TOWNSHIP OF UNION PUBLIC SCHOOLS

Mathematics Grade K

Curricular Frameworks Units 1-4

Curriculum Guide

Updated December 18, 2018

Mission Statement

The mission of the Township of Union Public Schools is to build on the foundations of honesty, excellence, integrity, strong family, and community partnerships. We promote a supportive learning environment where every student is challenged, inspired, empowered, and respected as diverse learners. Through cultivation of students' intellectual curiosity, skills and knowledge, our students can achieve academically and socially, and contribute as responsible and productive citizens of our global community.

Philosophy Statement

The Township of Union Public School District, as a societal agency, reflects democratic ideals and concepts through its educational practices. It is the belief of the Board of Education that a primary function of the Township of Union Public School System is to formulate a learning climate conducive to the needs of all students in general, providing therein for individual differences. The school operates as a partner with the home and community.

Statement of District Goals

- **Develop reading, writing, speaking, listening, and mathematical skills.**
- **Develop a pride in work and a feeling of self-worth, self-reliance, and self-discipline.**
- **Acquire and use the skills and habits involved in critical and constructive thinking.**
- **Develop a code of behavior based on moral and ethical principles.**
- **Work with others cooperatively.**
- **Acquire a knowledge and appreciation of the historical record of human achievement and failures and current societal issues.**
- **Acquire a knowledge and understanding of the physical and biological sciences.**
- **Participate effectively and efficiently in economic life and the development of skills to enter a specific field of work.**
- **Appreciate and understand literature, art, music, and other cultural activities.**
- **Develop an understanding of the historical and cultural heritage.**
- **Develop a concern for the proper use and/or preservation of natural resources.**
- **Develop basic skills in sports and other forms of recreation.**

Pacing Guide

Content

Unit 1	**September, October, November**
Unit 2	**December, January**
Unit 3	**February, March**
Unit 4	**April, May, June**

Curricular Framework Mathematics-Kindergarten

Overview	Standards for Mathematical Content	Unit Focus	Standards for Mathematical Practice
Unit 1 **Connecting Counting to Cardinality**	K.CC.A.1* K.CC.A.3* K.CC.B.4 K.CC.B.5* K.OA.A.1* K.MD.B.3* K.G.A.1	• Know number names and the count sequence to 10 • Count to tell the number of objects • Understand addition as putting together and adding to and understand subtraction as taking apart and taking from • Identify and describe shapes	MP.1 Make sense of problems 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.
Unit 1: **Suggested Open Educational Resources**	Go Math Chapter 1 Go Math Chapter 2 Go Math Chapter 3 Go Math Chapter 4	K.CC.A.1 Counting Circles K.CC.A.1 Choral Counting K.CC.A.3 Number TIC TAC TOE K.CC.B.4 Counting Mat K.CC.B.5 Finding Equal Groups K.OA.A.1 Ten Frame Addition K.MD.B.3 Sort and Count 1	
Unit 2 **Counting, Addition & Subtraction**	K.CC.A.1* K.CC.A.2 K.CC.A.3* K.OA.A.1* K.OA.A.2 K.CC.B.5* K.CC.C.6 K.CC.C.7 K.OA.A.5*	• Know number names and the count sequence to 50 • Understand addition as putting together and adding to understand subtraction as taking apart and taking from • Count to tell the number of objects • Compare numbers	
Unit 2: **Suggested Open Educational Resources**	Go Math Chapter 5 Go Math Chapter 6	K.CC.A.1 Choral Counting K.CC.A.2 Start-Stop Counting K.CC.A.3 Assessing Writing Numbers K.OA.A.2 Dice Addition 2 K.OA.A.2 What's Missing? K.CC.B.5 Finding Equal Groups K.CC.C.6 Which number is greater? Which number is less? How do you know? K.CC.C.7 Guess the Marbles in the Bag K.OA.A.5 Many Ways to Do Addition 1	

Overview	Standards for Mathematical Content	Unit Focus	Standards for Mathematical Practice
Unit 3 **Place Value**	K.CC.A.1* K.CC.A.1* K.OA.A.3 K.OA.A.4 K.NBT.A.1* K.OA.A.5*	• Know number names and the count sequence to 100 • Understand addition as putting together and adding to understand subtraction as taking apart and taking from • Work with numbers 11-19 to gain foundations for place value • Fluently add and subtract within 5	MP.1 Make sense of problems 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.
Unit 3: **Suggested Open Educational Resources**	Go Math Chapter 7 Go Math Chapter 8	K.CC.A.1 Assessing Counting Sequences Part 1 K.CC.A.1 Counting by Tens K.MD.B.3 Sort and Count 2K.OA.A.3 Shake and Spill K.OA.A.3 Pick Two K.NBT.A.1 What Makes a Teen Number K.OA.A.5 My Book of Five	
Unit 4 **Measurement, Data & Geometric Shapes**	K.MD.A.1 K.MD.A.2 K.MD.B.3* K.G.A.2 K.G.A.3 K.G.B.4 K.G.B.5 K.G.B.6 K.NBT.A.1*	• Describe and compare measurable attributes • Classify and count the number of objects in categories • Identify and describe shapes • Analyze, compare, create, and compose shapes • Work with numbers 11-19 to gain foundations for place value • Fluently add and subtract within 5	
Unit 4: **Suggested Open Educational Resources**	Go Math Chapter 9 Go Math Chapter 10 Go Math Chapter 11 Go Math Chapter 12	K.G.B.4 Alike or Different Game K.MD.A.1 Which is heavier? K.MD.A.2 Which is Longer?	

