**Alloway Township School**
*Home of the Tigers*

***Amy Morley***
*Chief School Administrator*

***Kimberly Fleetwood***
*Business Administrator*

# Kindergarten Unit 7 — Dates: 4/30/2025 - 5/30/2025

**Rationale for Unit 7**

The Kindergarten year concludes with extending spatial reasoning skills to teen numbers and building shapes. Learners identify and describe both two and three-dimensional shapes, recognizing that two dimensional shapes are flat, and three-dimensional shapes are solid. Learners use spatial reasoning to model shapes in the world by building shapes from components (e.g., sticks and clay balls).

Learners understand that teen numbers in our counting base-ten system all have a bundled ten with some more ones. They compose and decompose teen numbers using tools and then drawings. They further develop their understanding of teen numbers by continuing to compose and decompose teens using more abstract symbols. This understanding of bundling ten ones as one ten will further develop in Grade 1.

**Unit 7 Description & Expectations**

Days of Instruction: 21 days (includes 2 days for Math iReady Diagnostic 3)
Unit Completion Date: 5/30
Unit Topics/Themes: Teen Numbers and Shapes

**Topic:** Compose and Decompose Teen Numbers with Tools and Drawings
**Topic:** Build with Shapes
**Topic:** Compose and Decompose Teen Numbers with Symbols

| Whole Group Instruction Overview | Differentiation: Teacher Table Overview | Differentiation: Independent/ Small Group Practice Overview |
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| **Guidelines** | | |
| **30-45 minutes of daily instruction using Core Resources** | **45 minutes of daily differentiation during 90 minutes ELA/Math Center time** | |
| **Supporting Positive Learning Habits:**<br>**Unit 7:** Celebrating Our Growth<br><br>**Number Sense Making Routines: (5-10 minutes daily)**<br>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 (5 and 10), Part-Part-Whole**, **Magnitude,** etc.<br><br>**Core Resource for Whole Group Instruction:** Ready Classroom Math (30-45 minutes daily)<br><br>Ready Classroom Math design & expectations:<br>● **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 5 days) and consist of different sessions. All sessions start with a Number Sense Routine designed to support the development of early numbers sense and counting concepts. Students also learn to talk about math and describe | **Number of groups to meet with each day: two**<br><br>When planning for differentiation, it is important to first think about what each student needs. You may have different focuses for different groups of students. Below are suggestions to consider when planning for small group differentiated instruction.<br>**Gifted Students:** When planning for students who are gifted, consider differentiating the content, process or product.<br>**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 | Activities should be aligned to specific skills & standards addressed during whole group instruction and practice of fluency standards. |

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| their thinking through various routines.<br>○ ***Explore Session***(s) follow a *Discover It-Investigate It* routine and draw on students' prior knowledge and make connections to new concepts.<br>○ ***Develop Session***(s) follow the *Try-Discuss-Connect Routine* and develop strategies and understanding through problem solving and discourse.<br>○ ***Refine Session***(s) focus on building independent problem solving through *Making Connections* and *Applying (It) Strategies* to new problems. Students work independently while the teacher monitors performance and differentiates instruction.<br>*Try - Discuss - Connect Routine* is primarily used in 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.<br>● **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 picture. Teacher displays the picture and uses:<br>○ *Language Routines* - Three Reads, Co-Crafted Questions, Notice/Wonder and Say It Another Way<br>○ *Teacher Moves* - Turn & Talk and Individual Think Time (*Typically 10 seconds to 2 minutes*)<br>Students apply what they have learned while making sense of the problem to represent the scene and begin solving. | Outcomes, then, anticipate the most <u>common unique needs and common misconceptions</u>. Doing this will help you to plan effectively, and form groups based on daily exit tickets and Ready Unit Prerequisite Report. Support students using scaffolding and/or additional practice for grade level concepts and skills.<br>**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, | |

