page 273. Discuss patterns that students see in everyday things. Guide students through the Model It problem on page 273. 2. Discuss It (5-10 min) Students will discuss the Discuss It questions on page 273 with a partner. 3. Model It (5-10 min) Examine patterns described on a number chart using the Model It problems on page 274. 4. Discuss It (10-15 min) Students will discuss the Discuss It questions on page 274 with a partner.	• Exit Ticket • i-Ready Student Workbook pages 273-276 • Lesson Quiz (Teacher Guide pages 282a-282b) • i-Ready Digital Interactive Practice



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| | <p>5. Exit Ticket (5 min)
Students will complete the Reflect problem on page 274.
Check for student understanding.</p> <p>6. Additional Practice
Prepare for Exploring Patterns on pages 275-276.</p> | |
|--|---|--|

Differentiation:

Prerequisite Lessons: Grade 2 Lesson 32 - Even and Odd Numbers

Reteach: Tools for Instruction - Identifying Even and Odd Numbers and Patterns in Addition and Multiplication

Reinforce: Center Activities - Pattern Vocabulary Match and Identify Patterns

Extend: Enrichment Activity - Push-Up Challenge

Resources Provided:

- Math Toolkit - hundred charts, addition tables, and multiplication tables
- Graph Paper
- Digital Math Tools
- i-Ready Classroom Student Workbook



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: 3	Unit Title: 1B: Introductory Multiplication and Division Concepts
Created: 2024	Board Approved on:	Type Here



Unit Overview Template

Content Area: Math **Grade Level:** 3 **Unit Title:** 2A/2C: Relating Area to Multiplication and Addition

Unit Summary: This unit introduces students to area and other applications of multiplication.

Primary Interdisciplinary Connections: *ELA and Engineering*

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: Area is the measure of the space inside a shape. Students can use what they know about multiplication to find the area of a rectangle. They can add areas to find the area of complex shapes. Students can use what they know about arrays to help model and solve multiplication and division problems. Being able to multiply and to find the area of a shape are important life skills.

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 a brainstorming session 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.CT.2: Identify a problem and list the types of individuals and resources (e.g., school, community agencies, governmental, online) that can aid in solving the problem (e.g., 2.1.5.CHSS.1, 4-ESS3-1).
- 9.4.5.CT.3: Describe how digital tools and technology may be used to solve problems.
- 9.4.5.CT.4: Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community and global (e.g., 6.1.5.CivicsCM.3).
- 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: 3.M, 3.OA,

Content Statements: Understand concepts of area and relate area to multiplication and to addition. Multiply and divide within 100. Solve problems involving the four operations, and identify and explain patterns in arithmetic.

CPI#: **Cumulative Progress Indicator (CPI):**

3.M.B.3	Recognize area as an attribute of plane figures and understand concepts of area measurement. a. A square with side length 1 unit, called “a unit square,” is said to have “one square unit” of area, and can be used to measure area.
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	b. A plane figure which can be covered without gaps or overlaps by unit squares is said to have an area of square units.
3.M.B.4	Measure areas by counting unit squares (square cm, square m, square in, square ft, and non-standard units).
3.M.B.5	Relate area to the operations of multiplication and addition. a. Find the area of a rectangle with whole-number side lengths by tiling it and show that the area is the same as would be found by multiplying the side lengths. b. Multiply side lengths to find areas of rectangles with whole number side lengths in the context of solving real world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning. c. Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths a and b is the sum of a and b. Use area models to represent the distributive property in mathematical reasoning. d. Recognize the area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems.
3.OA.B.5	Apply properties of operations as strategies to multiply and divide. ² Examples: If $6 \times 4 = 24$ is known, then $4 \times 6 = 24$ is also known. (Commutative property of multiplication.) $3 \times 5 \times 2$ can be found by $3 \times 5 = 15$, then $15 \times 2 = 30$, or by $5 \times 2 = 10$, then $3 \times 10 = 30$. (Associative property of multiplication.) Knowing that $8 \times 5 = 40$ and $8 \times 2 = 16$, one can find 8×7 as $8 \times (5 + 2) = (8 \times 5) + (8 \times 2) = 40 + 16 = 56$. (Distributive property.)
3.OA.C.7	With accuracy and efficiency, multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that $8 \times 5 = 40$, one knows $40 \div 5 = 8$) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.
SEL.PK-12.1.1	Recognize one's feelings and thoughts.
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-12.4.1	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.
RI.3.4	Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 3 topic or subject area.
W.3.4	With guidance and support from adults, produce writing in which the development and organization are appropriate to task and purpose.



Unit Essential Questions:

- What strategies can you use to find the area of a shape?
- Why is area measured in square units?
- What is a square unit and how can it be used to measure area?
- How does side length relate to the number of tiles on a side?
- What are some strategies that can be used to find the area of a shape?
- How can you use multiplication to help you find the area of a rectangle?
- How are tiling a shape and using multiplication to find area related to each other?
- How can the distributive property be used to find areas of combined rectangles?
- How can you decompose a shape formed by rectangles to find the area?

Unit Enduring Understandings:

- Area is the measure of the space inside a shape.
- To understand what a square unit is and the fact that it can be different sizes.
- Area is measured in square units, such as square centimeters and square inches.
- A square unit is the area of a square with side lengths of 1 unit.
- Area can be measured by covering a shape with square units and counting squares.
- Arrays can be used to model area and multiplication and division problems.
- Multiplying side lengths of a rectangle provides the same results as tiling it and counting the units.
- The area formula for rectangles is $\text{area} = \text{length} \times \text{width}$.
- To decompose shapes formed by rectangles, find the area of each rectangle, and add the areas to find the total area of the shape.
- Area is additive.

Unit Learning Targets:

Students will ...

- understand what a square unit is and the fact that it can be different sizes.
- understand that a square unit is used to measure area.
- understand how to measure area by covering a shape with square units and counting the squares.
- find the area of shapes using different-size square units, including square cm, square m, square in, and square ft.
- understand and use the terms area, measure, and square unit accurately when speaking and writing.
- represent and solve problems involving the area of rectangles.
- use square units to find area; use multiplication to find the area of rectangles.
- solve real-world area problems.
- decompose shapes and use the distributive property to find the area of combined rectangles.
- understand that multiplying side lengths of a rectangle provides the same results as tiling it and counting the units.
- solve mathematical problems and real-world problems using the area formula for rectangles.
- explain in writing how to use square tiles and multiplication to find the area of a rectangle.



Evidence of Learning

Summative Assessment: i-Ready Unit 3 Mid-Unit Assessment - 1-2 days

Equipment Needed: Student Volume 1 Workbook, Math Manipulatives - counters, base-10 blocks, graph paper, Laptop, Projector, Student iPads

Teacher Resources: Curriculum Map, i-Ready Classroom Grade 3 Teacher's Guide, online access to i-Ready Classroom Common Core Teacher Toolbox

Formative Assessments:

- i-Ready Diagnostic
- Exit tickets
- Self checks
- Reflect questions
- Math journal pages
- Quizzes
- Mid-unit assessments
- Online i-Ready Comprehension Checks
- Teacher observations
- Small group and whole class discussions



Lesson Plans

Lesson	Time Frame
Lesson 1 Understand Area	3 days
Lesson 2 Multiply to Find Area	4 days
Lesson 3 Add Area	4 days

Teacher Notes:

Use the following resources to guide lessons and inform instruction: i-Ready Teacher Toolbox, Interactive Tutorials, Digital Math Tools, Learning Games, PowerPoint Slides, Prerequisites Report, Digital Comprehension Checks, Comprehension Check Reports, and math manipulatives such as, counters, fact tables, and graph paper.

Curriculum Development Resources/Technology Resources:

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

www.ixl.com

<https://teacher-toolbox.i-ready.com/>

[Grade 3 CAR - Unit 2A/2C Map](#)

www.brainpopjr.com

[NJ Student Learning Standards for Mathematics Grade 3](#)



Lesson Plan 1 Template

Content Area: Math Lesson Title: Understand Area 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: i-Ready - PowerPoint slides, interactive tutorials, comprehension checks, digital math tools, and learning games; laptop; projector; student iPad

Equipment Needed: Student Volume 1 Workbook, Math Manipulatives - counters, graph paper, and fact tables, Graph Paper, Laptop, Projector, Student iPads

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Understand what a square unit is and the fact that it can be different sizes. - Understand that a square unit is used to measure area. - Understand how to measure area by covering a shape with square units and counting the squares. - Find the area of shapes using different-size square units, including square cm, square m, square in, and square ft. - Understand and use the terms area, measure, and square unit accurately when speaking and writing.	Lesson Sequence <i>Session 1</i> - Model It (5 min) Connect to prior knowledge. Read and discuss the question at the top of page 303. Guide students through the Model It problems on 303. - Discuss It (5-10 min) Students will discuss the Discuss It questions on page 303 with a partner. - Model It (5-10 min) Whole class discussion about how to measure area. Guide students through the Model It problem on page 304. - Discuss It (10-15 min) Students will discuss the Discuss It questions on page 304 with a partner.	- Exit Ticket - i-Ready Student Workbook pages 303-306 - Lesson Quiz (Teacher Guide pages 312a-312b) - i-Ready Digital Interactive Practice



- | | | |
|--|---|--|
| | <p style="text-align: center;">5. Exit Ticket (5 min)
Students will complete the Reflect problem on page 304.
Check for student understanding.</p> <p style="text-align: center;">6. Additional Practice
Prepare for Finding Area on pages 305-306.</p> | |
|--|---|--|

Differentiation:

Prerequisite Lessons: Grade 2 Lesson 21 - Measure in Feet and Meters and Grade 2 Lesson 30 - Partition Rectangles

Reteach: Tools for Instruction - Measure in Feet and Meters, Fill a Rectangle with Squares, and Finding Area

Reinforce: Center Activities - Area, Square Units, Find Area, Area Game

Extend: Enrichment Activity - Building Pens

Resources Provided:

- Math Toolkit - multiplication tables and counters
- Graph Paper
- i-Ready Digital Math Tools - Base-Ten Blocks, Multiplication Models, Number Line, Perimeter and Area
- i-Ready Digital Learning Games - Cupcake and Pizza
- i-Ready Classroom Student Workbook
- i-Ready Interactive Tutorials
- i-Ready Interactive Practice



Lesson Plan 2 Template		
Content Area: Math	Lesson Title: Multiply to Find Area	Time Frame: 4 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: i-Ready - PowerPoint slides, interactive tutorials, comprehension checks, digital math tools, and learning games; laptop; projector; student iPad		
Equipment Needed: Student Volume 1 Workbook, Math Manipulatives - counters, graph paper, and fact tables, Graph Paper, Laptop, Projector, Student iPads		

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Understand that multiplying side lengths of a rectangle provides the same results as tiling it and counting the units. - Solve mathematical problems using the area formula for rectangles. - Solve real-world problems using the area formula for rectangles. - Explain in writing how to use square tiles and multiplication to find the area of a rectangle.	Lesson Sequence <i>Session 1:</i> Try It (5-10 min) Before students work on Try It, use the Three Reads Strategy to help them make sense of the problem on page 315. Then students will work independently to solve the Try It problem. Students should identify that they are trying to find the area of the garden. Discuss It (10-15 min) After students work on the Try It, have them respond to the Discuss It questions on page 315 with a partner. Connect It (10-15 min) Guide students through the Look Back and Look Ahead questions on page 316. Look for	- Exit Ticket - i-Ready Student Workbook pages 315-318 - Lesson Quiz (Teacher Guide pages 334a-334b) - i-Ready Digital Interactive Practice



understanding that the rectangle is made up of equal rows of squares that can be counted or skip-counted.

