Alloway Township School
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Amy Morley
Chief School Administrator

Kimberly Fleetwood
Business Administrator

Grade 3 Unit 1 — Dates: 9/9/24 - 10/10/24

Rationale for Unit 1 Expectations

Unit 1 focuses on place value and builds on learners' prior work with numbers. Learners develop place value understanding through productive struggle of open-ended word problems and constructivist approaches. Students will use models to represent numbers to 1000. They use these understandings to round numbers, add and subtract.

In grade 2, learners' experiences developed fluency for addition and subtraction within 100. They demonstrated fluency using various strategies and algorithms based on place value or properties of operations. In grade 3, students become fluent with addition and subtraction to 1000 using place value understanding.

Unit 1 Description & Expectations

Days of Instruction: 24 days **Includes 1 day for iReady Diagnostic 1 (9/11)*
Unit Completion Date: 10/10
Unit Theme: Developing Place Value Understanding

Topic: Setting Learning Routines
Topic: Rounding Numbers (Rounding Numbers is useful when Estimating, Knowing how to Round will help you to Add and Subtract)
Topic: Adding and Subtracting Numbers (Place Value can be used to Add and Subtract)
Topic: Applying Our Knowledge

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Whole Group Instruction	Differentiation: Teacher Table	Differentiation: Independent Practice/Small Group Center
Guidelines		
30-45 minutes of daily instruction using Core Resources	**30-45 minutes of daily differentiation**	
Number Sense Making Routines: (5-10 minutes daily) Number sense is built through experiences. Vary your sense making routines based on the needs of your classroom. They may be a whole group activity, but they also may be done as a small group depending upon the need. Example areas of focus: Verbal Counting, Object Counting, Cardinality, Subitizing, Spatial Relationships, One/Two More & Less, Benchmark Numbers, Part-Part-Whole, Magnitude, etc.	**Number of groups to meet with each day: two** When planning for differentiation, it is important to first think about what each student needs. You may have	Activities should be aligned to specific skills & standards addressed during whole group instruction and practice of fluency standards.

Core Resource for Whole Group Instruction: Ready Classroom Math (30-45 minutes daily) Ready Classroom Math design & expectations: ● **Understand Lessons** - Focus on developing conceptual understanding and help students connect new concepts to familiar ones as they learn new skills and strategies. ● **Strategy Lessons** - Focus on helping students persevere in solving problems, discuss solution strategies, and compare multiple representations through the *Try-Discuss-Connect* routine. Strategy Lessons are taught over multiple days (usually 3-5 days) and consist of different sessions. ○ ***Explore Session***(s) follow the *Try-Discuss-Connect Routine* and draw on students' prior knowledge and make connections to new concepts. ○ ***Develop Session***(s) develop strategies and understanding through problem solving and discourse. ○ ***Refine Session***(s) are when students work independently with a partner, while the teacher monitors performance and differentiates instruction. ● **Math in Action Lessons (Grades 2-6)** - Feature open-ended problems with many points of entry and more than one possible solution. In Math in Action Lessons students apply strategies and build procedural	different focuses for different groups of students. Below are suggestions to consider when planning for small group differentiated instruction. **Gifted Students:** When planning for students who are gifted, consider differentiating the content, process or product. **Tier I Remedial Groups:** When planning for remedial work (additional work on grade level concepts), identify your Essential Understandings, Objectives, Standards, skills being taught, and Learner Outcomes, then, anticipate the most common unique needs and common misconceptions. Doing this will help you to plan effectively, and form groups based on daily exit tickets and Ready Unit Prerequisite	