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| ● **Discuss It** - Students work in pairs to share their thinking - even incomplete thinking. Students should analyze their representations and strategies while sentence frames are used to help them while making sense. The teacher strategically selects and sequences students' representations and strategies based upon the learning goal of the lesson. While circulating the teacher should use:<br>○ *Language Routines* - Compare & Contrast and Collect & Display<br>○ *Teacher Moves* - Turn & Talk, Individual Think Time and Four Rs (*Repeat, Reword, Rephrase, Record*)<br>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.<br>● **Connect It** - The teacher and students connect understanding they've developed in the *Try I*t problem to new representations. Students make connections between representations and strategies they discussed and solidify these connections as they complete the *Connect It* problems. Students then apply their understanding to new situations. The teacher should use:<br>○ *Language Routines* - Collect & Display and Compare & Connect<br>○ *Teacher Moves* - Turn & Talk, Individual Think Time and Four Rs<br>**Closing: (2-5 minutes daily)**<br>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. | Vocabulary pages, etc.), while a direct explicit connection between intervention strategies and grade level content is built. | |
| **Unit Resources** | | |

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| ● Suggested Pacing Guide<br>● Ready Unit Flow and Progression Video<br>● Ready Math Background: Models, Progressions, and Teaching Tips<br>● Ready Interactive Tutorials<br>● Ready Unit Self Reflection<br>● Ready Unit Review<br>● Ready Discourse Cards/Cube<br>● Ready Digital Math Tools<br>● Silent Hand Signals<br>● Georgia Frameworks (K-5)<br>● Howard County, MD:<br>○ Kinder<br>● Achieve the Core Coherence Map<br>● Illustrative Mathematics<br>● You Cubed<br>● San Francisco Unified School District (SFUSD)<br>○ Kindergarten<br>● Three Act Tasks:<br>○ Ms. Castillo's Math (K-5)<br>○ Graham Fletcher (K-6)<br>○ Robert Kaplinsky (K-6)<br>● Sense Making Routines:<br>○ Subitizing Slides (Steve Wyborney)<br>○ Esti-Mysteries (Steve Wyborney)<br>○ Even More Esti-Mysteries (Steve Wyborney)<br>○ Estimation Clipboard (Steve Wyborney)<br>○ Which One Doesn't Belong (Christopher Danielson)<br>○ Math Visuals (Berkley Everett)<br>○ Would You Rather...? (John Stevens) | ● Scheduling Small Groups and Rotations<br>● CFAs<br>● RCM Fluency Practice Pages<br>● RCM Tools for Instruction Lessons<br>● RCM Discourse Bookmarks<br>● K-5 Math Teaching Resources (no direct links to free documents!)<br>● Virtual Manipulatives:<br>○ TheMathLearningCenter - ten frames, counters, time, number line, math rack, geoboards<br>○ SplatSquare-InteractiveHundredsChart<br>○ Dreambox Teacher Tools<br>○ Online Manipulatives on Mathigon | ● Scheduling Small Groups and Rotations<br>● RCM Unit Game<br>● RCM Literacy Connections Activities<br>● RCM Discourse Bookmarks<br>● K-5 Math Teaching Resources (no direct links to free documents!)<br>● Howard County, MD:<br>○ Kinder<br>● Unit Resources:<br>○ PBS Kids Curious George Games |

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| ○ Numberless Word Problems (Brian Bushart)<br>○ Number Talk Images (Tracey Zager & Pierre Tranche)<br>○ Daily Routines to Jumpstart Math Class (Curriculum Shared Drive)<br>○ Clothesline Math (Dan Kaufmann)<br>○ Math Spy (Dan Kaufmann)<br>○ Same or Different (Brian Bushart)<br>○ Same But Different (Sue Looney)<br>○ Splat (Steve Wyborney)<br>○ Open Middle (Robert Kaplinsky) | | |
| **Assessments** | | |
| ● Ready Unit Assessment<br>● Ready Lesson Quizzes<br>● CFAs<br>● Exit Tickets | ● Daily log of small group instruction<br>● Anecdotal Notes<br>● Grade Level Math Interview<br>● CFAs<br>● RCM Fluency Practice Pages<br>● RCM Tools for Instruction Lessons<br>● Exit Tickets<br>● Achieve the Core Coherence Map<br>● Illustrative Mathematics | Examples of accountability measures: Recording sheets, Fluency Practice Pages, exit tickets, rubrics, reflections, etc. |
| **Standards** | | |
| K.NBT.A.1 Compose and decompose numbers from 11 to 19 into ten ones and some further ones, e.g., by using objects or drawings, and record each composition or decomposition by a drawing or equation (e.g., 18 = 10 + 8); understand that | In addition to Whole Group Standards, you may choose to focus on grade level fluency standards or other priority standards listed below: | |

these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.
K.G.A.3 Identify shapes as two-dimensional (lying in a plane, “flat”) or three-dimensional (“solid”).
K.G.B.5 Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes. *BENCHMARKED Unit 4