Unit 1 Kindergarten		
Content Standards	**Suggested Standards for Mathematical Practice**	**Critical Knowledge & Skills**

Unit 1 Kindergarten		
Content Standards	**Suggested Standards for Mathematical Practice**	**Critical Knowledge & Skills**
K.CC.A.1. Count to 100 by ones and by tens. *(benchmarked)	MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.	Concept(s): • Number names and the count sequence up to 10 Students are able to: • Count orally by ones up to 10. Learning Goal 1: Count by ones up to 10.
K.CC.A.3. Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects). *(benchmarked)	MP.2 Reason abstractly and quantitatively. MP.7 Look for and make use of structure.	Concept(s): • Represent the number of objects with a numeral. Students are able to: • Write numbers from 0 to 10. Learning Goal 2: Represent the number of objects with a written numeral up to 10.
K.CC.B.4. Understand the relationship between numbers and quantities; connect counting to cardinality. K.CC.B.4a.When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object. K.CC.B.4b.Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted. K.CC.B.4c.Understand that each successive number name refers to a quantity that is one larger.	MP.2 Reason abstractly and quantitatively. MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.	Concept(s): • Objects can be counted in any order. Each object is counted once (one-to-one correspondence). • The next number name in counting is always one greater than the previous number. • The last number name said tells the number of objects counted. Students are able to: • Say number names in the standard order. • Pair each object with one number name (one-to-one correspondence). • Count to tell the number of objects. • Count objects arranged in any order. • Identify the last number named as the number of objects counted. Learning Goal 3: Assign an ascending number name for each object in a group. Learning Goal 4: State the last number named as the number of counted objects in the set. Learning Goal 5: Identify the next number name in counting as one greater than the previous number.
K.CC.B.5. Count to answer "how many?" questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from	MP.2 Reason abstractly and quantitatively. MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.	Concept(s): No new concept(s) introduced Students are able to: • Count to tell the number of objects arranged in a line, rectangular array, circle, or scattered configuration. • Count to tell the number of objects when asked *how many?* questions . • Given a number from 1-10, count out that many object.

Unit 1 Kindergarten		
Content Standards	**Suggested Standards for Mathematical Practice**	**Critical Knowledge & Skills**
1-20, count out that many objects.*(benchmarked)		Learning Goal 6: Answer *how many?* questions about groups of up to 10 objects when arranged in a line, rectangular array or circle. Learning Goal 7: Answer *how many?* questions about groups of up to 5when arranged in a scattered configuration.
K.OA.A.1. Represent addition and subtraction up to 10 with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.*(benchmarked)	MP.1 Make sense of problems and persevere in solving them. MP.2 Reason abstractly and quantitatively. MP.4 Model with mathematics. MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.	Concept(s): • Understand addition as putting together and adding to. • Understand subtraction as taking apart and taking from. Students are able to: • create addition events with objects (up to 10). • create addition events with drawings and sounds (up to 10). • create addition events by acting out situations and with verbal explanations. Learning Goal 8: Create addition events with objects, fingers, drawings, sounds (e.g., claps), acting out situations and verbal explanations for sums up to 10.
K.MD.B.3. Classify objects into given categories; count the numbers of objects in each category and sort the categories by count*(benchmarked)	MP.2 Reason abstractly and quantitatively. MP.7 Look for and make use of structure.	Concept(s): • Objects can be sorted based on their properties. Students will be able to: • sort objects into categories Learning Goal 9: Classify objects into given categories and count the objects in each category (up to 10 objects)
K.G.A.1. Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as above, below, beside, in front of, and next to.	MP.7 Look for and make use of structure.	Concept(s): • Shapes have names. • Positional words (above, below, besides, in front of, behind, next to) Students will be able to: • Name shapes in order to describe objects in the environment. • Use terms such as *above*, *below*, *beside*, *in front of*, *behind*, and *next to* in order to describe relative positions of objects. Learning Goal 10: Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to.

Unit 1 Kindergarten	
School/District Formative Assessment Plan	**School/District Summative Assessment Plan**
Go Math - Show What You Know Go Math - Diagnostic Interview Task Go Math - Lesson Quick Check Go Math - Mid Chapter Checkpoint	Go Math - Chapter Review/Test Go Math - Chapter Test Go Math - Performance Assessment Task

Focus Mathematical Concepts				
	Chapter 1	Chapter 2	Chapter 3	Chapter 4
Prerequisite skills	• Explore numbers to 5 • Match numbers to sets up to 5	• One to One correspondence • model numbers 0 to 5 • write numbers 0 to 5	• Explore numbers to 5 • Compare numbers to 5 • Write numbers to 5	• Draw objects to 9 • Write numbers to 9
Common Misconceptions	• children do not connect the number name/symbol to a model • children have difficulty tracing/writing numerals • children count in succession but do not assign number names to objects • children have difficulty with sequential order	• children may not identify the words *greater than, less than or same* • children may not identify the sets that are *greater than, less than* or *the same as* • children may not identify the number that is *greater than* or *less than*	• children may not know number words • children may have difficulty matching number to set • children may have difficulty counting on a ten frame • children may skip items or count items more than once	• children may record numbers incorrectly • children may count out of sequence • children may have difficulty making number comparisons • children may not understand how to count forward
Number Fluency	Add/Subtract within 5	Add/Subtract within 5	Add/Subtract within 5	Add/Subtract within 5