fluency. *Try - Discuss - Connect Routine* is primarily used in Explore and Develop Sessions in Ready Math. Each Step in this routine will have expected Language Routines, Teacher Moves and Conversation Tips. *Language Routines* are predictable, repeatable formats that help students process word problems and communicate their growing understanding. *Teacher Moves* are powerful facilitation techniques to guide conversations in which students talk with each other rather than responding to the teacher. *Conversation Tips* are specific hints that show students what it means to engage in academic discourse. The six tips show students what it means to participate in academic discourse: listening attentively, explaining ideas, justifying, building on the ideas of others, disagreeing respectfully and making connections. ● **Try It** - The teacher displays the *Start* question to draw on prior knowledge to the day's session. The teacher guides students in making sense of the problem, and to slow down to recognize and understand important information in the problem before beginning to solve. Teacher displays the problem and uses: ○ *Language Routines* - Three Reads, Co-Crafted Questions, Notice/Wonder and Say It Another Way ○ *Teacher Moves* - Turn & Talk and Individual Think Time (*Typically 10 seconds to 2 minutes*) Students apply what they have learned while making sense of the	Report. Support students using scaffolding and/or additional practice for grade level concepts and skills. **Tier II or Tier III Remedial Groups**: When planning your grade level instruction for students that are in Tier II or Tier III considerations of each individual students' Math Intervention Plan need to be taken. Interventions and number sense relationships should be leveraged to support students with grade level content (bridging foundational concepts to support students' work at grade level content). Resources should be aligned to core content instructional resources (ie, Tools for Instruction, Fluency Skills & Practice pages, Prerequisite Lessons, Reteach Activities,	

problem to represent the situation using a Part-Part-Whole model and begin solving. ● **Discuss It** - Students work in pairs to share their thinking - even incomplete thinking. Students should analyze their representations and strategies while using sentence frames when appropriate. The teacher strategically selects and sequences students' representations and strategies based upon the learning goal of the lesson. While circulating the teacher should use: ○ *Language Routines* - Compare & Contrast and Collect & Display ○ *Teacher Moves* - Turn & Talk, Individual Think Time and Four Rs (*Repeat, Reword, Rephrase, Record*) Selected students present and explain their solution methods and listen to critiques of others. The teacher facilitates the discussion and the class looks at highlighted strategies in the *Picture It* and *Model It* sections. ● **Connect It** - The teacher and students connect representations and strategies using a combination of individual work time and partner and whole-class discourse. Carefully selected questions lead students to recognize important mathematical ideas that were initially presented in the **Try It** problem. The teacher should use: ○ *Language Routines* - Collect & Display and Compare & Connect ○ *Teacher Moves* - Turn & Talk, Individual Think Time and Four Rs **Closing: (2-5 minutes daily)**	Vocabulary pages, etc.), while a direct explicit connection between intervention strategies and grade level content is built.	

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The closure should be directly related to the goal of the lesson. Formal closure to lessons may consist of synthesizing information learned during the lesson that relates to the objective. For example, students could share with the class something new that they learned that day (the question should be detailed and related to the goal/objective), complete an exit ticket (related to the goal/objective), reflect on what challenged them (related to the goal/objective), etc.		
Whole Group Instruction	**Differentiation: Teacher Table**	**Differentiation: Independent Practice/Small Group Center**
Unit Resources		
● Suggested Pacing Guide ● Ready Unit Flow and Progression Video ● Ready Math Background: Models, Progressions, and Teaching Tips ● Ready Interactive Tutorials ● Ready Unit Self Reflection ● Ready Unit Review ● Ready Discourse Cards/Cube ● Ready Digital Math Tools ● Silent Hand Signals ● Georgia Frameworks (K-5) ● Howard County, MD:	● Scheduling Small Groups and Rotations ● CFAs ● RCM Fluency Practice Pages ● RCM Prerequisite Lessons ● RCM Tools for Instruction Lessons ● RCM Discourse Bookmarks ● K-5 Math Teaching Resources (no direct links to free documents!)	● Scheduling Small Groups and Rotations ● RCM Unit Game ● RCM Literacy Connections Activities ● RCM Discourse Bookmarks ● K-5 Math Teaching Resources (no direct links to free documents!) ● Howard County, MD: ○ Gr 3