4. Exit Ticket (5 min)
 Students will complete the Reflect problem on page 316.

5. Additional Practice
 Prepare for Multiplying to Find Area on pages 317-318.

Differentiation:

Prerequisite Lessons: Grade 2 Lesson 30 - Partition Rectangles

Reteach: Tools for Instruction - Fill a Rectangle with Squares and Multiply to Find Area or Hands-On Activity on page 316

Reinforce: Center Activities - Area Problems

Extend: Enrichment Activity - Designing a Garden

Resources Provided:

- Math Toolkit - multiplication tables and counters/base-10 blocks
- Graph Paper
- i-Ready Digital Math Tools - Base-Ten Blocks, Multiplication Models, Number Line, Perimeter and Area
- i-Ready Digital Learning Games - Cupcake and Pizza
- i-Ready Classroom Student Workbook
- i-Ready Interactive Tutorials
- i-Ready Interactive Practice



Lesson Plan 3 Template

Content Area: Math Lesson Title: Add Areas 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: i-Ready - PowerPoint slides, interactive tutorials, comprehension checks, digital math tools, and learning games; laptop; projector; student iPad

Equipment Needed: Student Volume 1 Workbook, Math Manipulatives - counters, graph paper, and fact tables, Graph Paper, Laptop, Projector, Student iPads

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: • Use area models to show how the distributive property can be used to find areas of combined rectangles. • Decompose shapes formed by rectangles, find the area of each, and add the areas to find the total area of the shape. • Explain how area is additive.	Lesson Sequence <i>Session 1:</i> 1. Start (5 min) Connect to Prior Knowledge using the Start slide from the PowerPoint presentation. 2. Try It (5-10 min) Before students work on Try It, use the Three Reads Strategy to help them make sense of the problem on page 337. Then students will work independently to solve the Try It problem. 3. Discuss It (10-15 min) After students work on the Try It, have them respond to the Discuss It questions on page 337 with a partner. 4. Connect It (10-15 min) Guide students through the Look Back and Look Ahead	• Exit Ticket • i-Ready Student Workbook pages 337-340 • Lesson Quiz (Teacher Guide pages 356a-356b) • i-Ready Digital Interactive Practice



questions on page 338. Look for understanding that the areas of the two posters can be added together to find the total area of wall that is covered.

5. Exit Ticket (5 min)

Students will complete the Reflect problem on page 338.

6. Additional Practice
Prepare for Adding Areas on pages 339-340.

Differentiation:

Prerequisite Lessons: Grade 2 Lesson 25 - Add and Subtract Lengths

Reteach: Tools for Instruction - Solve Length Word Problems

Reinforce: Center Activities - Decompose to Find Area

Extend: Enrichment Activity - Tile Design

Resources Provided:

- Math Toolkit - multiplication tables and counters
- Graph Paper
- i-Ready Digital Math Tools - Base-Ten Blocks, Multiplication Models, Number Line, Perimeter and Area
- i-Ready Digital Learning Games - Cupcake and Pizza
- i-Ready Classroom Student Workbook
- i-Ready Interactive Tutorials
- i-Ready Interactive Practice



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: 3	Unit Title: 2A/2C: Relating Area to Multiplication and Addition
Created: 2024	Board Approved on:	Type Here



Unit Overview Template

Content Area: Math **Grade Level:** 3 **Unit Title:** 2B: Relating Area to Multiplication and Addition

Unit Summary: Students will extend multiplication skills and strategies with the commutative and associative properties and utilize math facts to multiply one-digit numbers by multiples of 10.

Primary Interdisciplinary Connections: *ELA and Engineering*

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: This unit will focus on extending multiplication skills and strategies. The Commutative Property of Multiplication and the Associative Property of Multiplication are essential to understanding multiplication concepts. Students will understand that numbers can be multiplied in any order and the product will be the same, and apply the Commutative Property to solve problems. Students will also understand and apply the Associative Property, three or more factors in a problem can be grouped in different ways and the product will be the same. Knowing place value is critical to working with numbers. Students will utilize their understanding of place value and knowledge of multiplication facts to multiply one-digit numbers by multiples of 10.

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 a brainstorming session 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.CT.2: Identify a problem and list the types of individuals and resources (e.g., school, community agencies, governmental, online) that can aid in solving the problem (e.g., 2.1.5.CHSS.1, 4-ESS3-1).
- 9.4.5.CT.3: Describe how digital tools and technology may be used to solve problems.
- 9.4.5.CT.4: Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community and global (e.g., 6.1.5.CivicsCM.3).
- 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: 3.OA, 3.NBT

Content Statements: Understand properties of multiplication and the relationship between multiplication and division. Multiply and divide within 100. Use place value understanding and properties of operations to perform multi-digit arithmetic.

CPI#: **Cumulative Progress Indicator (CPI):**



3.OA.B. 5	Apply properties of operations as strategies to multiply and divide. Examples: If $6 \times 4 = 24$ is known, then $4 \times 6 = 24$ is also known. (Commutative property of multiplication.) $3 \times 5 \times 2$ can be found by $3 \times 5 = 15$, then $15 \times 2 = 30$, or by $5 \times 2 = 10$, then $3 \times 10 = 30$. (Associative property of multiplication.) Knowing that $8 \times 5 = 40$ and $8 \times 2 = 16$, one can find 8×7 as $8 \times (5 + 2) = (8 \times 5) + (8 \times 2) = 40 + 16 = 56$. (Distributive property.)
3.NBT.A.3	Multiply one-digit whole numbers by multiples of 10 in the range 10–90 (e.g., 9×80 , 5×60) using strategies based on place value and properties of operations.
3.OA.C.7	With accuracy and efficiency, multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that $8 \times 5 = 40$, one knows $40 \div 5 = 8$) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.
SEL.PK-12.1.1	Recognize one's feelings and thoughts.
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-12.4.1	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.
RI.3.4	Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 3 topic or subject area.
W.3.4	With guidance and support from adults, produce writing in which the development and organization are appropriate to task and purpose.

Unit Essential Questions:

- What strategies can you use to solve multiplication problems?
- What strategies make it easier to solve multiplication problems?
- How does the order of the factors in a multiplication problem affect the product?
- How does grouping three or more factors in a multiplication problem affect the product?
- How does the Commutative Property make it easier to solve multiplication problems?
- How can you use the Associative Property to make multiplication problems easier?
- How can you break apart a number to make it easier to multiply?

Unit Enduring Understandings:

- The Commutative Property of Multiplication states that changing the order of the factors does not change the product.
- The Associative Property of Multiplication states that three or more factors in a problem can be grouped in different ways and the product will be the same.



- A factor is a number that is multiplied.
- A product is the result of multiplication.
- Models can be used to represent multiplication strategies.
- An understanding of place-value can be used to multiply a one-digit number by multiples of 10.
- Factors can be decomposed and regrouped to multiply a one-digit number by multiples of 10.

Unit Learning Targets:

Students will ...

- understand and apply the Commutative Property of Multiplication to solve problems.
- understand and apply the Associative Property of Multiplication.
- solve real-world multiplication problems.
- use place-value understanding to multiply a one-digit number by multiples of 10.
- decompose factors and use groupings to multiply a one-digit number by multiples of 10.
- use the terms group, factors, and parentheses accurately when speaking and writing.



Evidence of Learning

Summative Assessment: i-Ready Unit 2 Mid-Unit Assessment - 1-2 days

Equipment Needed: Student Volume 1 Workbook, Math Manipulatives - counters, base-10 blocks, graph paper, Laptop, Projector, Student iPads

Teacher Resources: Curriculum Map, i-Ready Classroom Grade 3 Teacher's Guide, online access to i-Ready Classroom Common Core Teacher Toolbox

Formative Assessments:

- i-Ready Diagnostic
- Exit tickets
- Self checks
- Reflect questions
- Math journal pages
- Quizzes
- Mid-unit assessments
- Online i-Ready Comprehension Checks
- Teacher observations
- Small group and whole class discussions



Lesson Plans

Lesson	Time Frame
Lesson 1 Using Order to Multiply	2 days
Lesson 2 Using Grouping to Multiply	3 days
Lesson 3 Use Place Value to Multiply	3 days

Teacher Notes:

Use the following resources to guide lessons and inform instruction: i-Ready Teacher Toolbox, Interactive Tutorials, Digital Math Tools, Learning Games, PowerPoint Slides, Prerequisites Report, Digital Comprehension Checks, Comprehension Check Reports, and math manipulatives such as, counters, fact tables, and graph paper.

Curriculum Development Resources/Technology Resources:

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

www.ixl.com

<https://teacher-toolbox.i-ready.com/>

[Grade 3 CAR - Unit 2B Map](#)

www.brainpopjr.com

[NJ Student Learning Standards for Mathematics Grade 3](#)



Lesson Plan 1 Template

Content Area: Math Lesson Title: Using Ordering to Multiply 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: i-Ready - PowerPoint slides, interactive tutorials, comprehension checks, digital math tools, and learning games; laptop; projector; student iPad

Equipment Needed: Student Volume 1 Workbook, Math Manipulatives - counters, graph paper, and fact tables, Graph Paper, Laptop, Projector, Student iPads

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Understand that numbers can be multiplied in any order and the product will be the same. - Apply the commutative property of multiplication as a strategy to solve multiplication problems. - Use the terms group and factors accurately when speaking and writing.	Lesson Sequence <i>Session 2:</i> - Start (5 min) Connect to Prior Knowledge using the Start slide from the PowerPoint presentation. - Try It (5-10 min) Before students work on Try It, use the Notice and Wonder Strategy to help them make sense of the problem on page 187. Then students will work independently to solve the Try It problem. - Discuss It (10-15 min) After students work on the Try It, have them respond to the Discuss It questions on page 187 with a partner. Support as needed with questions. Facilitate whole class discussion and guide students to compare	- Exit Ticket - i-Ready Student Workbook pages 187-192 - Lesson (Quiz Teacher Guide page 208a-208b) - i-Ready Digital Interactive Practice



and connect their representations. Share the Picture It and Model It responses on page 188, if not already presented by a student.