District/School Tasks	**District/School Primary and Supplementary Resources**
Exploring Number s and Matching Sets Center Activities: • http://kindertribe.blogspot.com/2015/07/what-worked-well-wednesday-july-29th_29.html • http://fun-a-day.com/summer-math-preschool-ice-cream-theme/?utm_content=buffer64c86&utm_medium=social&utm_source=pinterest.com&utm_campaign=buffer • http://www.allkidsnetwork.com/crafts/numbers/octopus-counting-craft.asp?utm_source=EmailDirect.com&utm_medium=Email&utm_campaign=Newsletter_Creative1_Send-2-15-14+Campaign • https://www.etsy.com/listing/278166474/apple-seed-counting-pdf-pattern-felt?utm_source=OpenGraph&utm_medium=PageTools&utm_campaign=Share • https://www.teacherspayteachers.com/Product/OWL-Numbers-FREE-1413729 • http://www.themeasuredmom.com/marshmallow-math/	Go Math - Chapter Resources • Reteach • Enrich Go Math - Digital Personal Math Trainer Go Math - Math On the Spot Go Math - iTools Go Math - HMH Mega Math iReady - Math

Writing Numbers Center Activities:

- http://www.theprintableprincess.com/2015/08/developing-fine-motor-skills.html?m=1
- http://primarygraffiti.blogspot.com/2013/01/freebie-number-formation-practice.html
- http://www.fantasticfunandlearning.com/play-dough-writing-tray.html?utm_content=buffer7f487&utm_medium=social&utm_source=pinterest.com&utm_campaign=buffer

Greater/ Less Than/ Same As Center Activities:

- http://justaskjudyteachingresources.blogspot.com/2016/05/how-to-teach-concepts-of-more-and-less.html
- http://www.applesandabcs.com/2012/01/ice-cube-tray-math.html
- http://kfundamentals.blogspot.com/2013/04/more-less-and-equal.html

Instructional Best Practices and Exemplars

Go Math - Grab-and-Go Differentiated Centers Kit
Go Math - Professional Development videos
K-6 Math Literature List - http://everydaymath.uchicago.edu/teachers/k/literature-list/
Math and Literature Idea Bank - http://mathcats.org/ideabank/mathandliterature.html
Math Resources - http://www.hubbardscupboard.org/math-resources
Math literature, links and resources for students, parents and teachers - http://letsreadmath.com/math-and-childrens-literature/
Kindergarten math activities aligned with the Common Core State Standards - http://www.k-5mathteachingresources.com/kindergarten-math-activities.html
Resources & activities for replacing worksheets with real, meaningful situations - http://www.kindergarten-lessons.com/
Educational Computer Games and Apps for kids - www.abcya.com

Students with Disabilities, English Language Learners, and Gifted & Talented Students:
Differentiating instruction is a flexible process that includes the planning and design of instruction, how that instruction is delivered, and how student progress is measured. Teachers recognize that students can learn in multiple ways. By providing appropriately challenging learning, teachers can maximize success for all students.

Examples of Strategies and Practices that Support Students with Disabilities:
***Refer to students' IEP for specific modifications and accommodations**
• Use of visual and multisensory formats
• Use of assisted technology
• Use of prompts
• Modification of content and student products
• Testing accommodations
• Authentic assessments

Examples of Strategies and Practices that Support Gifted & Talented Students:
• Adjusting the pace of lessons
• Curriculum compacting
• Inquiry-based instruction
• Independent study

• Higher-order thinking skills
• Interest-based content
• Student-driven instruction
• Real-world problems and scenarios

Examples of Strategies and Practices that Support English Language Learners:
***All WIDA Can Do Descriptors can be found at:** https://wida.wisc.edu/teach/can-do/descriptors
• Pre-teaching of vocabulary and concepts
• Visual learning, including graphic organizers
• Use of cognates to increase comprehension
• Teacher modeling
• Pairing students with beginning English language skills
with students who have more advanced English language skills
• Scaffolding
•Word walls
•Sentence frames
•Think-pair-share
•Cooperative learning groups
•Teacher think-aloud

Interdisciplinary connections are made across grades and content areas to model the integration of knowledge and skills in the real world.

21st Century Themes
● Global Awareness
● Environmental Literacy
● Health Literacy
● Civic Literacy
● Financial, Economic, Business, and Entrepreneurial Literacy

21st Century Skills
● Creativity and Innovation (E)
● Critical Thinking and Problem Solving (T) (A)
● Communication (E)
● Collaboration (E) (T)

Career Ready Practices:
● 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.
- 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 global competence.

9.1 Personal Financial Literacy
This standard outlines the important fiscal knowledge, habits, and skills that must be mastered in order for students to make informed decisions about personal finance. Financial literacy is an integral component of a student's college and career readiness, enabling students to achieve fulfilling, financially-secure, and successful careers.

9.2 Career Awareness, Exploration, and Preparation
This standard outlines the importance of being knowledgeable about one's interests and talents, and being well informed about postsecondary and career options, career planning, and career requirements.

9.3 Career and Technical Education
This standard outlines what students should know and be able to do upon completion of a CTE Program of Study

Technology Standards: Technology standards are embedded throughout all curricular units.

8.1 Educational Technology All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and create and communicate knowledge.

8.2 Technology Education, Engineering, Design and Computational Thinking - Programming
All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.