○ Gr 3 ● Achieve the Core Coherence Map ● Illustrative Mathematics ● Mindset Mathematics (Gr 3-6) by Jo Boaler ● You Cubed ● Online Manipulatives in Mathigon ● PBS Learning Media ● San Francisco Unified School District (SFUSD) ○ Gr 3 ● Three Act Tasks: ○ Ms. Castillo's Math (K-5) ○ Graham Fletcher (K-6) ○ Robert Kaplinsky (K-6) ○ Jon Orr (Gr 3-6) ○ Kyle Pearce (Gr 3-6) ● Sense Making Routines: ○ Subitizing Slides (Steve Wyborney) ○ Estimation 180 (Andrew Stadel) ○ Esti-Mysteries (Steve Wyborney) ○ Even More Esti-Mysteries (Steve Wyborney) ○ Estimation Clipboard (Steve Wyborney)	● Virtual Manipulatives: ○ K6-ThinkCentral - counters, base ten blocks, number line, 100s chart, graphs, fractions, measurement ○ TheMathLearningCenter - ten frames, counters, time, number line, math rack, geoboards ○ Glencoe WorkMats/Storyboards/ Manips. ○ SplatSquare-InteractiveHundredsChart ○ EduPlace - NumberLine - allows for multiple jumps to introduce open number line concept, decomposing numbers ○ virtual Rekenrek ○ Dreambox Teacher Tools	

○ Which One Doesn't Belong (Christopher Danielson) ○ Math Visuals (Berkley Everett) ○ Would You Rather...? (John Stevens) ○ Numberless Word Problems (Brian Bushart) ○ Number Talk Images (Tracey Zager & Pierre Tranche) ○ Daily Routines to Jumpstart Math Class (Curriculum Shared Drive) ○ Clothesline Math (Dan Kaufmann) ○ Math Spy (Dan Kaufmann) ○ Same or Different (Brian Bushart) ○ Same But Different (Sue Looney) ○ Splat (Steve Wyborney) ○ Open Middle (Robert Kaplinsky) ○ Get to Math K-5 ○ Number Talks K-5 (Kristen Northrop) ○ Visual Patterns		
Whole Group Instruction	**Differentiation: Teacher Table**	**Differentiation: Independent Practice/Small Group Center**
Assessments		

● Ready Unit Assessment ● Ready Lesson Quizzes ● Ready - Math In Action ● CFAs ● Exit Tickets	● Daily log of small group instruction ● Anecdotal Notes ● Grade Level Math Interview ● CFAs ● RCM Fluency Practice Pages ● RCM Prerequisite Lessons ● RCM Tools for Instruction Lessons ● Exit Tickets ● Achieve the Core Coherence Map ● Illustrative Mathematics	Examples of accountability measures: Recording sheets, Fluency Practice Pages, exit tickets, rubrics, reflections, etc.
Whole Group Instruction	**Differentiation: Teacher Table**	**Differentiation: Independent Practice/Small Group Center**
Standards		
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.	In addition to Whole Group Standards, you may choose to focus on grade level fluency standards or other priority standards listed below: ****Unit 1 Center Focuses:**	

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	2.NBT.A.2 Skip-count by 5s, 10s, and 100s. **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.

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Unit 1 Math Pacing Guide

Topic: Setting Learning Routines		
Student Learning Standard(s):	**2.NBT.A.3** **2.NBT.A.4** **2.NBT.B.7**	-Read and write numbers to 1000 using base-ten numerals, number names, and expanded form. -Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using >, =, and < symbols to record the results of comparisons. -Add and subtract within 1000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.
Math Practices:	• MP.1 Make sense of the problem and persevere in solving them. • MP.2 Reason abstractly and quantitatively. • MP.3 Construct viable arguments and critique the reasoning of others. • MP.4 Model with Mathematics. • MP.5 Use appropriate tools strategically. • MP.6 Attend to precision. • MP.7 Look for and make use of structure. • MP.8 Look for and express regularity in repeated reasoning.	
Days: 5 9/9 - 9/13 **iReady Diagnostic 1 counted here on 9/11*	**Focus**: Major Content	**Benchmarked Standard:** N **Fluency Standard**: N
Critical Knowledge & Skills		

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Objective:	**We are learning to**: think and talk like mathematicians.
Essential Question(s):	How do routines help us learn?