4. Connect It (15-20 min)
 Guide students through the Connect It questions on page 189. Then have students work on the Apply It questions 7 and 8 on page 190. Encourage students to draw some kind of model to support their thinking.

5. Exit Ticket (5 min)
 Students will complete problem 9 on page 190.

6. Additional Practice
 Practice Using Order to Multiply on pages 191-192.

Differentiation:

Prerequisite Lessons: Grade 2 Lesson 31 - Add Using Arrays and Grade 2 Lesson 32 Even and Odd Numbers

Reteach: Tools for Instruction - Adding Using Arrays, Identifying Even and Odd Numbers, and Use Order and Grouping to Multiply

Reinforce: Center Activities - Multiply 3 Numbers

Extend: Enrichment Activity - Arranging Desks

Resources Provided:

- Math Toolkit - multiplication tables and counters
- Graph Paper
- i-Ready Digital Math Tools - Base-Ten Blocks and Multiplication Models
- i-Ready Digital Learning Games - Match
- i-Ready Classroom Student Workbook
- i-Ready Interactive Tutorials
- i-Ready Interactive Practice



Lesson Plan 2 Template

Content Area: Math Lesson Title: Using Grouping to Multiply 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: i-Ready - PowerPoint slides, interactive tutorials, comprehension checks, digital math tools, and learning games; laptop; projector; student iPad

Equipment Needed: Student Volume 1 Workbook, Math Manipulatives - counters, graph paper, and fact tables, Graph Paper, Laptop, Projector, Student iPads

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Understand that numbers can be multiplied in any order and the product will be the same. - Understand that three or more factors in a problem can be grouped in different ways and the product will be the same. - Apply the associative property of multiplication as a strategy to solve multiplication problems. - Use the terms group, factors, and parentheses accurately when speaking and writing.	Lesson Sequence <i>Session 3:</i> - Start (5 min) Connect to Prior Knowledge using the Start slide from the PowerPoint presentation. - Try It (5-10 min) Before students work on Try It, use the Three Reads Strategy to help them make sense of the problem on page 193. Then students will work independently to solve the Try It problem. - Discuss It (10-15 min) After students work on the Try It, have them respond to the Discuss It questions on page 193 with a partner. Support as needed with questions. Facilitate whole class discussion	- Exit Ticket - i-Ready Student Workbook pages 193-198 - Lesson Quiz (Teacher Guide 208a-208b) - i-Ready Digital Interactive Practice



and guide students to compare and connect their representations. Share the Picture It and Model It responses on page 194, if not already presented by a student.

4. Connect It (15-20 min)
 Guide students through the Connect It questions on page 195. Then have students work on the Apply It questions 6 and 7 on page 196. Encourage students to draw some kind of model to support their thinking.

5. Exit Ticket (5 min)
 Students will complete problem 8 on page 196.

6. Additional Practice
 Practice Using Grouping to Multiply on pages 197-198.

Differentiation:

Prerequisite Lessons: Grade 2 Lesson 31 - Add Using Arrays and Grade 2 Lesson 32 Even and Odd Numbers

Reteach: Tools for Instruction - Adding Using Arrays, Identifying Even and Odd Numbers, and Use Order and Grouping to Multiply

Reinforce: Center Activities - Multiply 3 Numbers

Extend: Enrichment Activity - Arranging Desks

Resources Provided:

- Math Toolkit - multiplication tables and counters
- Graph Paper
- i-Ready Digital Math Tools - Base-Ten Blocks and Multiplication Models
- i-Ready Digital Learning Games - Match
- i-Ready Classroom Student Workbook
- i-Ready Interactive Tutorials
- i-Ready Interactive Practice



Lesson Plan 3 Template

Content Area: Math Lesson Title: Use Place Value to Multiply 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: i-Ready - PowerPoint slides, interactive tutorials, comprehension checks, digital math tools, and learning games; laptop; projector; student iPad

Equipment Needed: Student Volume 1 Workbook, Math Manipulatives - counters, graph paper, and fact tables, Graph Paper, Laptop, Projector, Student iPads

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Use place-value understanding to multiply a one-digit number by multiples of 10. - Use properties of operations to multiply a one-digit number by multiples of 10. - Describe how to break apart a factor and use grouping to multiply a one digit-number by multiples of 10.	Lesson Sequence <i>Session 1</i> - Start (5 min) Connect to Prior Knowledge using the Start slide from the PowerPoint presentation. - Try It (5-10 min) Before students work on Try It, use the Three Reads Strategy to help them make sense of the problem on page 211. Then students will work independently to solve the Try It problem. - Discuss It (10-15 min) After students work on the Try It, have them respond to the Discuss It questions on page 211 with a partner. Support as needed with questions. Facilitate whole class discussion	- Exit Ticket - i-Ready Student Workbook pages 211-220 - Lesson Quiz (Teacher Guide 224a-224b) - i-Ready Digital Interactive Practice



and guide students to compare and connect their representations.

4. Connect It (10-15 min)
 Guide students through the Look Back and Look Ahead questions on page 212. Look for an understanding that 4 groups of 20 is equivalent to 8 groups of 10, or 80.

5. Exit Ticket (5 min)
 Students will complete the Reflect on page 212.

6. Additional Practice
 Prepare for Using Place Value to Multiply on pages 213-214.

Differentiation:

Prerequisite Lessons: Grade 2 Lesson 12 - Understand Three-Digit Numbers
 Reteach: Tools for Instruction - Model Three-Digit Numbers and Use Place Value to Multiply
 Reinforce: Center Activities - Multiply Multiples of 10 and Match the Product
 Extend: Enrichment Activity - Party Bags

Resources Provided:

- Math Toolkit - multiplication tables and counters
- Graph Paper
- i-Ready Digital Math Tools - Base-Ten Blocks and Multiplication Models
- i-Ready Digital Learning Games - Cupcake and Pizza
- i-Ready Classroom Student Workbook
- i-Ready Interactive Tutorials
- i-Ready Interactive Practice



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: 3	Unit Title: 2B: Relating Area to Multiplication and Addition
Created: 2024	Board Approved on:	Type Here



Unit Overview Template

Content Area: Math	Grade Level: 3	Unit Title: 3A/3C: Introductory Fraction Concepts
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Unit Summary: Students will be introduced to fraction concepts and strategies.

Primary Interdisciplinary Connections: *ELA and Engineering*

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: This unit introduces students to fractions. Fractions are numbers that students will use in their everyday lives. It is important for students to have an understanding of how to read, write, and compare fractions. Fractions describe whole numbers divided into equal parts. Knowing how many equal parts there are will help name fractions. Fractions can also name points on a number line. Knowing about number lines will help students compare fractions with whole numbers and other fractions. Fraction models and number lines can also be used to find equivalent fractions. Students will also be able to compare fractions that have the same numerator or the same denominator.

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 a brainstorming session 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.CT.2: Identify a problem and list the types of individuals and resources (e.g., school, community agencies, governmental, online) that can aid in solving the problem (e.g., 2.1.5.CHSS.1, 4-ESS3-1).
- 9.4.5.CT.3: Describe how digital tools and technology may be used to solve problems.
- 9.4.5.CT.4: Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community and global (e.g., 6.1.5.CivicsCM.3).
- 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: 3.NF and 3.G

Content Statements: Develop understanding of fractions as numbers. Reason with shapes and their attributes.

CPI#:	Cumulative Progress Indicator (CPI):
3.NF.A.1	Understand a fraction $\frac{1}{b}$ as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction $\frac{a}{b}$ as the quantity formed by a



	part of size $1/b$. For example: If a rectangle (i.e. the whole) is partitioned into 3 equal parts, each part is $1/3$. Two of those parts would be $2/3$.
3.NF.A.2	Understand a fraction as a number on the number line; represent fractions on a number line diagram. a. Represent a fraction $1/b$ on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into b equal parts. Recognize that each part has size $1/b$ and that the endpoint of the part based at 0 locates the number $1/b$ on the number line. For example, partition the number line from 0 to 1 into 3 equal parts, represent $1/3$ on the number line and show that each part has a size $1/3$. b. Represent a fraction a/b on a number line diagram by marking off a length $1/b$ from 0. Recognize that the resulting interval has size a/b and that its endpoint locates the number a/b on the number line.
3.NF.A.3	3. Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. a. Understand two fractions as equivalent (equal) if they are the same size. Understand two fractions as equivalent if they are located at the same point on a number line. b. Recognize and generate simple equivalent fractions by reasoning about their size, (e.g. $1/2 = 2/4$, $4/6 = 2/3$,). Explain why the fractions are equivalent with the support of a visual fraction model. c. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. Examples: Express 3 in the form $3 = 3/1$; recognize that $6/1 = 6$; locate $4/4$ and 1 at the same point on a number line diagram. d. Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols $>$, $=$, or $<$, and justify the conclusions, with the support of a visual fraction model.
3.DL.B.4	Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units—whole numbers, halves, or quarters.
3.G.A.2	Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. For example, partition a shape into 4 parts with equal area, and describe the area of each part as $1/4$ of the area of the shape.
SEL.PK-12.1.1	Recognize one's feelings and thoughts.
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-12.4.1	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.
RI.3.4	Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 3 topic or subject area.
W.3.4	With guidance and support from adults, produce writing in which the development and organization are appropriate to task and purpose.

Unit Essential Questions:

- Why is a fraction divided into equal parts?
- How can we describe equal parts?
- What are the parts of a fraction?
- How are unit fractions the building blocks of fractions?
- What are different ways to represent fractions?
- How can models be used to represent fractions?
- What are some real world examples of fractions?
- How can a number line be used to represent and compare fractions?
- How can a line plot be used to represent data?
- How do line plots help us better understand data?
- What strategies can be used to compare fractions?

Unit Enduring Understandings:

- Fractions show equal parts of a whole.
- The numerator is the number above the line in a fraction that tells the number of equal parts that are being described.
- The denominator is the number below the line in a fraction that tells the number of equal parts in the whole.
- A unit fraction is a fraction with a numerator of 1. Other fractions are built from unit fractions.
- Number lines can be used to show fractions.
- Equivalent fractions show the same amount and name the same point on a number line.
- Models and number lines can be used to find equivalent fractions.
- Whole numbers can be expressed as fractions.
- Fractions with the same numerator or the same denominator can be compared using $<$, $>$, or $=$.
- Fractions can be used when measuring length to the nearest $\frac{1}{2}$ or $\frac{1}{4}$.

Unit Learning Targets:

Students will...

- understand fractions are whole numbers divided into equal parts.
- use models and number lines to represent fractions.
- use important vocabulary, such as numerator, denominator, and unit fraction, when speaking and writing about fractions.
- explain equivalence of fractions.
- compare fractions by reasoning about their size.
- understand two fractions are equivalent if they are the same size or the same point on a number line.
- recognize and generate simple equivalent fractions.