Unit 2 Kindergarten		
Content Standards	**Suggested Mathematical Practices**	**Critical Knowledge & Skills**
K.CC.A.1. Count to 100 by ones and by tens.*(benchmarked)	MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.	Concept(s): • Number names and the count sequence up to 50 Students are able to: • Count orally by ones up to 50. • Count orally by tens up to 50. Learning Goal 1: Count to 50 by ones and by tens.
K.CC.A.2.Count forward beginning from a given number within the known sequence (instead of having to begin at 1).		Concept(s): No new concept(s) introduced Students will be able to: • Count orally by ones up to 50, beginning at any number. Learning Goal 2: • Count forward up to 50 starting from numbers other than one.
K.CC.A.3. Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects).*(benchmarked)	MP. 2 Reason abstractly and quantitatively. MP.7 Look for and make use of structure.	Concept(s): • The number of objects can be represented by a numeral. Students are able to: • Write numbers from 0 to 20. Learning Goal 3: Represent a number of objects with a written numeral 0 to 20.
K.OA.A.1. Represent addition and subtraction up to 10 with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.*(benchmarked)	MP.1 Make sense of problems and persevere in solving them. MP. 2 Reason abstractly and quantitatively. MP.4 Model with mathematics. MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.	Concept(s): • Understand addition as putting together and adding to. • Understand subtraction as taking apart and taking from. Students are able to: • Create subtraction and addition events with objects (up to 10). • Create subtraction and addition events with drawings and sounds (up to 10). • Create subtraction and addition events by acting out situations and with verbal explanations. Learning Goal 4: Create addition and subtraction events with objects, fingers, drawings, sounds (e.g., claps), acting out situations and verbal explanations (up to 10).
K.OA.A.2. Solve addition and subtraction word problems, and add and subtract within 10, *e.g., by using objects or drawings to represent the problem.*	MP.1 Make sense of problems and persevere in solving them. MP. 2 Reason abstractly and quantitatively. MP.4 Model with mathematics. MP.5 Use appropriate tools strategically.	Concept(s): No new concept(s) introduced Students will be able to: • Use objects and drawings to represent addition and subtraction. • Add and subtract within 10. Learning Goal 5: Use objects or drawings to represent and solve addition and subtraction word problems (within 10).
K.CC.B.5. Count to answer "how many?" questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered	MP.2 Reason abstractly and quantitatively. MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.	Concept(s): No new concept(s) introduced Students are able to: • Count to tell the number of objects arranged in a line, rectangular array, circle, or scattered configuration. • Count to tell the number of objects when asked “how many?” questions.

Unit 2 Kindergarten		
Content Standards	**Suggested Mathematical Practices**	**Critical Knowledge & Skills**
configuration; given a number from 1-20, count out that many objects.*(benchmarked)		• Given a number from 1-20, count out that many object. Learning Goal 6: Answer *how many?* Questions about groups of <u>up to 20</u> objects when arranged in a line, rectangular array or circle. Learning Goal 7: Answer *how many?* Questions about groups of <u>up to 10</u> when arranged in a scattered configuration.
K.CC.C.6. Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group *e.g. by using matching and counting strategies.*	MP.2 Reason abstractly and quantitatively. MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.	Concept(s): • Different groups can have different numbers of objects. • Numbers of objects can be compared using phrases such as *greater than, less than* and *equal to.* Students will be able to: • Compare the number of objects (up to 10) in two groups. • Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group. Learning Goal 8: Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group (groups of up to 10 objects).
K.CC.C.7. Compare two numbers between 1 and 10 presented as written numerals.	MP.2 Reason abstractly and quantitatively.	Concept(s): • Number names and the count sequence • The next number name in counting is always one greater than the previous number. • Count to tell the number of objects. Students will be able to: • Compare numbers (up to 10) written as numerals. Learning Goal 9: Compare numbers (up to 10) written as numerals.
K.OA.A.5. Demonstrate fluency for addition and subtraction within 5~~.~~ (by the end of Kindergarten).*(benchmarked)	MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.	Concept(s):No new concept(s) introduced Students will be able to: • Add within 5 with accuracy and efficiency. Learning Goal 10: Use mental math strategies to solve addition facts within 5.

Unit 2 Kindergarten	
School/District Formative Assessment Plan	**School/District Summative Assessment Plan**
Go Math - Show What You Know Go Math - Diagnostic Interview Task Go Math - Lesson Quick Check Go Math - Mid Chapter Checkpoint	Go Math - Chapter Review/Test Go Math - Chapter Test Go Math - Performance Assessment Task

Focus Mathematical Concepts		
	Chapter 5	Chapter 6
Prerequisite skills	• children understand *More*	• children understand *Less*

	• children can compare numbers to 10	• children can compare numbers to 10
Common Misconceptions	• children miscount on a ten frame, counting rows instead of colors • children write incorrect numbers for the sets • children add incorrectly • children add the given addend and the sum • children write one of the addends as the sum • children may not understand that different numbers pairs can be used for the same sum	• children do not understand the difference between the plus symbol and the minus symbol • children do not understand how many in all or to begin • children may add instead of subtract • children confuse the set being taken away with the set that remains • children may have difficulty showing subtraction with objects • children may have difficulty with an unknown starting number
Number Fluency	Add/Subtract within 5	Add/Subtract within 5