Core Resources	
Core Whole Group Resources	**Core Formative Assessment**
Ready Classroom Math Lessons **Lesson 0**: Sessions for the First Five Days *This lesson's materials are ONLY online on the Teacher Toolbox. **During teacher table time everyone should be doing the beginning of year interview. Setting Number Talk & Sense Making Activity Expectations Introducing and practicing Silent Hand Signals	

Additional Leveled Resources		
Activities and Additional Resources for Whole Group	**Differentiated Independent Activities/Center Ideas**	**Teacher Table Differentiated Resources**

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Could be used during math interviews: -Mindset Resources: Week of Inspirational Math (WIM) Videos to Watch: -Believe in Yourself -Brains Grow and Change -Speed is Not Important -Strategies for Learning Mathematics -The Importance of Struggle Activities: -And I'm a Mathematician -Dot Card and Number Talks -Good Groupwork **Resources listed below are from Gr 2 Unit 3 Guidance Doc:** Adding 3, two-digit numbers 2-digit addition with regrouping 2-digit subtraction with regrouping **Online Manipulatives on Mathigon**	-Digital Practice - Scavenger Hunt on Slides **Resources listed below are from Gr 2 Unit 3 Guidance Doc:** - 2-digit Addition Split - 3-digit Addition split - Addition and Subtraction with Regrouping (Valentines Day)	-**Beginning of Year Number Sense Interview** -RCM Prerequisite Lessons for 2.NBT.7 -RCM Tools for Instruction for 2.NBT.7 **Resources listed below are from Gr 2 Unit 3 Guidance Doc:** - Peyton and Presley discuss Addition

Vocabulary for Students - Unit 1	**Mentor Text List**
Expanded form, place value, regroup	

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Topic: Rounding Numbers			
Student Learning Standard(s):	**3.NBT.A.1**	Use place value understanding to round whole numbers to the nearest 10 or 100.	
Math Practices:	• MP.1 Make sense of the problem and persevere in solving them. • MP.3 Construct viable arguments and critique the reasoning of others. • MP.5 Use appropriate tools strategically. • MP.7 Look for and make use of structure.	• MP.2 Reason abstractly and quantitatively. • MP.4 Model with Mathematics. • MP.6 Attend to precision.	
Days: 4 9/16 - 9/19	**Focus**: Additional Content		**Benchmarked Standard:**N **Fluency Standard**:N
Critical Knowledge & Skills			
Objective:	**We are learning to**: ● Round two- and three-digit numbers to the nearest ten. (Session 1 & 2) ● Round two- and three-digit numbers to the nearest hundred. (Session 3) ● Explain how to round numbers to the nearest ten and to the nearest hundred. (Session 4)		
Essential Question(s):	How is rounding helpful when figuring out math problems? What makes an estimate reasonable?		

Core Resources	
Core Whole Group Resources	**Core Formative Assessment**

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Ready Classroom Math Lessons **Lesson 1** Use Place Value to Round Numbers - 4 Sessions *Each session is one in school teaching day (Virtual Wed assign iReady Lesson) ***Lesson materials for each student:** base-ten blocks (5 hundreds flats, 10 tens rods, 10 ones units); Session 2 materials for each student: base-ten blocks (5 hundreds flats, 10 tens rods, 10 ones units), Activity Sheet Number Lines	-RCM Lesson Quizzes -CFAs

Additional Leveled Resources		
Activities and Additional Resources for Whole Group	**Differentiated Independent Activities/Center Ideas**	**Teacher Table Differentiated Resources**
-Anchor Chart Links -Number Sense Lessons/Resources -Interactive Tools -Brainpop Video: Rounding **Suggested Anchor Charts:** 3.NBT.1 , Rounding to Tens -LearnZillion: 3.NBT.1 -3 Act: Gummy Worms by Kyle Pearce Online Manipulatives on Mathigon	-iReady Individual Path -iReady Teacher Assigned Lessons -RCM Interactive Practice: NAME -RCM Center Activities -RCM Enrichment Activities -Online game: Half-court Rounding -Brainpop Video: Rounding -Inside Mathematics -Fact Practice for Speed and Accuracy: Xtra Math -Fact Practice for Flexibility: Splash Learn -3NBTA1 Rounding Shared Drive Folder	-RCM Prerequisite Lessons -RCM Tools for Instruction -3.NBT.A.1 Rounding to 50 or 500 -LearnZillion: 3.NBT.1 -Model numbers on a **number line** and decide if it is closer to a 10 or 100. -Make a connection between the base-ten pieces and a place value chart while working with rounding. -Inside Mathematics