- explain why the fractions are equivalent by using a visual fraction model.
- generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch.
- show the measurement data on a line plot.
- partition shapes into parts with equal areas.
- express the area of each part as a unit fraction of the whole.



Evidence of Learning

Summative Assessment: i-Ready Unit 4 Assessment - 1-2 days

Equipment Needed: Student Volume 2 Workbook, Math Manipulatives - fraction tiles and fraction circles, Laptop, Projector, Student iPads

Teacher Resources: Curriculum Map, i-Ready Classroom Grade 3 Teacher's Guide, online access to i-Ready Classroom Common Core Teacher Toolbox

Formative Assessments:

- i-Ready Diagnostic
- Exit tickets
- Self checks
- Reflect questions
- Math journal pages
- Quizzes
- Mid-unit assessments
- Online i-Ready Comprehension Checks
- Teacher observations
- Small group and whole class discussions



Lesson Plans

Lesson	Time Frame
Lesson 1 Understand What a Fraction Is	3 days
Lesson 2 Understand Fractions on a Number Line	3 days
Lesson 3 Understand Equivalent Fractions	3 Days

Teacher Notes:

Use the following resources to guide lessons and inform instruction: i-Ready Teacher Toolbox, Interactive Tutorials, Digital Math Tools, Learning Games, PowerPoint Slides, Prerequisites Report, Digital Comprehension Checks, Comprehension Check Reports, and math manipulatives such as fraction tiles and fraction circles.

Curriculum Development Resources/Technology Resources:

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

www.ixl.com

<https://teacher-toolbox.i-ready.com/>

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

www.brainpopjr.com

[NJ Student Learning Standards for Mathematics Grade 3](#)



Lesson Plan 1 Template

Content Area: Math Lesson Title: Understand What a Fraction Is 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: i-Ready - Powerpoint slides, interactive tutorials, comprehension checks, digital math tools, and learning games; laptop; projector; student iPads

Equipment Needed: Student Volume 2 Workbook, Math Manipulatives- fraction tiles and fraction circles

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Understand that a fraction is a whole divided into some number of equal parts. - Understand and recognize the parts of a fraction. - Understand that unit fractions are the building blocks of fractions in the same way that 1 is the building block of whole numbers.	Lesson Sequence <i>Session 1:</i> - Model It (5 min) Use three reads for the Model It problem on page 459. Model how to write and name fractions. - Discuss It (5-10 min) Whole and small group discussions where students practice identifying what each number in the fraction represents. - Model it (5-10 min) Use three reads for the Model It problem on page 460. Students will think of naming fractions with a numerator of 1 and naming fractions with a numerator greater than 1.	- Exit Ticket - i-Ready Student Workbook pages 459-462 - Lesson Quiz (Teacher Guide pages 468a-468b) - i-Ready Digital Interactive Practice



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| | <p>4. Discuss It (5-10 min)
Partner discussion about what each part of a fraction represents.</p> <p>5. Exit Ticket (5 min)
Students will complete the Reflect problem on page 460.</p> | |
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Differentiation:

Prerequisite Lessons: Grade 1 Lesson 23- Break Shapes into Equal Parts

Reteach: Tools for Instruction- Modeling Fractions, Make Equal Shares

Reinforce Center Activities: Write the Fraction and Show Fractions

Extend Enrichment Activity - Colorful Quilts

Resources Provided:

- Math Toolkit- fraction circles and fraction tiles
- Digital Math Tools
- i-Ready Classroom Student Workbook



Lesson Plan 2 Template			
Content Area:	Math	Lesson Title:	Understand Fractions on a Number Line
		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: i-Ready - Powerpoint slides, interactive tutorials, comprehension checks, digital math tools, and learning games; laptop; projector; student iPads			
Equipment Needed: Student Volume 2 Workbook, Math Manipulatives- fraction tiles and fraction circles, number lines			

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Understand that, in addition to whole numbers, number lines can show equal parts of a whole, or fractions. - Understand fractions as numbers on a number line. - Understand how to use number lines to count and identify fractional parts. - Represent fractions on a number line that are less than, equal to, or greater than one.	Lesson Sequence <i>Session 1:</i> - Model It (5 min) Read the question at the top of the page. Guide students through the Model It activity on page 471. Introduce the term - mixed number. - Discuss It (10-15 min) Students will respond to Discuss It on page 471 with a partner. - Model It (10-15 min) Use three reads for the Model It problem on page 472. Students will now think about counting and labeling fractions on a number line.	- Exit Ticket - i-Ready Workbook pages 471-474 - Lesson Quiz (Teacher Guide 480a-480b) - i-Ready Digital Interactive Practice



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| | <p>4. Exit Ticket (5 min)
Students will complete the Reflect problem on page 472.</p> <p>5. Additional Practice
Practice Showing Fractions on a Number Line pages 477-478.</p> | |
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Differentiation:

Prerequisite Lessons: Grade 1 Lesson 23- Break Shapes into Equal Parts

Reteach: Tools for Instruction- Fractions on a Number Line, Make Equal Shares, Modeling Fractions

Reinforce Center Activities: Use Fraction Vocabulary and Identify Fractions on a Number Line

Extend Enrichment Activity - Number Lines

Resources Provided:

- Math Toolkit- fraction circles and fraction tiles
- Digital Math Tools
- i-Ready Classroom Student Workbook



Lesson Plan 3 Template		
Content Area: Math	Lesson Title: Understanding 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: i-Ready - Powerpoint slides, interactive tutorials, comprehension checks, digital math tools, and learning games; laptop; projector; student iPads		
Equipment Needed: Student Volume 2 Workbook, Math Manipulatives- fraction tiles and fraction circles, number lines		

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Understand that two fractions are equivalent if they are the same size, cover the same area, or are on the same point on a number line. - Recognize and generate equivalent fractions using fraction models and number lines. - Explain why two fractions are equivalent by using a fraction model or number line.	Lesson Sequence <i>Session 1:</i> Model It (5 min) Read the question at the top of the page. Guide students through the Model It activity on page 483. Introduce the term-equivalent fraction. Discuss It (10-15 min) Students will discuss the Discuss It questions on page 483 with a partner. Model It (10-15 min) Guide students through the Model It problem on page 484. Students will now think about other fractions that are equivalent to $\frac{1}{2}$.	- Exit Ticket - i-Ready Student Workbook pages 483-486 - Lesson Quiz (Teacher Guide pages 492a-492b) - i-Ready Digital Interactive Practice



	4. Discuss It (10-15 min) Students will discuss the Discuss It questions on page 484 with a partner and determine that area models can be used to show equivalent fractions. 5. Exit Ticket (5 min) Students will complete the Reflect problem on page 484. 6. Additional Practice Prepare for Exploring Equivalent Fractions on pages 485-486.	
Differentiation: Prerequisite Lessons: Grade 2 Lesson 29- Understand Partitioning Shapes into Halves, Thirds, and Fourths Reteach: Tools for Instruction- Equivalent Fractions, Make Equal Shares, Modeling Fractions, Fractions on Number Line Reinforce Center Activities: Fraction Match Extend Enrichment Activity - Road Race		
Resources Provided: • Math Toolkit- fraction circles and fraction tiles • Digital Math Tools • i-Ready Classroom Student Workbook		



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: 3	Unit Title: 3A/3C Introductory Fraction Concepts
Created: 2024	Board Approved on: Type Here	



Unit Overview Template

Content Area:	Math	Grade Level:	3	Unit Title:	3B/4A: Measurement
Unit Summary: Students will extend their understanding of measurement. Students will tell time to the nearest minute, determine elapsed time, estimate and measure liquid volume, and estimate and measure mass.					
Primary Interdisciplinary Connections: <i>ELA and Engineering</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: Measurement is an important life skill. Both analog and digital clocks are used to tell time. Knowing how to read and tell time to the nearest minute will help students solve problems involving elapsed time. Measurement can also be used to determine the capacity, or liquid volume, or mass of an object. Students will use what they know about measurement to estimate and measure the volume of liquid in liters and the mass of an object in grams or kilograms.					
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 a brainstorming session 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.CT.2: Identify a problem and list the types of individuals and resources (e.g., school, community agencies, governmental, online) that can aid in solving the problem (e.g., 2.1.5.CHSS.1, 4-ESS3-1). 9.4.5.CT.3: Describe how digital tools and technology may be used to solve problems. 9.4.5.CT.4: Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community and global (e.g., 6.1.5.CivicsCM.3). 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: 3.M	
Content Statements: Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.	
CPI#:	Cumulative Progress Indicator (CPI):
3.M.A.1	Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram.
3.M.A.2	Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). Add, subtract, multiply, or divide to solve



	one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem. (Clarification: “Measure and estimate liquid volumes and masses” excludes compound units such as cm ³ and finding the geometric volume of a container. “Multiplying to solve one-step word problems” excludes multiplicative comparison problems (problems involving “times as much”; See Glossary, Tables 2a–2d))
SEL.PK-12. 1.1	Recognize one’s feelings and thoughts.
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. 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.
RI.3.4	Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 3 topic or subject area.
W.3.4	With guidance and support from adults, produce writing in which the development and organization are appropriate to task and purpose.

Unit Essential Questions:

- What do the hands and numbers on the clock represent?
- How can you tell time to the nearest minute?
- How can you tell the difference between time in the A.M. and time in the P.M.?
- What strategies can help you to solve elapsed time problems?
- How can an open number line help you solve elapsed time problems?
- What units of measurement are used to measure liquid volume?
- What tools can you use to measure liquid volume?
- How can you use tools to estimate and measure liquid volume?
- How can you solve real world problems involving liquid volume?
- What tools can you use to measure mass?
- What units of measurement are used to measure mass?
- How can you use tools to estimate and measure the mass of objects?
- How can you solve real world problems involving mass?

Unit Enduring Understandings:

- Analog and digital clocks can be used to tell time to the nearest minute.
- Time can be expressed as the minutes before or after the hour.
- Time can be divided into AM or PM.
- Time intervals or elapsed time can be measured in minutes using clock models and number lines.
- Liquid volume is the amount of space a liquid takes up.



- A liter is a unit of liquid volume in the metric system. There are 1,000 milliliters in 1 liter.
- Unit size can be used to estimate liquid volume.
- Mass is the amount of matter in an object.
- Measuring the mass of an object is one way to measure how heavy it is.
- A gram is a unit of mass in the metric system. There are 1,000 grams in a kilogram.

Unit Learning Targets:

Students will...

- tell and write time to the nearest minute.
- measure time intervals in minutes.
- solve word problems involving addition and subtraction of time intervals in minutes.
- measure and estimate liquid volumes using standard units of liters.
- solve one-step word problems involving liquid volume.
- measure and estimate the mass of an object using standard units of grams and kilograms.
- solve one-step word problems involving mass.