District/School Tasks	**District/School Primary and Supplementary Resources**
Addition/ Subtraction Center Activities: • https://www.pinterest.com/pin/39054721746141027/ • https://www.pinterest.com/pin/115264071687708036/ • https://www.pinterest.com/pin/235313149256895525/ • https://www.pinterest.com/pin/205758276704746246/ • https://www.pinterest.com/pin/283445370276967305/ • https://www.pinterest.com/pin/317996423669565124/ • https://www.pinterest.com/pin/523895369124495875/ • https://www.pinterest.com/pin/24840235421277190/	Go Math - Chapter Resources • Reteach • Enrich Go Math - Digital Personal Math Trainer Go Math - Math On the Spot Go Math - iTools Go Math - HMH Mega Math iReady - Math

Instructional Best Practices and Exemplars

Go Math - Grab-and-Go Differentiated Centers Kit
Go Math - Professional Development videos
Math Blaster Addition and Subtraction Worksheets - http://www.mathblaster.com/
Free Math Worksheets - www.softschools.com
Math Resources - http://www.hubbardscupboard.org/math-resources
Kindergarten math activities aligned with the Common Core State Standards - http://www.k-5mathteachingresources.com/kindergarten-math-activities.html
Resources & activities for replacing worksheets with real, meaningful situations - http://www.kindergarten-lessons.com/
Educational Computer Games and Apps for kids - www.abcya.com

Students with Disabilities, English Language Learners, and Gifted & Talented Students:

Differentiating instruction is a flexible process that includes the planning and design of instruction, how that instruction is delivered, and how student progress is measured. Teachers recognize that students can learn in multiple ways. By providing appropriately challenging learning, teachers can maximize success for all students.

Examples of Strategies and Practices that Support Students with Disabilities:

***Refer to students' IEP for specific modifications and accommodations**

• Use of visual and multisensory formats
• Use of assisted technology
• Use of prompts
• Modification of content and student products
• Testing accommodations
• Authentic assessments

Examples of Strategies and Practices that Support Gifted & Talented Students:
• Adjusting the pace of lessons
• Curriculum compacting
• Inquiry-based instruction
• Independent study
• Higher-order thinking skills
• Interest-based content
• Student-driven instruction
• Real-world problems and scenarios

Examples of Strategies and Practices that Support English Language Learners:
***All WIDA Can Do Descriptors can be found at:** https://wida.wisc.edu/teach/can-do/descriptors
• Pre-teaching of vocabulary and concepts
• Visual learning, including graphic organizers
• Use of cognates to increase comprehension
• Teacher modeling
• Pairing students with beginning English language skills
with students who have more advanced English language skills
• Scaffolding
•Word walls
•Sentence frames
•Think-pair-share
•Cooperative learning groups
•Teacher think-aloud

Interdisciplinary connections are made across grades and content areas to model the integration of knowledge and skills in the real world.

21st Century Themes
● Global Awareness
● Environmental Literacy
● Health Literacy
● Civic Literacy
● Financial, Economic, Business, and Entrepreneurial Literacy

21st Century Skills
● Creativity and Innovation (E)

● Critical Thinking and Problem Solving (T) (A)
● Communication (E)
● Collaboration (E) (T)

Career Ready Practices:
● 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.
● 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.
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● CRP10: Plan education and career paths aligned to personal goals.
● CRP11: Use technology to enhance productivity.
● CRP12: Work productively in teams while using global competence.

9.1 Personal Financial Literacy
This standard outlines the important fiscal knowledge, habits, and skills that must be mastered in order for students to make informed decisions about personal finance. Financial literacy is an integral component of a student's college and career readiness, enabling students to achieve fulfilling, financially-secure, and successful careers.

9.2 Career Awareness, Exploration, and Preparation
This standard outlines the importance of being knowledgeable about one's interests and talents, and being well informed about postsecondary and career options, career planning, and career requirements.

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This standard outlines what students should know and be able to do upon completion of a CTE Program of Study

Technology Standards: Technology standards are embedded throughout all curricular units.

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8.2 Technology Education, Engineering, Design and Computational Thinking - Programming

All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.

Unit 3 Kindergarten		
Content & Practice Standards		**Critical Knowledge & Skills**
K.CC.A.1. Count to 100 by ones and by tens.*(benchmarked)	MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.	Concept(s): • Number names and the count sequence up to 100 Students are able to: • Count orally by ones up to 100. • Count orally by tens up to 100. Learning Goal 1: Count to 100 by ones and by tens.
K.OA.A.3. Decompose numbers less than or equal to 10 into pairs in more than one way, *e.g. using objects or drawings*, and record each decomposition by a drawing or equation *(e.g. 5 = 3 + 2 and 5 = 4 + 1)*	MP.1 Make sense of problems and persevere in solving them. MP.2 Reason abstractly and quantitatively. MP.4 Model with mathematics. MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.	Concept(s): • Part-to-whole relationships • Some groups of objects can be broken into two smaller groups while the total number remains the same. • Some groups of objects can be broken into two smaller groups in more than one way. Students will be able to: • Decompose numbers less than or equal to ten into two numbers. • Record the decomposition with a drawing. • Record the decomposition with an equation. • Decompose the same number in more than one way. Learning Goal 7: Decompose numbers less than or equal to ten into pairs of numbers in more than one way and record with a drawing or equation.
K.OA.A.4. For any number from 1 to 9, find the number that makes 10 when added to the given number *e.g. by using objects or drawings*, and record the answer with a drawing or equation.	MP.1 Make sense of problems and persevere in solving them. MP.2 Reason abstractly and quantitatively. MP.4 Model with mathematics. MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.	Concept(s): • No new concept(s) introduced Students are able to: • Find a missing part of 10 using objects. • Given a number from 1 to 9, use drawings, or equations to find the number that makes 10. Learning Goal 8*:* Given a number less than 10, find the number that makes 10.