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Vocabulary for Students - Unit 1 Digital Word Wall	**Mentor Text List**
Place value round an estimate to estimate	*Let's Estimate* by David Adler (YouTube Read Aloud) *Coyote's All Around* by Eric Lostorto (YouTube Read Aloud)

Topic: Adding and Subtracting Numbers		
Student Learning Standard(s):	**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.
Math Practices:	• MP.1 Make sense of the problem and persevere in solving them. • MP.3 Construct viable arguments and critique the reasoning of others. • MP.5 Use appropriate tools strategically. • MP.7 Look for and make use of structure. • MP.2 Reason abstractly and quantitatively. • MP.4 Model with Mathematics. • MP.6 Attend to precision. • MP.8 Look for an express regularity in repeated reasoning	

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Days: 15 L2 Prerequisite or review: 9/20 L2: 9/23-9/26 L3 Prerequisite or review: 9/27 - 10/1 Lesson 3: 10/2 - 10/8	**Focus**: Additional Content	**Benchmarked Standard:** N **Fluency Standard**: Y

Critical Knowledge & Skills	
Objective:	**We are learning to**: ● Add two and three digit numbers that do not require regrouping. (L2, session 1) ● Add numbers up to 1000 involving regrouping using manipulatives to find the sum. (L2, session 2) ● Solve addition problems using place value and regrouping. (L2, session 3, 4) ● Subtract two and three digit numbers that do not require regrouping. (L3, session 1) ● Subtract numbers up to 1000 involving regrouping using manipulatives to find the difference. (L3, session 2) ● Solve subtraction problems using place value and regrouping. (L3, session 3, 4, 5)
Essential Question(s):	How do you make sense of different strategies? How do you determine their strengths and weaknesses?

Core Resources	
Core Whole Group Resources	**Core Formative Assessment**
Ready Classroom Math Lessons **Lesson 2 Prerequisite:** "Add 2-digit Numbers" (Session 2 and Combine Sessions 3 & 4)	-RCM Lesson Quizzes -CFAs

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Prerequisite lessons are under the Prepare tab.* **Lesson 2 Add Three-Digit Numbers - 4 Sessions *Lesson materials for each student: base-ten blocks (5 hundreds flats, 10 tens rods, 10 ones units); Activity Sheet Number Lines **Lesson 3 Prerequisite:** "Subtract 2-digit Numbers" (Sessions 2, 3 & 4) **Prerequisite lessons are under the Prepare tab.* **Lesson 3** Subtract Three-Digit Numbers - 5 Sessions *Lesson materials for each student: base-ten blocks (5 hundreds flats, 10 tens rods, 10 ones units); Activity Sheet Number Lines	

Additional Leveled Resources		
Activities and Additional Resources for Whole Group	**Differentiated Independent Activities/Center Ideas**	**Teacher Table Differentiated Resources**
-Anchor Chart Links -Number Sense Lessons/Resources -Interactive Tools Brainpop Videos: Addition w/ Regrouping Subtraction without Regrouping	-iReady Individual Path -iReady Teacher Assigned Lessons -RCM Interactive Practice: NAME -RCM Center Activities -RCM Enrichment Activities -Inside Mathematics -Brainpop Videos: Addition w/ Regrouping	-RCM Prerequisite Lessons -RCM Tools for Instruction -LearnZillion Resources 3.NBT.2 3.NBT.2 -Inside Mathematics -What is the Same/Different Add/Sub by Brian Bushart