Evidence of Learning

Summative Assessment: i-Ready Unit 5 Assessment - 2 days

Equipment Needed: Student Volume 2 Workbook, Math Manipulatives - clocks, pan balance, gram weights, measuring cups, graduated cylinders, Laptop, Projector, Student iPads

Teacher Resources: Curriculum Map, i-Ready Classroom Grade 3 Teacher's Guide, online access to i-Ready Classroom Common Core Teacher Toolbox

Formative Assessments:

- i-Ready Diagnostic
- Exit tickets
- Self checks
- Reflect questions
- Math journal pages
- Quizzes
- Mid-unit assessments
- Online i-Ready Comprehension Checks
- Teacher observations
- Small group and whole class discussions



Lesson Plans

Lesson	Time Frame
Lesson 1 Time	5 days
Lesson 2 Liquid Volume	4 days
Lesson 3 Mass	4 days

Teacher Notes:

Use the following resources to guide lessons and inform instruction: i-Ready Teacher Toolbox, Interactive Tutorials, Digital Math Tools, Learning Games, PowerPoint Slides, Prerequisites Report, Digital Comprehension Checks, Comprehension Check Reports, and math manipulatives such as, clocks, pan balance, gram weights, measuring cups, graduated cylinders.

Curriculum Development Resources/Technology Resources:

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

www.ixl.com

<https://teacher-toolbox.i-ready.com/>

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

www.brainpopjr.com

[NJ Student Learning Standards for Mathematics Grade 3](#)



Lesson Plan 1 Template

Content Area: Math Lesson Title: Time 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: i-Ready - PowerPoint slides, interactive tutorials, comprehension checks, digital math tools, and learning games; laptop; projector; student iPad

Equipment Needed: Student Volume 2 Workbook, Math Manipulatives - clocks, pan balance, gram weights, measuring cups, graduated cylinders, Laptop, Projector, Student iPads

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: • Use an analog clock to tell and write time to the nearest minute. • Relate time on analog and digital clocks. • Express time as the number of minutes before the hour. • Understand the difference between AM and PM. • Measure time intervals in minutes using clock models and number lines. • Solve word problems involving addition or subtraction of time intervals in minutes.	Lesson Sequence <i>Session 1:</i> 1. Try It (5-10 min) Before students work on Try It, use the Three Reads Strategy to help them make sense of the problem on page 589. Then students will work independently to solve the Try It problem. 2. Discuss It (10-15 min) After students work on the Try It, have them respond to Discuss It on page 589 with a partner. 3. Connect It (10-15 min) Look for understanding that the time shows 8:32. 4. Exit Ticket (5 min) Students will complete the Reflect problem on page 590.	• Exit Ticket • i-Ready Student Workbook pages 589-592 • Lesson Quiz (Teacher Guide page 614a-614b) • i-Ready Digital Interactive Practice



5. Additional Practice
Prepare for Working with Time.

Differentiation:

Prerequisite Lessons: Grade 2 Lesson 11 - Tell and Write Time

Reteach: Tools for Instruction - Telling Time to the Nearest Five Minutes and Elapsed Time

Reinforce: Center Activities - Time Match and Solve Time Word Problems

Extend: Enrichment Activity - Class Schedule

Resources Provided:

- Math Toolkit - student clocks
- i-Ready Digital Math Tools
- i-Ready Digital Learning Games
- i-Ready Classroom Student Workbook
- i-Ready Interactive Tutorials
- i-Ready Interactive Practice



Lesson Plan 2 Template

Content Area: Math Lesson Title: Liquid Volume Time Frame: 4 days

Lesson Components

21st Century Themes

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

21st Century Skills

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

Interdisciplinary Connections: English Language Arts, Science and Engineering

Integration of Technology: i-Ready - PowerPoint slides, interactive tutorials, comprehension checks, digital math tools, and learning games; laptop; projector; student iPad

Equipment Needed: Student Volume 2 Workbook, Math Manipulatives - clocks, pan balance, gram weights, measuring cups, graduated cylinders, Laptop, Projector, Student iPads

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Identify items that can be measured in liquid volume units. - Understand the relative size of 1 liter. - Use unit size to estimate liquid volume capacity. - Solve one-step word problems involving capacity.	Lesson Sequence <i>Session 1:</i> 1. Try It (5-10 min) Before students work on Try It, use the Three Reads Strategy to help them make sense of the problem on page 617. Then students will work independently to solve the Try It problem. 6. Discuss It (10-15 min) After students work on the Try It, have them respond to Discuss It on page 617 with a partner. 7. Connect It (10-15 min) Look for understanding that a measuring cup can be used to measure liquids, so it is the best choice for measuring the amount of water in the bucket	- Exit Ticket - i-Ready Student Workbook pages 617-620 - Lesson Quiz (Teacher Guide pages 636a-636b) - i-Ready Digital Interactive Practice



	8. Exit Ticket (5 min) Students will complete the Reflect problem on page 618. 9. Additional Practice Prepare for Working with Liquid Volume.	
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Differentiation:

Prerequisite Lessons: Grade 2 Lesson 20 - Measure in Inches and Centimeters and Grade 2 Lesson 22 - Understand Measurement with Different Units

Reteach: Tools for Instruction - Measure in Inches and Centimeters, Measuring with Different Units, and Liquid Volume

Reinforce: Center Activities - Word Problem Race

Extend: Enrichment Activity - Fill My Fish Tank

Resources Provided:

- Math Toolkit - measuring cups and graduated cylinders
- i-Ready Digital Math Tools
- i-Ready Digital Learning Games
- i-Ready Classroom Student Workbook
- i-Ready Interactive Tutorials
- i-Ready Interactive Practice



Lesson Plan 3 Template

Content Area: Math Lesson Title: Mass 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: i-Ready - PowerPoint slides, interactive tutorials, comprehension checks, digital math tools, and learning games; laptop; projector; student iPad

Equipment Needed: Student Volume 2 Workbook, Math Manipulatives - clocks, pan balance, gram weights, measuring cups, graduated cylinders, Laptop, Projector, Student iPads

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Understand that one way objects can be measured is by how heavy or light they are. - Identify items that can be measured in mass units. - Understand the relative masses of gram and kilogram. - Use unit size to estimate mass. - Solve one-step word problems involving mass.	Lesson Sequence <i>Session 1:</i> - Try It (5-10 min) Before students work on Try It, use the Three Reads Strategy to help them make sense of the problem on page 639. Then students will work independently to solve the Try It problem. - Discuss It (10-15 min) After students work on the Try It, have them respond to Discuss It on page 639 with a partner. - Connect It (10-15 min) Look for understanding that paper clips can be used to estimate and measure the mass of eyeglasses because the mass of a paper clip is known (1 gram).	- Exit Ticket - i-Ready Student Workbook pages 639-642 - Lesson Quiz (Teacher Guide page 658a-658b) - i-Ready Digital Interactive Practice



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| | <p>4. Exit Ticket (5 min)
Students will complete the Reflect problem on page 640.</p> <p>5. Additional Practice
Prepare for Working with Mass.</p> | |
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Differentiation:

Prerequisite Lessons: Grade 2 Lesson 20 - Measure in Inches and Centimeters and Grade 2 Lesson 22 - Understand Measurement with Different Units

Reteach: Tools for Instruction - Measure in Inches and Centimeters, Measuring with Different Units, and Estimating Mass

Reinforce: Center Activities - Use Measurement Vocabulary and Solve Measurement Problems

Extend: Enrichment Activity - Balancing Act

Resources Provided:

- Math Toolkit - pan balance and gram weights
- i-Ready Digital Math Tools
- i-Ready Digital Learning Games
- i-Ready Classroom Student Workbook
- i-Ready Interactive Tutorials
- i-Ready Interactive Practice



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: 3	Unit Title: 3B/4A: Measurement
Created: 2024	Board Approved on:	Type Here



Unit Overview Template

Content Area:	Math	Grade Level:	3	Unit Title:	4B: Spatial Reasoning and Fluency with Operations
Unit Summary: This unit extends student understanding of two-dimensional shapes, their attributes, and how they can be classified.					
Primary Interdisciplinary Connections: <i>ELA and Engineering</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: Two-dimensional shapes have many attributes. Knowing about these attributes will help students categorize shapes. Perimeter is the sum of a shape's side lengths, and area measures the space inside the shape. Knowing a rectangle's perimeter or area can help students reason about its shape.					
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 a brainstorming session 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.CT.2: Identify a problem and list the types of individuals and resources (e.g., school, community agencies, governmental, online) that can aid in solving the problem (e.g., 2.1.5.CHSS.1, 4-ESS3-1).					
9.4.5.CT.3: Describe how digital tools and technology may be used to solve problems.					
9.4.5.CT.4: Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community and global (e.g., 6.1.5.CivicsCM.3).					
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: 3.G and 3.M	
Content Statements: Reason with shapes and their attributes. Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.	
CPI#:	Cumulative Progress Indicator (CPI):
3.G.A.1	Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.



3.M.C.6	Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.
SEL.PK-12.1.1	Recognize one's feelings and thoughts.
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-12.4.1	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.
RI.3.4	Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 3 topic or subject area.
W.3.4	With guidance and support from adults, produce writing in which the development and organization are appropriate to task and purpose.

Unit Essential Questions:

- How can you describe and categorize two-dimensional shapes according to their attributes?
- How can you compare and contrast attributes of two-dimensional shapes?
- Can you draw two-dimensional shapes if you are given attributes for the shape?
- How can you use side lengths to determine the perimeter of a shape?
- How do you find an unknown side length of a shape if you are given the perimeter of the shape?
- How can you solve real world problems involving perimeter?

Unit Enduring Understandings:

- Attributes, such as number of sides or angles, lengths of sides, or angle measures can be used to identify, compare, and categorize two-dimensional shapes.
- Quadrilaterals are two-dimensional closed shapes with exactly 4 sides and 4 angles.
- Quadrilaterals can be identified and categorized according to their attributes.
- Parallelograms are quadrilaterals with opposite sides parallel and equal in length.
- Rectangles, rhombuses, and squares are special types of parallelograms.
- Perimeter is the distance around a two-dimensional shape.
- The perimeter is equal to the sum of the lengths of the sides.
- Rectangles with the same area can have different perimeters.
- Rectangles with the same perimeter can have different areas.
- Shapes can be partitioned into equal areas which can be expressed as fractions.

Unit Learning Targets:

Students will...



- identify two-dimensional shapes and their attributes.
- draw two-dimensional shapes, given attributes.
- compare and contrast attributes of two-dimensional shapes.
- categorize two-dimensional shapes according to attributes.
- identify and draw two-dimensional shapes that do not belong to a given category.
- understand that shapes in different categories may share attributes.
- identify quadrilaterals and their attributes.
- draw quadrilaterals, given attributes.
- compare and contrast attributes of quadrilaterals.
- identify shared attributes of different quadrilaterals.
- categorize quadrilaterals according to attributes.
- identify and draw quadrilaterals that do not belong to a given category.
- recognize rhombuses, rectangles, and squares as examples of parallelograms.
- understand the difference between perimeter and area.
- use side lengths to find the perimeter of a shape.
- find an unknown side length given the perimeter of the shape.
- understand that rectangles with the same area can have different perimeters.
- understand that rectangles with the same perimeter can have different areas.
- Climate Change Example: Students may solve real world problems about glacier retreat that involve perimeters of polygons.