Unit 3 Kindergarten		
Content & Practice Standards		**Critical Knowledge & Skills**
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.*(benchmarked)	MP.1 Make sense of problems and persevere in solving them. MP.2 Reason abstractly and quantitatively. MP.4 Model with mathematics. MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.	Concept(s): • Numbers from 11 to 19 can be represented as one group of ten *ones* and another group containing fewer than ten *ones.* Students are able to: • Compose and decompose numbers from 11 to 19 into a group of ten *ones* and another group of one(s). • Use the term *ones* to describe the number of objects in each group. • Record each composition or decomposition using objects and drawings. • Record each composition or decomposition by a drawing or equation. Learning Goal 9*:* Compose and decompose numbers from 11 to 19 into a group of ten and one(s) with or without manipulatives*;* record each composition or decomposition through a drawing or equation.
K.OA.A.5. Demonstrate fluency for addition and subtraction within 5(by the end of Kindergarten).*(benchmarked)	MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.	Concept(s): • No new concept(s) introduced Students will be able to: • Add and subtract within 5 with accuracy and efficiency. Learning Goal 10: Use mental math strategies to solve addition and subtraction facts within 5.

Unit 3

School/District Formative Assessment Plan	School/District Summative Assessment Plan
Go Math - Show What You Know Go Math - Diagnostic Interview Task Go Math - Lesson Quick Check Go Math - Mid Chapter Checkpoint	Go Math - Chapter Review/Test Go Math - Chapter Test Go Math - Performance Assessment Task

Focus Mathematical Concepts

	Chapter 7	Chapter 8
Prerequisite skills	• students draw objects to 10 • students write numbers to 10	• students explore numbers to 10 • students compare numbers to 10 • students write numbers to 10
Common Misconceptions	• students may not be able to count past 10 • students may not recognize a two-digit number as a whole, but refer to both digits • students may focus more on drawing than matching one-to-one • students may write the total as one of the addends • students may not draw the correct number of counters • students may reverse the order of the digits	• students may not recognize that 2 filled ten frames are 20 • students may have trouble counting forward from a given number • students may not be able to recognize the greater number • students may not be able to follow the order of the numbers on the chart • students may not count all of the numbers as they use the chart to count • students may count incorrectly when counting by tens • students may start counting by tens and then count only one more instead of ten more
Number Fluency	Add/Subtract within 5	Add/Subtract within 5

District/School Tasks	District/School Primary and Supplementary Resources
Identifying Numbers 11-20 Centers Activities: • https://www.pinterest.com/pin/146437425354270338/ Counting sets to 20 Centers Activities: • https://www.pinterest.com/pin/173247916891785693/ • https://www.pinterest.com/pin/222717144044282559/ Counting to 100 Centers Activities: • *https://www.pinterest.com/pin/AdxqbDdUGn_VI4glNID7OXqYGU_9BtLMeXeGb8Hjys05jNcYoMH-NkQ/* • https://www.pinterest.com/pin/552957660479645920/ • https://www.pinterest.com/pin/ASwggQQZy5hrbNuSfcRjursMtL3yec8HF0MEFLgz9F8IL8GOOfMnw_I/	Go Math - Chapter Resources • Reteach • Enrich Go Math - Digital Personal Math Trainer Go Math - Math On the Spot Go Math - iTools Go Math - HMH Mega Math iReady - Math

Instructional Best Practices and Exemplars

Go Math - Grab-and-Go Differentiated Centers Kit
Go Math - Professional Development videos
Identifying numbers 11-20— http://www.education.com/resources/identifying-numbers-11-20/

Counting to 100 Songs – https://www.pinterest.com/pin/AeScsAswhfBsQlh_Xk36gjhjWmhSAj0LRFBnVRRB1pZuJAQf7iz1JDY/
Counting to 100 Songs—https://www.pinterest.com/pin/48484133464867434/
Math Resources - http://www.hubbardscupboard.org/math-resources
Kindergarten math activities aligned with the Common Core State Standards - http://www.k-5mathteachingresources.com/kindergarten-math-activities.html
Resources & activities for replacing worksheets with real, meaningful situations - http://www.kindergarten-lessons.com/
Educational Computer Games and Apps for kids - www.abcya.com

Students with Disabilities, English Language Learners, and Gifted & Talented Students:
Differentiating instruction is a flexible process that includes the planning and design of instruction, how that instruction is delivered, and how student progress is measured. Teachers recognize that students can learn in multiple ways. By providing appropriately challenging learning, teachers can maximize success for all students.

Examples of Strategies and Practices that Support Students with Disabilities:
***Refer to students' IEP for specific modifications and accommodations**
• Use of visual and multisensory formats
• Use of assisted technology
• Use of prompts
• Modification of content and student products
• Testing accommodations
• Authentic assessments

Examples of Strategies and Practices that Support Gifted & Talented Students:
• Adjusting the pace of lessons
• Curriculum compacting
• Inquiry-based instruction
• Independent study
• Higher-order thinking skills
• Interest-based content
• Student-driven instruction
• Real-world problems and scenarios

Examples of Strategies and Practices that Support English Language Learners:
***All WIDA Can Do Descriptors can be found at:** https://wida.wisc.edu/teach/can-do/descriptors
• Pre-teaching of vocabulary and concepts
• Visual learning, including graphic organizers
• Use of cognates to increase comprehension
• Teacher modeling
• Pairing students with beginning English language skills
with students who have more advanced English language skills
• Scaffolding

•Word walls
•Sentence frames
•Think-pair-share
•Cooperative learning groups
•Teacher think-aloud

Interdisciplinary connections are made across grades and content areas to model the integration of knowledge and skills in the real world.