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Subtraction with Regrouping Anchor Charts: -Example Addition Strategies Anchor Chart -Example Addition Standard Algorithm with Modeling Anchor Chart -Example Decomposing Anchor Chart -Example Open Number Line Anchor Chart -Example Compensation Anchor Chart -What is the Same/Different Add/Sub by Brian Bushart -Today's Number by Math at Home -Adding Whole Numbers by Desmos -Math in Our World Snack Time by Math at Home -What Comes Next by Math at Home -What Comes Next? Tally Forth! by Math at Home -What Comes Next, Carrot Caravan by Math at Home -Online Manipulatives on Mathigon	Subtraction without Regrouping Subtraction with Regrouping -Fact Practice for Speed and Accuracy: Xtra Math -Fact Practice for Flexibility: Splash Learn -First To ... Games (+/- fluency games) -What is the Same/Different Add/Sub by Brian Bushart -Adding Whole Numbers by Desmos -Math in Our World Snack Time by Math at Home -What Comes Next by Math at Home -What Comes Next? Tally Forth! by Math at Home -What Comes Next, Carrot Caravan by Math at Home	

Vocabulary for Students - Unit 1 Digital Word Wall	**Mentor Text List**
Place value regroup round an estimate sum addend	*The Action of Subtraction* by Brian Cleary (YouTube Read Aloud)

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Algorithm difference (to) estimate	*A Fair Bear Share* by Stuart J. Murphy (YouTube Read Aloud) *Hershey's Kisses Addition Book* by Jerry Pallotta (YouTube Read Aloud) *Hershey's Kisses Subtraction Book* by Jerry Pallotta *Mission: Addition* by Loreen Leedy (YouTube Read Aloud) *The M&M's Subtraction Book* by Barbara McGrath *Safari Park* by Stuart J. Murphy (YouTube Read Aloud) *Subtraction Action* by Loreen Leedy (YouTube Read Aloud) *The Subtraction Book* by Jerry Pallotta *Shark Swimathon* by Stuart J. Murphy (YouTube Read Aloud)

Topic: Unit Review and Unit Assessment	
Days: 2	**Review Date:** 10/9 **Unit Assessment Date**: 10/10
Scoring Submission in LinkIt:	**Data Review Date**:

**Math In Action Lessons can be completed if time allows within the unit. They may also be used for differentiation for G&T students.*

Topic: Applying Our Knowledge

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Student Learning Standard(s):	**3.NBT.A.1** **3.NBT.A.2**	-Use place value understanding to round whole numbers to the nearest 10 or 100. -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.
Math Practices:	• MP.1 Make sense of the problem and persevere in solving them. • MP.3 Construct viable arguments and critique the reasoning of others. • MP.5 Use appropriate tools strategically. • MP.7 Look for and make use of structure. • MP.2 Reason abstractly and quantitatively. • MP.4 Model with Mathematics. • MP.6 Attend to precision. • MP.8 Look for an express regularity in repeated reasoning	
Days:	**Focus**: Additional Content	**Benchmarked Standard:** N **Fluency Standard**: Y
Critical Knowledge & Skills		
Objective:	**We are learning to**: Apply strategies of rounding and addition to determine to solve real world problems.	
Essential Question(s):	How is rounding helpful when figuring out math problems? What makes an estimate reasonable? How do you make sense of different strategies? How do you determine their strengths and weaknesses?	

Core Resources	
Core Whole Group Resources	**Core Formative Assessment**

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Skeeball PBL by Robert Kaplinksy **https://robertkaplinsky.com/work/skeeball/**	-RCM Lesson Quizzes -CFAs

Additional Leveled Resources

Activities and Additional Resources for Whole Group	Differentiated Independent Activities/Center Ideas	Teacher Table Differentiated Resources
-Anchor Chart Links -Number Sense Lessons/Resources -Interactive Tools **-Ready Classroom Math Lessons** **Math In Action**	-iReady Individual Path -iReady Teacher Assigned Lessons -RCM Interactive Practice: NAME -RCM Center Activities -RCM Enrichment Activities -Inside Mathematics -Fact Practice for Speed and Accuracy: Xtra Math -Fact Practice for Flexibility: Splash Learn	-RCM Prerequisite Lessons -RCM Tools for Instruction -Inside Mathematics