****Unit 7 Center Library:**

**Skill Reviews:**

**Card 7** - Shake and Spill
**Card 4** - Board Game
**Card 6** - Go Fish

**Fluency:**

**Card 12** - Writing Center
**Card 22** - Roll and Cover
**Card 23** - Dominoes

## Links for Centers

*The following centers are for all units

- Cup Stacking Math Bundle
- Domino Quick Images
- Pizza Math - Counting Activities
- Math Work Mats & Recording Pages - Shared Drive Folder Link

*The following centers are for Units 7

- Rekenrek Theme Bundle Numbers 1-20
- Clip it to 20 Bundle
- Count and Cover 10-20 Rekenrek
- Count and Cover 10-20 Rekenrek - Wild Animals Theme
- Build It! - Year Long
- Count and Fill - Year Long
- Count and Cover 10-20 Rekenrek - Spring Theme

## Unit 7 Math Pacing Guide

| **Topic**: Compose and Decompose Teen Numbers with Tools and Drawings | | |
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| **Student Learning Standard(s):** | **K.NBT.A.1** | Compose and decompose numbers from 11 to 19 into ten ones and some further ones, e.g., by using objects or drawings, and record each composition or decomposition by a drawing or equation (e.g., 18 = 10 + 8); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones. |
| **Math Practices:** | • MP.1 Make sense of the problem and persevere in solving them.<br>• MP.3 Construct viable arguments and critique the reasoning of others.<br>• MP.5 Use appropriate tools strategically.<br>• MP.8 Look for and express regularity in repeated reasoning. | • MP.2 Reason abstractly and quantitatively.<br>• MP.4 Model with Mathematics.<br>• MP.6 Attend to precision.<br>• MP.7 Look for and make use of structure. |
| **Days**: 5<br>4/30 - 5/6 | **Focus**: (Major Content) | **Benchmarked Standard:** Y (w/in unit)<br>**Fluency Standard**: N |
| **Critical Knowledge & Skills** | | |
| **Objective:** | **We are learning to**:<br>• Compose and decompose teen numbers into 10 ones and some more ones.<br>• Understand that teen numbers can always be composed of 10 ones and some more ones. | |
| **Essential Question(s):** | Why do we represent quantities in multiple ways? | |

| **Core Resources** | |
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| **Core Whole Group Resources** | **Core Formative Assessment** |
| Ready Classroom Math Lessons<br>**Lesson 23**: Compose and Decompose Teen Numbers with Tools and Drawings | -RCM Lesson Quizzes<br>-CFAs |
| **Additional Leveled Resources** | |

| Activities and Additional Resources for Whole Group | Differentiated Independent Activities/Center Ideas | Teacher Table Differentiated Resources |
|---|---|---|
| -DREME (Development and Research in Early Math Education) Counting Activities & Formative Assessment Ideas & Spatial Relations Activities & Patterns in Counting Words<br><br>-Number Sense Lessons/Resources<br>Counters and Connecting Cubes Tool<br><br>-Interactive Tools<br>Numbers in the Teens (They Start with a 1) (song for kids about teen numbers)<br>Teen Numbers \| Numbers in the Teens \| Teen Numbers In The Air \| Jack Hartmann<br>Teen Numbers \| Numbers in the Teens \| Teen Numbers Rap \| Jack Hartmann | -iReady Individual Path<br>-iReady Teacher Assigned Lessons<br>-RCM Interactive Tutorial: Explore Teen Numbers<br>-RCM Center Activities: Teen Number Vocabulary<br>-RCM Enrichment Activities: Draw Teen Numbers<br>-RCM Center Library:<br>**Skill Review Card 7** - Shake and Spill<br>**Fluency Card 12** - Writing Center<br><br>-Illustrative Mathematics:<br>K.NBT.A.1 What Makes a Teen Number?<br><br>-K-5 Math Teaching Resources:<br>K.NBT.A.1 Teen Counting Cup<br>K.NBT.A.1 Ten Ones and More Ones ver.1<br>K.NBT.A.1 Craftstick Numbers Cards<br>K.NBT.A.1 Teen Puzzles<br><br>Teen Numbers Coloring Worksheet<br>Trolls Color By Teen Number<br>Tic Tac Teen<br>Math Number Game for Teens<br>Teen Bump<br><br>Math Work Mats | -RCM Prerequisite Lessons: Count up to 20 objects, Make Groups up to 20 Objects<br>-RCM Tools for Instruction: Make a Set up to 20 Objects<br><br>-Howard County, MD.<br>Snap! for Teen Numbers<br><br>Building Teen Numbers Activity Mats<br>Play Dough Mats - Teen Numbers - Spring<br>Teen Number Place Value Clip Cards<br>Teen Numbers with Ten Frames<br>Earth Day - Recycling Teen Numbers<br><br>-Number Chart to use for Counting<br>(Introduce row by row as you count higher and higher. Each row has the decades grouped together to promote pattern awareness in counting.) |