Evidence of Learning

Summative Assessment: i-Ready Unit 6 Assessment - 2 days

Equipment Needed: Student Volume 2 Workbook, Math Manipulatives - rulers and templates, Laptop, Projector, Student iPads

Teacher Resources: Curriculum Map, i-Ready Classroom Grade 3 Teacher's Guide, online access to i-Ready Classroom Common Core Teacher Toolbox

Formative Assessments:

- i-Ready Diagnostic
- Exit tickets
- Self checks
- Reflect questions
- Math journal pages
- Quizzes
- Mid-unit assessments
- Online i-Ready Comprehension Checks
- Teacher observations
- Small group and whole class discussions



Lesson Plans

Lesson	Time Frame
Lesson 1 Understand Categories of Shapes	3 days
Lesson 2 Classify Quadrilaterals	4 days
Lesson 3 Area and Perimeter of Shapes	5 days

Teacher Notes:

Use the following resources to guide lessons and inform instruction: i-Ready Teacher Toolbox, Interactive Tutorials, Digital Math Tools, Learning Games, PowerPoint Slides, Prerequisites Report, Digital Comprehension Checks, Comprehension Check Reports, and math manipulatives such as, rulers templates, and graph paper.

Curriculum Development Resources/Technology Resources:

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

www.ixl.com

<https://teacher-toolbox.i-ready.com/>

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

www.brainpopjr.com

[NJ Student Learning Standards for Mathematics Grade 3](#)



Lesson Plan 1 Template

Content Area: Math	Lesson Title: Understand Categories of Shapes	Time Frame: 3 days
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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: i-Ready - PowerPoint slides, interactive tutorials, comprehension checks, digital math tools, and learning games; laptop; projector; student iPad

Equipment Needed: Student Volume 2 Workbook, Math Manipulatives - ruler, shape template, graph paper, Laptop, Projector, Student iPads

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Identify two-dimensional shapes and their attributes. - Draw two-dimensional shapes, given attributes. - Compare and contrast attributes of two-dimensional shapes. - Categorize two-dimensional shapes according to attributes. - Identify and draw two-dimensional shapes that do not belong to a given category.	Lesson Sequence <i>Session 1:</i> - Model It (5 min) Use three reads for the Model It problem on page 677. Model identifying shapes by using what is known about sides and angles. - Discuss It (5-10 min) Whole and small group discussions where students practice using the language of shapes. Students will explain that the sides of a shape can help you name and group shapes. - Model It (5-10 min) Use three reads for the Model It problem on page 678. Students will now think about different ways to group shapes by using angles.	- Exit Ticket - i-Ready Student Workbook pages 677-680 - Lesson Quiz (Teacher Guide pages 686a-686b) - i-Ready Digital Interactive Practice



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| | <p>4. Discuss It (5-10 min)
Partner discussion about identifying right angles in a shape.</p> <p>5. Exit Ticket (5 min)
Students will complete the Reflect problem on page 678.</p> | |
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Differentiation:

Prerequisite Lessons: Grade 2 Lesson 28 - Recognize and Draw Shapes

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

Reinforce: Center Activities - Geometry Vocabulary Match

Extend: Enrichment Activity - Sorting Shapes

Resources Provided:

- Math Toolkit - ruler and template
- Graph Paper
- i-Ready Digital Math Tools
- i-Ready Digital Learning Games
- i-Ready Classroom Student Workbook
- i-Ready Interactive Tutorials
- i-Ready Interactive Practice



Lesson Plan 2 Template		
Content Area: Math	Lesson Title: Classify Quadrilaterals	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: i-Ready - PowerPoint slides, interactive tutorials, comprehension checks, digital math tools, and learning games; laptop; projector; student iPad		
Equipment Needed: Student Volume 2 Workbook, Math Manipulatives - ruler, shape template, graph paper, Laptop, Projector, Student iPads		

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Identify quadrilaterals and their attributes. - Draw quadrilaterals, given attributes. - Compare and contrast attributes of quadrilaterals. - Identify shared attributes of different quadrilaterals. - Categorize quadrilaterals according to attributes. - Identify and draw quadrilaterals that do not belong to a given category.	Lesson Sequence <i>Session 1:</i> Try It (5-10 min) Before students work on Try It, use the Three Reads Strategy to help them make sense of the problem on page 689. Then students will work independently to solve the Try It problem. Discuss It (10-15 min) After students work on the Try It, have them respond to Discuss It on page 689 with a partner. Connect It (10-15 min) Look for understanding that both the rectangle and rhombus have 4 sides and 4 angles but the lengths of the sides and presence of right angles differ.	- Exit Ticket - i-Ready Student Workbook pages 689-692 - Lesson Quiz (Teacher Guide page 708a-708b) - i-Ready Digital Interactive Practice



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| | <p>4. Exit Ticket (5 min)
Students will complete the Reflect problem on page 690.</p> <p>5. Additional Practice
Prepare for Classifying Quadrilaterals on pages 691-692.</p> | |
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Differentiation:

Prerequisite Lessons: Grade 2 Lesson 28 - Recognize and Draw Shapes

Reteach: Tools for Instruction - Draw and Describe Shapes and Categories of Plane Figures

Reinforce: Center Activities - Quadrilaterals

Extend: Enrichment Activity - Shape Search

Resources Provided:

- Math Toolkit - ruler and template
- Graph Paper
- i-Ready Digital Math Tools
- i-Ready Digital Learning Games
- i-Ready Classroom Student Workbook
- i-Ready Interactive Tutorials
- i-Ready Interactive Practice



Lesson Plan 3 Template			
Content Area:	Math	Lesson Title:	Area and Perimeter of Shapes
		Time Frame:	5 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: i-Ready - PowerPoint slides, interactive tutorials, comprehension checks, digital math tools, and learning games; laptop; projector; student iPad			
Equipment Needed: Student Volume 2 Workbook, Math Manipulatives - ruler, shape template, graph paper, Laptop, Projector, Student iPads			

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Understand the difference between perimeter and area. - Use side lengths to find the perimeter of a shape. - Find an unknown side length given the perimeter of a shape. - Understand that rectangles with the same area can have different perimeters. - Understand that rectangles with the same perimeter can have different areas.	Lesson Sequence <i>Session 1:</i> Try It (5-10 min) Before students work on Try It, use the Three Reads Strategy to help them make sense of the problem on page 711. Then students will work independently to solve the Try It problem. Discuss It (10-15 min) After students work on the Try It, have them respond to Discuss It on page 711 with a partner. Connect It (10-15 min) Look for students to understand that the distance Kala's class marches is the sum of the four side lengths of the field.	- Exit Ticket - i-Ready Student Workbook pages 711-714 - Lesson Quiz Teacher Guide pages 736a-736b - i-Ready Digital Interactive Practice



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| | <p>4. Exit Ticket (5 min)
Students will complete the Reflect problem on page 712.</p> <p>5. Additional Practice
Prepare for Area and Perimeter of Shapes on pages 713-714.</p> | |
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Differentiation:

Prerequisite Lessons: Grade 2 Lesson 21 - Measure in Feet and Meters and Grade 2 Lesson 30 - Partition Rectangles

Reteach: Tools for Instruction - Measure in Feet and Meters, Fill a Rectangle with Squares, and Relating Area and Perimeter

Reinforce: Center Activities - Use Perimeter and Area Vocabulary and Work with Perimeter

Extend: Enrichment Activity - Designing an Animal Pen

Resources Provided:

- Math Toolkit - ruler and template
- Graph Paper
- i-Ready Digital Math Tools
- i-Ready Digital Learning Games
- i-Ready Classroom Student Workbook
- i-Ready Interactive Tutorials
- i-Ready Interactive Practice



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: 3	Unit Title: 4B: Spatial Reasoning and Fluency with Operations
Created: 2024	Board Approved on:	Type Here



Unit Overview Template

Content Area:	Math	Grade Level:	3	Unit Title:	4C: Spatial Reasoning and Fluency with Operations
Unit Summary: Students will extend their knowledge of bar graphs and picture graphs and be introduced to the concept of scale in graphs.					
Primary Interdisciplinary Connections: <i>ELA and Engineering</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:	Knowing how to read, interpret, and analyze graphs is an important life skill and is used in all subject areas. Students will extend their knowledge about bar graphs and picture graphs learned in previous grades to include graphs that use scale to represent data. Students will learn that a symbol on a picture graph can represent more than one item in the data and that the key tells the number of items each symbol represents.				
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 a brainstorming session 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.CT.2: Identify a problem and list the types of individuals and resources (e.g., school, community agencies, governmental, online) that can aid in solving the problem (e.g., 2.1.5.CHSS.1, 4-ESS3-1).					
9.4.5.CT.3: Describe how digital tools and technology may be used to solve problems.					
9.4.5.CT.4: Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community and global (e.g., 6.1.5.CivicsCM.3).					
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: 3.M	
Content Statements: Represent and interpret data.	
CPI#:	Cumulative Progress Indicator (CPI):
3.DL.B.3	Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs. For example, draw a bar graph in which each square in the bar graph might represent 5 pets.



3.DL.A.1	Develop data-based questions and decide what data will answer the question. (e.g., “What size shoe does a 3rd grader wear?”, “How many books does a 3rd grader read?”)
3.DL.A.2	Collect student-centered data (e.g. collect data on students’ favorite ice cream flavor) or use existing data to answer data-based questions.
SEL.PK-12.1.1	Recognize one’s feelings and thoughts.
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-12.4.1	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.
RI.3.4	Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 3 topic or subject area.
W.3.4	With guidance and support from adults, produce writing in which the development and organization are appropriate to task and purpose.

Unit Essential Questions:

- How can you interpret data displayed in a bar graph to solve one-and two-step word problems?
- How can you interpret data displayed in a picture graph to solve one-and two-step word problems?
- How can you create a bar graph to represent a data set?
- How can you create a picture graph to represent a data set?

Unit Enduring Understandings:

- Data is a set of collected information that can be shown on picture graphs and bar graphs.
- A bar graph is a data display in which bars are used to show the number of items in each category.
- A picture graph is a data display in which pictures are used to show data.
- The key tells what each symbol in a picture graph represents.
- The scale on a graph is the value represented by the distance between one tick mark and the next on a number line.
- Data displayed in picture graphs and bar graphs can be represented by a scale other than 1.
- Multiplication can be used to determine the number of items in data categories on graphs with a scale other than 1.