Computer Science (8.1) and Design Thinking (8.2)	
8.1.5.CS.3: Identify potential solutions for simple hardware and software problems using common troubleshooting strategies. 8.1.5.NI.1: Develop models that successfully transmit and receive information using both wired and wireless methods 8.1.5.NI.2: Describe physical and digital security measures for protecting sensitive personal information.	8.2.5.ITH.1: Explain how societal needs and wants influence the development and function of a product and a system. 8.2.5.ITH.2: Evaluate how well a new tool has met its intended purpose and identify any shortcomings it might have. 8.2.5.ITH.4: Describe a technology/tool that has made the way people live easier or has led to a new business or career.

8.1.5.IC.1: Identify computing technologies that have impacted how individuals live and work and describe the factors that influenced the changes. 8.1.5.IC.2: Identify possible ways to improve the accessibility and usability of computing technologies to address the diverse needs and wants of users. 8.1.5.DA.1: Collect, organize, and display data in order to highlight relationships or support a claim. 8.1.5.AP.4: Break down problems into smaller, manageable sub-problems to facilitate program development.	8.2.5.NT.1: Troubleshoot a product that has stopped working and brainstorm ideas to correct the problem. 8.2.5.NT.2: Identify new technologies resulting from the demands, values, and interests of individuals, businesses, industries, and societies. 8.2.5.ETW.1: Describe how resources such as material, energy, information, time, tools, people, and capital are used in products or systems. 8.2.5.ETW.2: Describe ways that various technologies are used to reduce improper use of resources. 8.2.5.ETW.3: Explain why human-designed systems, products, and environments need to be constantly monitored, maintained, and improved. 8.2.5.EC.1: Analyze how technology has contributed to or reduced inequities in local and global communities and determine its short- and long-term effects.

Preparation for College, Careers, and Beyond	
Career Ready Practices	**Personal Financial Literacy (9.1), Career Awareness, Exploration, and Preparation (9.2), Life Literacies and Key Skills (9.4)**
CRP1. Act as a responsible and contributing citizen and employee. CRP2. Apply appropriate academic and technical skills. CRP3. Attend to personal health and financial well-being. CRP4. Communicate clearly and effectively and with reason. CRP5. Consider the environmental, social and economic impacts of decisions.	9.4.5.CI.1: Use appropriate communication technologies to collaborate with individuals with diverse perspectives about a local and/or global climate change issue and deliberate about possible solutions 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. 9.4.5.CI.4: Research the development process of a product and identify the role of failure as a part of the creative process

CRP6. Demonstrate creativity and innovation. CRP7. Employ valid and reliable research strategies. CRP8. Utilize critical thinking to make sense of problems and persevere in solving them. CRP9. Model integrity, ethical leadership and effective management. CRP10. Plan education and career paths aligned to personal goals. CRP11. Use technology to enhance productivity. CRP12. Work productively in teams while using cultural global competence.

Personal Financial Literacy (Standard 9.1)	
Strand A	**Income and Careers**
Strand B	**Money Management**
Strand C	**Credit and Debt Management**
Strand D	**Planning, Saving, and Investing**
Strand E	**Becoming a Critical Consumer**
Strand F	**Civic and Financial Responsibility**
Strand G	**Insuring and Protecting**
Career Awareness, Exploration, and Preparation (Standard 9.2)	
Strand A	**Career Awareness (by end of Grade 4)**
Strand B	**Career Exploration (by end of Grade 8)**
Strand C	Career Preparation (by end of Grade 12)

Cross-Curricular Connections	
Interdisciplinary Connections	**Technology Integration and Literacy**
• Literature connections (math mentor texts identified in “Resources and Activities”) • Math journals • Math word wall • Literacy Connections & Activities Ready Classroom Math	Online links and possible resources for the integration of technology into lessons are embedded within the “Possible Resources and Activities” column for each Topic area.