| Vocabulary for Students | | | |
|---|---|---|---|
| Count on | build | compose | eleven |

**Mentor Text List**

- What's the Place Value by Shirley Duke - read aloud

| | | | |
|---|---|---|---|
| twelve | thirteen | fourteen | fifteen |
| sixteen | seventeen | eighteen | nineteen |
| Teen number | ten | describe | part |
| whole | | | |

| **Topic**: Build with Shapes | | | |
|---|---|---|---|
| **Student Learning Standard(s):** | **K.G.A.3**<br>**K.G.B.5** | -Identify shapes as two-dimensional (lying in a plane, "flat") or three-dimensional ("solid").<br>-Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes. *BENCHMARKED Unit 4* | |
| **Math Practices:** | • MP.1 Make sense of the problem and persevere in solving them.<br>• MP.3 Construct viable arguments and critique the reasoning of others.<br>• MP.5 Use appropriate tools strategically.<br>• MP.7 Look for and make use of structure. | • MP.2 Reason abstractly and quantitatively.<br>• MP.4 Model with Mathematics.<br>• MP.6 Attend to precision. | |
| **Days**: 5<br>5/7 - 5/13 | **Focus**: (Additional Content) K.G.A.3<br>(Supporting Content) K.G.B.5 | | **Benchmarked Standard:** Y<br>**Fluency Standard**: N |
| **Critical Knowledge & Skills** | | | |
| **Objective:** | **We are learning to**:<br>• Identify shapes as flat or solid.<br>• Make pictures with two-dimensional shapes.<br>• Build objects with three-dimensional shapes. | | |
| **Essential Question(s):** | How can you describe what that shape is? | | |

| **Core Resources** | |
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| **Core Whole Group Resources** | **Core Formative Assessment** |
| Ready Classroom Math Lessons<br>**Lesson 24**: Build with Shapes | -RCM Lesson Quizzes<br>-CFAs |
| **Additional Leveled Resources** | |

| Activities and Additional Resources for Whole Group | Differentiated Independent Activities/Center Ideas | Teacher Table Differentiated Resources |
|---|---|---|
| -DREME (Development and Research in Early Math Education) Counting Activities & Formative Assessment Ideas & Spatial Relations Activities & Patterns in Counting Words<br><br>-Number Chart to use for Counting (Introduce row by row as you count higher and higher. Each row has the decades grouped together to promote pattern awareness in counting.)<br><br>i-Ready Teacher Toolbox Resources (found under the Instruction and practice tab for this lesson):<br>-flat shape cards<br>-solid shape cards<br>-triangle shape cards<br><br>-Interactive Tools<br>Name the Shape Game \| Shape Review Game \| Jack Hartmann | -iReady Individual Path<br>-iReady Teacher Assigned Lessons<br>-RCM Center Activities: Is it Flat or Solid?<br>-RCM Enrichment Activities: What Do You See?<br>-RCM Center Library:<br>**Skill Review Card 4** - Board Game<br>**Fluency Card 22** - Roll and Cover<br><br>-K-5 Math Teaching Resources:<br>K.G.A.3 Sentence Frames Set 3: Flat and Solid Shapes<br>K.G.B.5 Playdough Shapes<br>K.G.B.5 Shapes on the Geoboard<br>K.G.B.5 Building 2D Shapes with Toothpicks<br><br>Howard County, MD.:<br>Copy of KG2 Shape Quick Images<br>Copy of K.G.2_Shape_Search<br>Copy of K.G.2_3D_Shape_Search | -RCM Prerequisite Lesson: Cube<br>-RCM Tools for Instruction: Identify Flat and Solid Shapes<br><br>Howard County, MD.:<br>Copy of KG3 Pick a Shape<br>Copy of K.G.3_Jasper's Sort.pptx<br>Copy of K.G.3_Mystery_Shape<br>Copy of_KG5 Simon Says Shapes<br>Copy of KG5 Build It!<br>Copy of K.G.5_Shape_Make_It<br><br>-Number Chart to use for Counting (Introduce row by row as you count higher and higher. Each row has the decades grouped together to promote pattern awareness in counting.) |