Unit Learning Targets:

Students will...

- draw a scaled picture graph to represent a data set with several categories.
- draw a scaled bar graph to represent a data set with several categories.



- interpret data displayed in picture graphs and bar graphs to solve one- and two-step problems involving addition, subtraction, and multiplication.
- recognize that data displayed in picture graphs and bar graphs can be represented by a scale other than 1.
- use multiplication to determine the number of items in data categories on graphs with a scale other than 1.

Evidence of Learning

Summative Assessment: 4C Assessment - 2 days

Equipment Needed: Student Volume 2 Workbook, Math Manipulatives - counters and graph paper, Laptop, Projector, Student iPads

Teacher Resources: Curriculum Map, i-Ready Classroom Grade 3 Teacher's Guide, online access to i-Ready Classroom Common Core Teacher Toolbox

Formative Assessments:

- i-Ready Diagnostic
- Exit tickets
- Self checks
- Reflect questions
- Math journal pages
- Quizzes
- Mid-unit assessments
- Online i-Ready Comprehension Checks
- Teacher observations
- Small group and whole class discussions



Lesson Plans

Lesson	Time Frame
Lesson 1 Reading and Interpreting Picture Graphs	1 day
Lesson 2 Reading and Interpreting Bar Graphs	1 day
Lesson 3 Drawing a Scaled Graph	2 days

Teacher Notes:

Use the following resources to guide lessons and inform instruction: i-Ready Teacher Toolbox, Interactive Tutorials, Digital Math Tools, Learning Games, PowerPoint Slides, Prerequisites Report, Digital Comprehension Checks, Comprehension Check Reports, and math manipulatives such as, counters, fact tables, and graph paper.

Curriculum Development Resources/Technology Resources:

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

www.ixl.com

<https://teacher-toolbox.i-ready.com/>

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

www.brainpopjr.com

[NJ Student Learning Standards for Mathematics Grade 3](#)



Lesson Plan 1 Template

Content Area: Math	Lesson Title: Reading and Interpreting Picture Graphs	Time Frame: 1 day
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Lesson Components

21st Century Themes

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

21st Century Skills

X 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: i-Ready - PowerPoint slides, interactive tutorials, comprehension checks, digital math tools, and learning games; laptop; projector; student iPad

Equipment Needed: Student Volume 1 Workbook, Math Manipulatives - ruler, graph paper, Laptop, Projector, Student iPads

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Interpret data displayed in a picture graph to solve one- and two-step problems involving addition, subtraction, and multiplication. - Recognize that data displayed in picture graphs can be represented by a scale other than 1. - Use multiplication to determine the number of items in data categories on graphs with a scale other than 1. - Draw scaled picture graphs.	Lesson Sequence <i>Session 2:</i> Try It (5-10 min) Before students work on Try It, use the Three Reads Strategy to help them make sense of the problem on page 419. Then students will work independently to solve the Try It problem. Discuss It (10-15 min) After students work on the Try It, have them respond to Discuss It on page 419 with a partner. Share the Picture It and Model It responses on page 420, if not already presented by a student. Connect It (10-15 min) Look for understanding that multiplication can be used to	- Exit Ticket - i-Ready Student Workbook pages 419-424 - Lesson Quiz (Teacher Guide pages 440a-440b) - i-Ready Digital Interactive Practice



find the number of students who choose winter and summer.

4. Exit Ticket (5 min)

Students will complete the Reflect problem on page 421.

5. Additional Practice

Practice Reading and Interpreting Picture Graphs on pages 423-424.

Differentiation:

Prerequisite Lessons: Grade 2 Lesson 4 - Draw and Use Bar Graphs and Picture Graphs and Grade 2 Lesson 27 - Read and Make Line Plots

Reteach: Tools for Instruction - Draw and Use Bar Graphs and Picture Graphs, Line Plots, Scaled Graphs

Reinforce: Center Activities - Use Data Vocabulary and Make a Bar Graph

Extend: Enrichment Activity - Favorite Pet

Resources Provided:

- Math Toolkit - addition tables, multiplication tables, and counters
- Graph Paper
- i-Ready Digital Math Tools
- i-Ready Digital Learning Games
- i-Ready Classroom Student Workbook
- i-Ready Interactive Tutorials
- i-Ready Interactive Practice



Lesson Plan 2 Template			
Content Area:	Math	Lesson Title:	Reading and Interpreting Bar Graphs
		Time Frame:	1 day
Lesson Components			
<u>21st Century Themes</u>			
X Global Awareness X Financial, Economic, Business and Entrepreneurial Literacy X Civic Literacy X Health Literacy			
<u>21st Century Skills</u>			
X Creativity and Innovation X Critical Thinking and Problem Solving ☐ Information Literacy X Life and Career Skills X Communication and Collaboration X Media Literacy ☐ ICT Literacy			
Interdisciplinary Connections: English Language Arts, Science and Engineering			
Integration of Technology: i-Ready - PowerPoint slides, interactive tutorials, comprehension checks, digital math tools, and learning games; laptop; projector; student iPad			
Equipment Needed: Student Volume 1 Workbook, Math Manipulatives - ruler, graph paper, Laptop, Projector, Student iPads			

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Interpret data displayed in a bar graph to solve one- and two-step problems involving addition and subtraction. - Recognize that data displayed in bar graphs can be represented by a scale other than 1. - Use multiplication to determine the number of items in data categories on graphs with a scale other than 1. - Draw scaled bar graphs.	Lesson Sequence <i>Session 3:</i> Try It (5-10 min) Before students work on Try It, use the Three Reads Strategy to help them make sense of the problem on page 425. Then students will work independently to solve the Try It problem. Discuss It (10-15 min) After students work on the Try It, have them respond to Discuss It on page 425 with a partner. Share the Explain It responses on page 426, if not already presented by a student.	- Exit Ticket - i-Ready Student Workbook pages 425-430 - Lesson Quiz (Teacher Guide pages 440a-440b) - i-Ready Digital Interactive Practice



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| | <p>3. Connect It (10-15 min)
Look for understanding that bars show the amount of money raised in each grade.</p> <p>4. Exit Ticket (5 min)
Students will complete the Reflect problem on page 427.</p> <p>5. Additional Practice
Practice Reading and Interpreting Bar Graphs on pages 429-430.</p> | |
|--|---|--|

Differentiation:

Prerequisite Lessons: Grade 2 Lesson 4 - Draw and Use Bar Graphs and Picture Graphs and Grade 2 Lesson 27 - Read and Make Line Plots

Reteach: Tools for Instruction - Draw and Use Bar Graphs and Picture Graphs, Line Plots, Scaled Graphs

Reinforce: Center Activities - Use Data Vocabulary and Make a Bar Graph

Extend: Enrichment Activity - Favorite Pet

Resources Provided:

- Math Toolkit - addition tables, multiplication tables, and counters
- Graph Paper
- i-Ready Digital Math Tools
- i-Ready Digital Learning Games
- i-Ready Classroom Student Workbook
- i-Ready Interactive Tutorials
- i-Ready Interactive Practice



Lesson Plan 3 Template		
Content Area: Math	Lesson Title: Drawing a Scaled Graph	Time Frame: 2 days
Lesson Components		
<u>21st Century Themes</u>		
☐ Global Awareness X Financial, Economic, Business and Entrepreneurial Literacy ☐ Civic Literacy X Health Literacy		
<u>21st Century Skills</u>		
X Creativity and Innovation X Critical Thinking and Problem Solving X Information Literacy X Life and Career Skills X Communication and Collaboration X Media Literacy X ICT Literacy		
Interdisciplinary Connections: English Language Arts, Science and Engineering		
Integration of Technology: i-Ready - PowerPoint slides, interactive tutorials, comprehension checks, digital math tools, and learning games; laptop; projector; student iPad		
Equipment Needed: Student Volume 1 Workbook, Math Manipulatives - ruler, graph paper, Laptop, Projector, Student iPads		

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Interpret data displayed in a bar graph or picture graph to solve one- and two-step problems involving addition, subtraction, and multiplication. - Recognize that data displayed in bar graphs and picture graphs can be represented by a scale other than 1. - Use multiplication to determine the number of items in data categories on graphs with a scale other than 1. - Draw scaled picture graphs and bar graphs.	Lesson Sequence <i>Session 4:</i> Try It (5-10 min) Before students work on Try It, use the Three Reads Strategy to help them make sense of the problem on page 431. Then students will work independently to solve the Try It problem. Discuss It (10-15 min) After students work on the Try It, have them respond to Discuss It on page 431 with a partner. Share the Picture It and Model It responses on page 432, if not already presented by a student. Connect It (10-15 min) Look for understanding that the scale is like a ruler in that it gives you lengths, so a bar can	- Exit Ticket - i-Ready Student Workbook pages 431-436 - Lesson Quiz (Teacher Guide pages 440a-440b) - i-Ready Digital Interactive Practice



be drawn to a specific length to match data numbers.

4. Exit Ticket (5 min)
 Students will complete the Reflect problem on page 433.

5. Additional Practice
 Practice Drawing a Scaled Graph on pages 423-424.

Differentiation:

Prerequisite Lessons: Grade 2 Lesson 4 - Draw and Use Bar Graphs and Picture Graphs and Grade 2 Lesson 27 - Read and Make Line Plots

Reteach: Tools for Instruction - Draw and Use Bar Graphs and Picture Graphs, Line Plots, Scaled Graphs

Reinforce: Center Activities - Use Data Vocabulary and Make a Bar Graph

Extend: Enrichment Activity - Favorite Pet

Resources Provided:

- Math Toolkit - addition tables, multiplication tables, and counters
- Graph Paper
- i-Ready Digital Math Tools
- i-Ready Digital Learning Games
- i-Ready Classroom Student Workbook
- i-Ready Interactive Tutorials
- i-Ready Interactive Practice



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: 3	Unit Title: 4C: Spatial Reasoning and Fluency with Operations
Created: 2024	Board Approved on:	Type Here



Unit Overview Template

Content Area:	Math	Grade Level:	3	Unit Title:	4D: Spatial Reasoning and Fluency with Operations
Unit Summary: Students will use problem solving skills and knowledge of addition, subtraction, multiplication, and division to solve two-step word problems.					
Primary Interdisciplinary Connections: <i>ELA and Engineering</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: This unit applies addition, subtraction, multiplication, and division skills to solve one- and two-step word problems. Students will utilize reading and writing skills to understand and solve word problems. Students will also apply strategies learned earlier in the year, such as using models, drawing pictures, and writing equations.					
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 a brainstorming session 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.CT.2: Identify a problem and list the types of individuals and resources (e.g., school, community agencies, governmental, online) that can aid in solving the problem (e.g., 2.1.5.CHSS.1, 4-ESS3-1). 9.4.5.CT.3: Describe how digital tools and technology may be used to solve problems. 9.4.5.CT.4: Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community and global (e.g., 6.1.5.CivicsCM.3). 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: 3.OA and 3.NBT	
Content Statements: Multiply and divide within 100. Solve problems involving the four operations, and identify and explain patterns in arithmetic. Use place value understanding and properties of operations to perform multi-digit arithmetic.	
CPI#:	Cumulative Progress Indicator (CPI):
3.OA.D.8	Solve two-step word problems, including problems involving money, using the four operations. 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. (Clarification: This standard is limited to problems posed with whole numbers and having whole number answers; students



	should know how to perform operations in the conventional order when there are no parentheses to specify a particular order) (Order of Operations)
3.NBT.A.1	Use place value understanding to round whole numbers to the nearest 10 or 100.
3.NBT.A.2	Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.
3.OA.C.7	With accuracy and efficiency, multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that $8 \times 5 = 40$, one knows $40 \div 5 = 8$) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.
SEL.PK-12.1.1	Recognize one's feelings and thoughts.
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-12.4.1	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.
RI.3.4	Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 3 topic or subject area.
W.3.4	With guidance and support from adults, produce writing in which the development and organization are appropriate to task and purpose.