21st Century Themes
- Global Awareness
- Environmental Literacy
- Health Literacy
- Civic Literacy
- Financial, Economic, Business, and Entrepreneurial Literacy

21st Century Skills
- Creativity and Innovation (E)
- Critical Thinking and Problem Solving (T) (A)
- Communication (E)
- Collaboration (E) (T)

Career Ready Practices:
- 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.
- 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 global competence.

9.1 Personal Financial Literacy
This standard outlines the important fiscal knowledge, habits, and skills that must be mastered in order for students to make informed decisions about personal finance. Financial literacy is an integral component of a student's college and career readiness, enabling students to achieve fulfilling, financially-secure, and successful careers.

9.2 Career Awareness, Exploration, and Preparation
This standard outlines the importance of being knowledgeable about one's interests and talents, and being well informed about postsecondary and career options, career planning, and career requirements.

9.3 Career and Technical Education
This standard outlines what students should know and be able to do upon completion of a CTE Program of Study

Technology Standards: Technology standards are embedded throughout all curricular units.

8.1 Educational Technology All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and create and communicate knowledge.

8.2 Technology Education, Engineering, Design and Computational Thinking - Programming
All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.

Unit 4 Kindergarten		
Content & Practice Standards		**Critical Knowledge & Skills**
K.MD.A.1.Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.	MP.7 Look for and make use of structure.	Concept(s): • Measurable attributes: length, weight, size (volume) • A single object can have more than one measurable attribute. Students are able to: • Identify measureable attributes. • Describe the measurable attributes of multiple objects. • Describe multiple measurable attributes of a single object. Learning Goal 2: Describe measurable attributes of multiple objects and describe several measurable attributes of a single object.
K.MD.A.2.Directly compare two objects with a measurable attribute in common, to see which object	MP.6 Attend to precision. MP.7 Look for and make use of structure.	Concept(s): • When comparing objects by measuring, each object must have the same starting point. • Moving an object does not change its measure.

has "more of" "less of" the attribute, and describe the differences. *For example, directly compare the heights of two children and describe one child as taller/shorter.*		Students are able to: • Directly compare and describe two objects with measurable attribute in common using *more of* or *less of*. Learning Goal 3: Directly compare two objects with a measurable attribute in common; use *more of* or *less of* to compare the objects.
K.MD.B.3. Classify objects into given categories; count the numbers of objects in each category and sort the categories by count. *(benchmarked)	MP.2 Reason abstractly and quantitatively. MP.7 Look for and make use of structure.	Concept(s): • Groups can be sorted by the number of objects in each group. Students are able to: • Sort objects into groups. • Sort the group by count. Learning Goal 4: Count the objects in given categories and sort the categories by count (up to 10 objects).
K.G.A.2. Correctly name shapes regardless of their orientation or overall size.	MP.7 Look for and make use of structure.	Concept(s): • Shapes have names. • Shapes can have the same names but appear different. Students are able to: • Correctly names shapes regardless of their orientation or overall size. Learning Goal 5: Correctly names shapes regardless of their orientation or overall size.
K.G.A.3. Identify shapes as two-dimensional (lying in a plane, "flat") or three-dimensional ("solid")	MP.7 Look for and make use of structure.	Concept(s): • Shapes may be *flat* or *solid.* Students are able to: • Identify shapes as two-dimensional (lying in a plane, *flat*) or three-dimensional (*not flat, solid*). • Compare two- and three- dimensional shapes, in different sizes, and orientations. Learning Goal 6: Identify shapes as two-dimensional (lying in a plane, *flat*) or three-dimensional (*not flat, solid*).
K.G.B.4. Analyze and compare two- and three- dimensional shapes, in different sizes, and orientations, using informal language to describe their similarities, differences, parts *(e.g. number of sides and vertices "corners")* and other attributes *(e.g. having sides of equal length).*	MP.7 Look for and make use of structure.	Concept(s): • Orientation does not alter attributes or size. • Shapes may have sides of unequal or equal length. • Shapes may or may not have the same number of sides or 'corners'. Students are able to: • Compare two- and three- dimensional shapes in different sizes and in different orientations and identify similarities and differences. • Compare parts of two- and three-dimensional shapes [e.g. number of sides, number of vertices (*corners*)].