**Vocabulary for Students**

| | | | |
|---|---|---|---|
| Flat shapes | Circle | hexagon | rectangle |
| square | triangle | Solid shapes | cone |
| cube | cylinder | Prism (rectangular) | Pyramid (square) |

**Mentor Text List**

- Not A Box Read Aloud Antoinette Portis Children's Book
- SHAPES FOR LUNCH | BOOKS READ ALOUD FOR KIDS | Scholastic First Little Readers (Level A)
- Circus Shapes read aloud
- "The Shape of Things" by Dayle Ann Dodds
- Round is a Tortilla: A Book of Shapes

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| sphere | compose | decompose | Three-dimensional |
| Two-dimensional | build | In common | |

| **Topic**: Compose and Decompose Teen Numbers with Symbols | | |
|---|---|---|
| **Student Learning Standard(s):** | **K.NBT.A.1** | Compose and decompose numbers from 11 to 19 into ten ones and some further ones, e.g., by using objects or drawings, and record each composition or decomposition by a drawing or equation (e.g., 18 = 10 + 8); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones. |
| **Math Practices:** | • MP.1 Make sense of the problem and persevere in solving them.<br>• MP.3 Construct viable arguments and critique the reasoning of others.<br>• MP.5 Use appropriate tools strategically.<br>• MP.7 Look for and make use of structure. | • MP.2 Reason abstractly and quantitatively.<br>• MP.4 Model with Mathematics.<br>• MP.6 Attend to precision. |

| **Days**: 5 (+2 for Diagnostic 3)<br>5/14 - 5/20<br>**5/21 & 5/27 iReady Diagnostic 3** | **Focus**: (Major Content) | **Benchmarked Standard:** Y (w/in Unit)<br>**Fluency Standard**: N |
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| **Critical Knowledge & Skills** | |
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| **Objective:** | **We are learning to**:<br>● Make connections between concrete, representational and abstract representations of teen numbers.<br>● Write equations to represent the composition and decomposition of teen numbers. |
| **Essential Question(s):** | Why do we represent quantities in multiple ways? |

| **Core Whole Group Resources** | **Core Formative Assessment** |
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| Ready Classroom Math Lessons<br>**Lesson 25:** Compose and Decompose Teen Numbers with Symbols | -RCM Lesson Quizzes<br>-CFAs |