Unit Essential Questions:

- How can you model two-step word problems using the four operations?
- What strategies can you use to help you understand and solve a two-step word problem?
- How can you determine if solutions to word problems are reasonable?
- How does rounding help to check for the reasonableness of answers?

Unit Enduring Understandings:

- Two-step word problems can be broken into parts to be solved.
- Models can be used to represent and solve two-step word problems.
- A combination of addition, subtraction, multiplication, or division may be needed to solve two-step word problems.
- Estimates are a close guess made using mathematical thinking and can be used to check the reasonableness of an answer.
- Rounding to the nearest ten, hundred, or other place value can be used to estimate values.

Unit Learning Targets:

Students will....



- determine operations needed to solve two-step word problems.
- model two-step problems with four operations using a variety of representations, including equations with a variable.
- solve two-step problems with four operations.
- assess the reasonableness of answers.
- round two- and three-digit numbers to the nearest ten or hundred.
- explain how to round numbers to the nearest ten and to the nearest hundred.
- Climate Change Example: Students may use the four operations to solve two-step word problems related to glacier retreat.



Evidence of Learning

Summative Assessment: 4D Assessment - 2 days

Equipment Needed: Student Volume 2 Workbook, Math Manipulatives - counters and fact tables, Laptop, Projector, Student iPads

Teacher Resources: Curriculum Map, i-Ready Classroom Grade 3 Teacher's Guide, online access to i-Ready Classroom Common Core Teacher Toolbox

Formative Assessments:

- i-Ready Diagnostic
- Exit tickets
- Self checks
- Reflect questions
- Math journal pages
- Quizzes
- Mid-unit assessments
- Online i-Ready Comprehension Checks
- Teacher observations
- Small group and whole class discussions



Lesson Plans

Lesson	Time Frame
Lesson 1 Solving Two-Step Word Problems Using Two Equations	2 days
Lesson 2 Solving Two-Step Word Problems Using One Equation	1 day
Lesson 3 Estimating Solutions to Word Problems	2 days

Teacher Notes:

Use the following resources to guide lessons and inform instruction: i-Ready Teacher Toolbox, Interactive Tutorials, Digital Math Tools, Learning Games, PowerPoint Slides, Prerequisites Report, Digital Comprehension Checks, Comprehension Check Reports, and math manipulatives such as, counters and fact tables.

Curriculum Development Resources/Technology Resources:

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

www.ixl.com

<https://teacher-toolbox.i-ready.com/>

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

www.brainpopjr.com

[NJ Student Learning Standards for Mathematics Grade 3](#)



Lesson Plan 1 Template

Content Area: Math Lesson Title: Solving Two-Step Word Problems
 Using Two Equations 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: i-Ready - PowerPoint slides, interactive tutorials, comprehension checks, digital math tools, and learning games; laptop; projector; student iPad

Equipment Needed: Student Volume 1 Workbook, Math Manipulatives - addition tables, multiplication tables, counters, Laptop, Projector, Student iPads

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Determine operations needed to solve two-step word problems. - Model two-step problems with four operations using a variety of representations, including equations with a variable. - Solve two-step problems with four operations. - Assess the reasonableness of answers.	Lesson Sequence <i>Session 2:</i> - Try It (5-10 min) Before students work on Try It, use the Three Reads Strategy to help them make sense of the problem on page 387. Then students will work independently to solve the Try It problem. - Discuss It (10-15 min) After students work on the Try It, have them respond to Discuss It on page 387 with a partner. - Connect It (10-15 min) Look for students to understand that there are 4 x 8, or 32 T-shirts in the delivery, so there are 438 + 32, or 470 T-shirts in the store now.	- Exit Ticket - i-Ready Student Workbook pages 387-390 - Lesson Quiz (Teacher Guide pages 412a-412b) - i-Ready Digital Interactive Practice



- | | | |
|--|--|--|
| | <p>4. Exit Ticket (5 min)
Students will complete the Reflect problem on page 388.</p> <p>5. Additional Practice
Prepare for Solving Two-Step Word Problems Using the Four Operations on pages 389-390.</p> | |
|--|--|--|

Differentiation:

Prerequisite Lessons: Grade 2 Lesson 9 - Solve Word Problems with Two-Digit Numbers
 Reteach: Tools for Instruction - Solve Subtraction Word Problems and Solve Two-Step Word Problems
 Reinforce: Center Activities - Solve Two-Step Word Problems and Check Reasonableness
 Extend: Enrichment Activity - Silver Coins

Resources Provided:

- Math Toolkit - addition tables, multiplication tables, and counters
- Graph Paper
- i-Ready Digital Math Tools - Base-Ten Blocks, Multiplication Models, Number Line
- i-Ready Digital Learning Games
- i-Ready Classroom Student Workbook
- i-Ready Interactive Tutorials
- i-Ready Interactive Practice



Lesson Plan 2 Template			
Content Area:	Math	Lesson Title:	Solving Two-Step Word Problems Using One Equation
		Time Frame:	1 day
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: i-Ready - PowerPoint slides, interactive tutorials, comprehension checks, digital math tools, and learning games; laptop; projector; student iPad			
Equipment Needed: Student Volume 1 Workbook, Math Manipulatives - addition tables, multiplication tables, counters, Laptop, Projector, Student iPads			

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: • Determine operations needed to solve two-step word problems. • Model two-step problems with four operations using a variety of representations, including equations with a variable. • Solve two-step problems with four operations. • Assess the reasonableness of answers.	Lesson Sequence <i>Session 3:</i> 1. Try It (5-10 min) Before students work on Try It, use the Three Reads Strategy to help them make sense of the problem on page 397. Then students will work independently to solve the Try It problem. 2. Discuss It (10-15 min) After students work on the Try It, have them respond to Discuss It on page 397 with a partner. Share the Picture and Model It responses on page 398, if not already presented by a student.	• Exit Ticket • i-Ready Student Workbook pages 397-402 • Lesson Quiz (Teacher Guide 412a-412b) • i-Ready Digital Interactive Practice



- | | | |
|--|--|--|
| | <p>3. Connect It (10-15 min)
 Look for understanding that parentheses is the first operation to perform, and represents the first step to solve, you can subtract to find m, and m represents the number of dollars still to be raised.</p> <p>4. Exit Ticket (5 min)
 Students will complete the Reflect problem on page 399.</p> <p>5. Additional Practice
 Practice Solving Two-Step Word Problems Using One Equation on pages 401-402.</p> | |
|--|--|--|

Differentiation:

Prerequisite Lessons: Grade 2 Lesson 9 - Solve Word Problems with Two-Digit Numbers
Reteach: Tools for Instruction - Solve Subtraction Word Problems and Solve Two-Step Word Problems
Reinforce: Center Activities - Solve Two-Step Word Problems and Check Reasonableness
Extend: Enrichment Activity - Silver Coins

Resources Provided:

- Math Toolkit - addition tables, multiplication tables, and counters
- Graph Paper
- i-Ready Digital Math Tools - Base-Ten Blocks, Multiplication Models, Number Line, Perimeter and Area
- i-Ready Digital Learning Games - Cupcake and Pizza
- i-Ready Classroom Student Workbook
- i-Ready Interactive Tutorials
- i-Ready Interactive Practice



Lesson Plan 3 Template		
Content Area: Math	Lesson Title: Estimating Solutions to Word Problems	Time Frame: 2 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: i-Ready - PowerPoint slides, interactive tutorials, comprehension checks, digital math tools, and learning games; laptop; projector; student iPad		
Equipment Needed: Student Volume 1 Workbook, Math Manipulatives - addition tables, multiplication tables, counters, Laptop, Projector, Student iPads		

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: • Determine operations needed to solve two-step word problems. • Model two-step problems with four operations using a variety of representations, including equations with a variable. • Solve two-step problems with four operations. • Assess the reasonableness of answers.	Lesson Sequence <i>Session 4:</i> 1. Try It (5-10 min) Before students work on Try It, use the Three Reads Strategy to help them make sense of the problem on page 403. Then students will work independently to solve the Try It problem. 2. Discuss It (10-15 min) After students work on the Try It, have them respond to Discuss It on page 403 with a partner. Share the Picture It and Model It responses on page 404, if not already presented by a student. 3. Connect It (10-15 min) Look for students to understand that the first step is to find the	• Exit Ticket • i-Ready Student Workbook pages 403-408 • Lesson Quiz (Teacher Guide pages 412a-412b) • i-Ready Digital Interactive Practice



	number of steps Adela climbs in the first minute ($152 + 12 = 164$) and the second step is to find the total number of steps Adela climbs ($152 + 164 = 316$). 4. Exit Ticket (5 min) Students will complete the Reflect problem on page 405. 5. Additional Practice Practice Estimating Solutions to Word Problems on pages 407-408.	
Differentiation: Prerequisite Lessons: Grade 2 Lesson 9 - Solve Word Problems with Two-Digit Numbers Reteach: Tools for Instruction - Solve Subtraction Word Problems and Solve Two-Step Word Problems Reinforce: Center Activities - Solve Two-Step Word Problems and Check Reasonableness Extend: Enrichment Activity - Silver Coins		
Resources Provided: • Math Toolkit - addition tables, multiplication tables, and counters • Graph Paper • i-Ready Digital Math Tools - Base-Ten Blocks, Multiplication Models, Number Line • i-Ready Digital Learning Games • i-Ready Classroom Student Workbook • i-Ready Interactive Tutorials • i-Ready Interactive Practice		



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: 3	Unit Title: 4D: Spatial Reasoning and Fluency with Operations
Created: 2024	Board Approved on:	Type Here



SPRINGFIELD PUBLIC SCHOOLS

ENGAGING STUDENTS • FOSTERING ACHIEVEMENT • CULTIVATING 21ST CENTURY
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:



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**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



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**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.