		• Compare attributes of two- and three-dimensional shapes [e.g. sides have equal length.] • Use informal language to describe similarities, differences, parts, and other attributes when comparing two-and three-dimensional shapes, in different sizes and orientations. Learning Goal 3: Use informal language to describe similarities, differences, parts number of sides, number of *corners*), and other attributes (having sides of equal length) when comparing two- and three- dimensional shapes, in different sizes and orientations.
☐ K.G.B.5. Model shapes in the world by building shapes from components *(e.g., sticks and clay balls)* and drawing shapes.	MP.1 Make sense of problems and persevere in solving them. MP.4 Model with mathematics. MP.7 Look for and make use of structure.	Concept(s): • Basic shapes exist in real world objects. Students are able to: • Recognize basic shapes in the real world. • Use objects (clay, sticks, etc) to model shapes. • Model shapes in the world by drawing shapes. Learning Goal 4: Model shapes in the world by building and drawing shapes.
☐ K.G.B.6. Compose simple shapes to form larger shapes. *For example: "Can you join these two triangles with full sides touching to make a rectangle?"*	MP.1 Make sense of problems and persevere in solving them. MP.4 Model with mathematics. MP.7 Look for and make use of structure.	Concept(s): • Shapes can be combined to make larger shapes. Students are able to: • Compose simple shapes to form larger shapes. Learning Goal 5*:* Compose simple shapes to form larger shapes.
■ 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.*(benchmarked)	MP.1 Make sense of problems and persevere in solving them. MP.2 Reason abstractly and quantitatively. MP.4 Model with mathematics. MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.	Concept(s): • Numbers from 11 to 19 can be represented as one group of ten *ones* and another group containing fewer than ten *ones.* Students are able to: • Compose and decompose numbers from 11 to 19 into a group of ten *ones* and another group of one(s). • Use the term *ones* to describe the number of objects in each group. • Record each composition or decomposition using objects and drawings. • Record each composition or decomposition by a drawing or equation. Learning Goal 6*:* Compose and decompose numbers from 11 to 19 into a group of ten and one(s) with or without manipulatives. Record each composition or decomposition through a drawing or equation.

Unit 4 Kindergarten	
School/District Formative Assessment Plan	**School/District Summative Assessment Plan**
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Focus Mathematical Concepts	

	Chapter 9	Chapter 10	Chapter 11	Chapter 12
Prerequisite skills	• Identify shape • Count objects	• Identify shapes • Describe shapes • Sort shapes	• More and fewer • Compare numbers	• Color and shape • Compare sets
Common Misconceptions	• students may have difficulty identifying circles, triangles, squares, rectangles, and/or hexagons • students may not recognize everyday objects that are shaped like circles, triangles, squares, rectangles, and/or hexagons • students may have difficulty distinguishing squares from other rectangles • students may not recognize squares as rectangles • students may not be able to identify the vertices • students may not be able to keep track of the number of sides as they count • students may not be able to tell the difference between sides and vertices • students may not understand how to use smaller shapes to make a bigger shape	• students may have difficulty identifying that a cylinder can stack • students may confuse circles and spheres • students may miscount the number of flat sides a shape has • students may not be able to describe a cylinder (flat surfaces and curved surface) • students may not be able to describe a cone (flat surface and curved surface) • students may have difficulty matching three dimensional shapes to real world objects	• Students may not understand the terms *longer* and *shorter* • Students may confuse the terms *longer than* and *taller than* • students may not align their objects on the line • students may confuse the terms *heavier* and *lighter* • children may confuse length and height • children may not identify ways to measure objects	• students may have difficulty sorting and classifying shapes by color • students may have difficulty sorting and classifying shapes by shape • students may have difficulty sorting and classifying shapes by size • on a graph, students may count the label picture as one of the objects • students may have difficulty making a graph • students may have difficulty reading a graph • students may have difficulty counting objects that have been classified
Number Fluency	Add/Subtract within 5	Add/Subtract within 5	Add/Subtract within 5	Add/Subtract within 5

District/School Tasks	**District/School Primary and Supplementary Resources**
Shapes and Solids Centers Activities: • *https://www.pinterest.com/pin/21251429470078194/* • *https://www.pinterest.com/pin/125749014575688151/* • *https://www.pinterest.com/pin/801851908624352457/* Measurement Centers Activities: • https://www.pinterest.com/pin/159385274291854172/ • https://www.pinterest.com/pin/AaHc1KWgqWJ9M5XgAkbsESb1hYmV2YVj_MGHeSGICQDqCmZvC4I4l3c/ • https://www.pinterest.com/pin/53761789276625471/ Sorting And Classifying Centers Activities: • http://inspirationlaboratories.com/ideas-to-practice-classification-for-kids/	Go Math - Chapter Resources • Reteach • Enrich Go Math - Digital Personal Math Trainer Go Math - Math On the Spot Go Math - iTools Go Math - HMH Mega Math iReady - Math

- *http://thefunfactory12.blogspot.com/2013/08/hi-yall-are-so-sad-gearing-up-school-to.html*

Instructional Best Practices and Exemplars

Go Math - Grab-and-Go Differentiated Centers Kit
Go Math - Professional Development videos
Flat Shapes Song-- https://www.youtube.com/watch?v=gepEhdI7418
Solid shapes Song-- *https://www.pinterest.com/pin/573153490061632582/*
Solid shapes Song-- *https://www.youtube.com/watch?v=9PqZbOYakJk&feature=youtu.be*
Sorting Game-- *http://www.e-learningforkids.org/math/lesson/sorting-and-classifying-objects/*
Math Resources - http://www.hubbardscupboard.org/math-resources
Kindergarten math activities aligned with the Common Core State Standards - http://www.k-5mathteachingresources.com/kindergarten-math-activities.html
Resources & activities for replacing worksheets with real, meaningful situations - http://www.kindergarten-lessons.com/
Educational Computer Games and Apps for kids - www.abcya.com

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● Civic Literacy
● Financial, Economic, Business, and Entrepreneurial Literacy

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● Critical Thinking and Problem Solving (T) (A)
● Communication (E)
● Collaboration (E) (T)

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