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

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| -DREME (Development and Research in Early Math Education) Counting Activities & Formative Assessment Ideas & Spatial Relations Activities & Patterns in Counting Words<br><br>-Number Sense Lessons/Resources<br>Counters and Connecting Cubes Tool<br><br>-Interactive Tools<br>Numbers in the Teens (They Start with a 1) (song for kids about teen numbers)<br>Teen Numbers \| Numbers in the Teens \| Teen Numbers In The Air \| Jack Hartmann<br>Teen Numbers \| Numbers in the Teens \| Teen Numbers Rap \| Jack Hartmann | -iReady Individual Path<br>-iReady Teacher Assigned Lessons<br>-RCM Center Activities: Roll and Make Teen Numbers<br>-RCM Enrichment Activities: Making Teens<br>-RCM Center Library:<br>**Skill Review Card 6** - Go Fish<br>**Fluency Card 23** - Dominoes<br><br>-Illustrative Mathematics:<br>K.NBT.A.1 What Makes a Teen Number?<br><br>-K-5 Math Teaching Resources:<br>K.NBT.A.1 Teen Counting Cup<br>K.NBT.A.1 Ten Ones and More Ones ver.1<br>K.NBT.A.1 Teen Match<br>K.NBT.A.1 Teen Puzzles<br><br>Roll, Draw and Write Teen Numbers<br>Teen Numbers Coloring Worksheet<br>Trolls Color By Teen Number<br>Tic Tac Teen<br>Math Number Game for Teens<br>Teen Bump<br>Play Dough Mats - Teen Numbers - Spring<br>Teen Number Place Value Clip Cards<br>Teen Numbers with Ten Frames<br>Earth Day - Recycling Teen Numbers<br><br>Math Work Mats | -RCM Prerequisite Lessons: Explore Teen Numbers<br>-RCM Tools for Instruction: Composing Teen Numbers<br><br>-Howard County, MD.<br>Snap! for Teen Numbers<br><br>Composing Teen Numbers<br>Sunny Teen Numbers - Number Bonds<br>Decomposing Teen Numbers (Addition)<br>Decomposing Teen Numbers<br>Teen Numbers 11-20 Practice Printable<br>Teen Numbers Decomposing Task Cards<br><br>-Number Chart to use for Counting<br>(Introduce row by row as you count higher and higher. Each row has the decades grouped together to promote pattern awareness in counting.) |

| Vocabulary for Students | Mentor Text List |
|---|---|
| | • What's the Place Value by Shirley Duke - read aloud |

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|---|---|---|---|
| equation | Teen numbers | ten | eleven |
| twelve | thirteen | fourteen | fifteen |
| sixteen | seventeen | eighteen | nineteen |
| describe | build | compose | decompose |
| part | whole | | |

| Computer Science (8.1) and Design Thinking (8.2) | |
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| 8.1.2.NI.1: Model and describe how individuals use computers to connect to other individuals,<br>places, information, and ideas through a network.<br>8.1.2.NI.2: Describe how the Internet enables individuals to connect with others worldwide.<br>8.1.2.NI.3: Create a password that secures access to a device. Explain why it is important to create unique passwords that are not shared with others.<br>8.1.2.NI.4: Explain why access to devices need to be secured.<br>8.1.2.IC.1: Compare how individuals live and work before and after the implementation of new computing technology.<br>8.1.2.DA.2: Store, copy, search, retrieve, modify, and delete data using a computing device.<br>8.1.2.DA.3: Identify and describe patterns in data visualizations.<br>8.1.2.DA.4: Make predictions based on data using charts or graphs.<br>8.1.2.AP.4: Break down a task into a sequence of steps<br>8.1.2.AP.5: Describe a program's sequence of events, goals, and expected outcomes. | 8.2.2.ED.1: Communicate the function of a product or device.<br>8.2.2.ED.2: Collaborate to solve a simple problem, or to illustrate how to build a product using the design process.<br>8.2.2.ED.3: Select and use appropriate tools and materials to build a product using the design process.<br>8.2.2.ITH.1: Identify products that are designed to meet human wants or needs.<br>8.2.2.ITH.2: Explain the purpose of a product and its value.<br>8.2.2.ITH.3: Identify how technology impacts or improves life.<br>8.2.2.ITH.4: Identify how various tools reduce work and improve daily tasks.<br>8.2.2.EC.1: Identify and compare technology used in different schools, communities, regions, and parts of the world. |

| Preparation for College, Careers, and Beyond | |
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| **Career Ready Practices** | **Personal Financial Literacy (9.1), Career Awareness, Exploration, and Preparation (9.2), Life Literacies and Key Skills (9.4)** |