Possible Modifications and Accommodations			
Special Education/504 Plans	**At-Risk**	**Gifted**	**English Language Learners**

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Kimberly Fleetwood
Business Administrator

All teachers of students with special needs must review each student's IEP. Teachers must then select the appropriate modifications and/or accommodations necessary to enable the student to appropriately progress in the general curriculum.* **Possible Modifications/Accommodations ● Number line on desk ● Extra time on timed calculation assessments ● Use of a calculator or chart of basic facts for computation ● Use of a graphic organizer to plan ways to solve math problems ● Use of concrete materials and objects (manipulatives) ● Opportunities for cooperative partner work ● Assign fewer problems at one time (e.g., assign only odds or evens) ● Basic computation – use counters ● Differentiated center-based small group instruction ● Fractions – use fraction blocks ● Provide a copy of mathematical equations, class notes, and examples for math notebooks	The possible list of modifications/accommodations identified for Special Education students can be utilized for At-Risk students. Teachers should utilize ongoing methods to provide instruction, assess student needs, and utilize modifications specific to the needs of individual students. **Refer to the individual student Math Plan for **specific interventions**.*	**Teachers should select the appropriate modifications and/or accommodations for Gifted and Talented according to the following suggestions.* Differentiating instruction based on: ● **Content:** *What* is taught or the material used ● **Process:** *How* it is taught or support given or student grouping or environment ● **Product:** What students produce To differentiate **content** consider: ● Using different resources that have less explicit information (e.g., tiering assignments - consider what would make the content more complex to digest for gifted students) o **For Example**: tiering problem solving scenarios making a gifted learner's scenario more complex o **For Example**: gifted students could work on deriving the procedure for an abstract concept ● Organizing ideas through graphic organizers ● Using a learning contract (learning contracts are *individualized* and allow students to participate in designing their own learning which is motivating for gifted students) ● Using jigsaws ● Using orbital studies (differ from independent investigations and is meant as an extension of the topics covered in class into specific fields of study e.g., manufacturing) To differentiate the **process** consider: ● How students are grouped	● Continue practicing vocabulary ● Demonstrate that vocabulary can have multiple meanings ● Encourage bilingual supports among students ● Provide visual cues, graphic representations, gestures, and pictures ● Rephrase math problems when appropriate ● Build knowledge from real-world examples ● Provide manipulatives and symbols ● Have students estimate each other's heights ● Have students measure themselves and one another ● Have students relate an object they know with a unit of measure ● Encourage peer discussions regarding how students are thinking about math ● RCM Unit Connect Language Development to Mathematics

● Highlight or underline key words in word problems ● If a manipulative is used during instruction, allow its use on a test ● Place value – use place value blocks ● Provide graph paper for arrays ● Provide reteach pages if necessary ● Provide several ways to solve a problem if possible ● Offer small and large graph paper options ● Provide visual aids and anchor charts ● Tiered lessons and assignments		● Tiering materials used (e.g., graphic organizers varying in complexity, types of questions asked - DOK level) ○ **For Example**: *Below-Grade-Level Question*: ●●●●●● **+ ? =** ●●●●●●●●●● *On-Grade-Level Question* (Grade 1): 6 **+ ? =** 10 *Above-Grade-Level Question*: Jon has 6 puppies. He wants to have 10 puppies. How many more puppies does he need to buy? To differentiate the **product** consider: ● Using a choice board (the difficulty of the activity should be noted for each choice and should be at least 3 levels) ● Using a menu of options (each item is assigned a point value and students select the route to take) ● Using open ended tasks (have more than one correct answer and/or more than one way to get to/explain an answer) o **For Example**: (Grade 2) Use the digits 0 to 9, at most one time each, to make a true statement. ⬜⬜ – ⬜⬜ = ⬜⬜ + ⬜⬜ (Open Middle Link) o **For Example:** (Grade 3) Using the digits 1 to 9 exactly one time each, place a digit in each box to make the sum as close to 1000 as possible. ⬜⬜⬜ + ⬜⬜⬜ + ⬜⬜⬜ (GeoGebra Link)	
Individualized Learning Opportunities			
Possible independent study and online learning opportunities are embedded within the “Possible Resources and Activities” column for each Topic area. iReady			

Alloway Township School

Home of the Tigers

Amy Morley
Chief School Administrator

Kimberly Fleetwood
Business Administrator