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| CRP1. Act as a responsible and contributing citizen and employee.<br>CRP2. Apply appropriate academic and technical skills.<br>CRP3. Attend to personal health and financial well-being.<br>CRP4. Communicate clearly and effectively and with reason.<br>CRP5. Consider the environmental, social and economic impacts of decisions.<br>CRP6. Demonstrate creativity and innovation.<br>CRP7. Employ valid and reliable research strategies.<br>CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.<br>CRP9. Model integrity, ethical leadership and effective management.<br>CRP10. Plan education and career paths aligned to personal goals.<br>CRP11. Use technology to enhance productivity.<br>CRP12. Work productively in teams while using cultural global competence. | 9.4.2.CI.1: Demonstrate openness to new ideas and perspectives<br>9.4.2.CI.2: Demonstrate originality and inventiveness in work<br>9.4.2.CT.2: Identify possible approaches and resources to execute a plan<br>9.4.2.CT.3: Use a variety of types of thinking to solve problems<br>9.4.2.IML.1: Identify a simple search term to find information in a search engine or digital resource.<br>9.4.2.IML.2: Represent data in a visual format to tell a story about the data<br>9.4.2.TL.1: Identify the basic features of a digital tool and explain the purpose of the tool |

| **Personal Financial Literacy (Standard 9.1)** | |
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| **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** | |
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| **Interdisciplinary Connections** | **Technology Integration and Literacy** |
| ● Literature connections (math mentor texts identified in “Resources and Activities”)<br>● Math journals<br>● Math word wall<br>● 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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| **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.*<br><br>**Possible Modifications/Accommodations**<br>● Number line on desk<br>● Extra time on timed calculation assessments<br>● Use of a calculator or chart of basic facts for computation<br>● Use of a graphic organizer to plan ways to solve math problems<br>● Use of concrete materials and objects (manipulatives)<br>● Opportunities for cooperative partner work<br>● Assign fewer problems at one time (e.g., assign only odds or evens)<br>● Basic computation – use counters<br>● Differentiated center-based small group instruction<br>● Fractions – use fraction blocks<br>● Provide a copy of mathematical equations, class notes, and examples for math notebooks<br>● Highlight or underline key words in word problems<br>● If a manipulative is used during instruction, allow its use on a test<br>● Place value – use place value blocks<br>● Provide graph paper for arrays<br>● Provide reteach pages if necessary<br>● Provide several ways to solve a problem if possible | 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.<br><br>**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.*<br><br>Differentiating instruction based on:<br>● **Content:** *What* is taught or the material used<br>● **Process:** *How* it is taught or support given or student grouping or environment<br>● **Product:** What students produce<br><br>To differentiate **content** consider:<br>● 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)<br>o **For Example**: tiering problem solving scenarios making a gifted learner's scenario more complex<br>o **For Example**: gifted students could work on deriving the procedure for an abstract concept<br>● Organizing ideas through graphic organizers<br>● Using a learning contract (learning contracts are *individualized* and allow students to participate in designing their own learning which is motivating for gifted students)<br>● Using jigsaws<br>● 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)<br><br>To differentiate the **process** consider:<br>● How students are grouped<br>● Tiering materials used (e.g., graphic organizers varying in complexity, types of questions asked - DOK level)<br>○ **For Example**:<br>*Below-Grade-Level Question*: ●●●●●● **+ ? =** ●●●●●●●●●●<br>*On-Grade-Level Question* (Grade 1): 6 **+ ? =** 10<br>*Above-Grade-Level Question*: Jon has 6 puppies. He wants to have 10 puppies. How many more puppies does he need to buy? | ● Continue practicing vocabulary<br>● Demonstrate that vocabulary can have multiple meanings<br>● Encourage bilingual supports among students<br>● Provide visual cues, graphic representations, gestures, and pictures<br>● Rephrase math problems when appropriate<br>● Build knowledge from real-world examples<br>● Provide manipulatives and symbols<br>● Have students estimate each other's heights<br>● Have students measure themselves and one another<br>● Have students relate an object they know with a unit of measure<br>● Encourage peer discussions regarding how students are thinking about math<br>● RCM Unit Connect Language Development to Mathematics |

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| ● Offer small and large graph paper options<br>● Provide visual aids and anchor charts<br>● Tiered lessons and assignments | | To differentiate the **product** consider:<br>● Using a choice board (the difficulty of the activity should be noted for each choice and should be at least 3 levels)<br>● Using a menu of options (each item is assigned a point value and students select the route to take)<br>● Using open ended tasks (have more than one correct answer and/or more than one way to get to/explain an answer)<br>o **For Example**: (Grade 2) Use the digits 0 to 9, at most one time each, to make a true statement.<br>⬜⬜ – ⬜⬜ = ⬜⬜ + ⬜⬜ (Open Middle Link)<br>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 | | | |