Content Area	Mathematics		Grade Level	First Grade

Standard	Grade Level Expectations (GLE)		GLE Code
1. Number Sense, Properties, and Operations	1.	The whole number system describes place value relationships within and beyond 100 and forms the foundation for efficient algorithms	MA10-GR.1-S.1-GLE.1
	2.	Number relationships can be used to solve addition and subtraction problems	MA10-GR.1-S.1-GLE.2
2. Patterns, Functions, and Algebraic Structures		*Expectations for this standard are integrated into the other standards at this grade level.*	
3. Data Analysis, Statistics, and Probability	1.	Visual displays of information can be used to answer questions	MA10-GR.1-S.3-GLE.1
4. Shape, Dimension, and Geometric Relationships	1.	Shapes can be described by defining attributes and created by composing and decomposing	MA10-GR.1-S.4-GLE.1
	2.	Measurement is used to compare and order objects and events	MA10-GR.1-S.4-GLE.2

Colorado 21st Century Skills

Critical Thinking and Reasoning: *Thinking Deeply, Thinking Differently*
Information Literacy: *Untangling the Web*
Collaboration: *Working Together, Learning Together*
Self-Direction: *Own Your Learning*
Invention: *Creating Solutions*

Mathematical Practices:

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Unit Titles	Lessons Taught	Module Length
Module 1:Sums and Differences to 10	39	43 days (Aug. 20-Oct. 21)
Module 2: Introduction to Place Value Through Addition and Subtraction Within 20	29	33 days (Oct. 22-Dec. 10)
Module 3: Ordering and Comparing Length Measurements as Numbers	13	15 days (Dec. 11-Jan 19)
Module 4: Place Value, Comparison, Addition and Subtraction to 40	29	32 days (Jan. 19-Mar. 7)
Module 5: Identifying, Composing, and Partitioning Shapes	13	15 days (Mar. 8-Mar 25)
Module 6: Place Value, Comparison, Addition and Subtraction to 100	30	32 days (Apr. 4-May 17)

Greeley-Evans School District 6	First Grade	Math Curriculum Guide

Module 1: Sums and Differences to 10	**Length of Unit:** 39 lessons, 43 instructional days Aug. 20-Oct. 21 Testing window approximately Oct. 15-21

Essential Questions address the big ideas and should be the focus for the entire Module. Students will work towards making sense of concepts in order to answer the question by the end of instruction. The essential question should be a part of every day's lesson. Posting is helpful but it's the daily student debrief that allows students to reflect on the essential question. • What happens when we join two quantities or take one from another? • How can we represent problem situations? • What strategies can be used to find a missing number?	**Technical Vocabulary:** count on, expression, addend, doubles, doubles +1, addition, equal, subtraction number bond, equals sign (=), number sentence, equation	**Academic Vocabulary:** Track, label, group

Major standards (areas of intensive focus) - underlined and bolded Supporting standards – (supports the major standards and is taught with major standards) - bolded *Additional standards-(doesn't connect to major work but is important to the progressions) italics.* DISTRICT 6 PRIORITY STANDARDS ARE CAPITALIZED AND HIGHLIGHTED	**Unit Lessons**	**Mathematical Practices**
1.OA.1 USE ADDITION AND SUBTRACTION WITHIN 20 TO SOLVE WORD PROBLEMS INVOLVING SITUATIONS OF ADDING TO, TAKING FROM, PUTTING TOGETHER, TAKING APART AND COMPARING, WITH UNKNOWNS IN ALL POSITIONS, E.G.BY USING OBJECTS, DRAWINGS, AND EQUATIONS WITH A SYMBOL FOR THE UNKNOWN NUMBER TO REPRESENT THE PROBLEM.	Topic A Lessons1-3 Topic B Lessons 4-8 Topic C Lessons 9-13 Topic G Lessons 25-27 Topic H Lessons 28-32	2, 6, 7, 8
1.OA.3 APPLY PROPERTIES OF OPERATIONS AS STRATEGIES TO ADD AND SUBTRACT. (STUDENTS DO NOT NEED TO USE FORMAL TERMS FOR THESE PROPERTIES.) EXAMPLES: 8+3=11 IS KNOWN, THEN 3+8=11 IS ALSO KNOWN. (COMMUTATIVE PROPERTY OF ADDITION.) TO ADD 2 + 6 + 4, THE SECOND TWO NUMBERS CAN BE ADDED TO MAKE A TEN, SO 2 + 6 + 4 = 2 + 10 = 12. (ASSOCIATIVE PROPERTY OF ADDITION.)	Topic E Lessons 17-20 Topic F Lessons 21-24	7, 8
1. OA.4 Understand subtraction as an unknown-addend problem. For example, subtract 10 – 8 by finding the number that makes 10 when added to 8.	Topic G Lessons 25-27 Topic H Lessons 28-32 Topic I Lessons 33-37	7
1.OA.5 Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).	Topic A Lessons1-3 Topic B Lessons 4-8 Topic C Lessons 9-13 Topic D Lessons 14-16 Topic G Lessons 25-27 Topic H Lessons 28-32 Topic I Lessons 33-37	2, 6, 7

1. OA.6 Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14); decomposing a number leading to a ten (e.g., 13 – 4 = 13 – 3 – 1 = 10 – 1 = 9); using the relationship between addition and subtraction (e.g., knowing that 8 + 4 = 12, one knows 12 – 8 = 4); and creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13).	Topic B Lessons 4-8 Topic C Lessons 9-13 Topic D Lessons 14-16 Topic F Lessons 21-24 Topic I Lessons 33-37 Topic J Lessons 38-39	2, 7, 8
1. OA.7 Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. For example, which of the following equations are true and which are false? 6 = 6, 7 = 8 – 1, 5 + 2 = 2 + 5, 4 + 1 = 5 + 2.	Topic D Lessons 17-20	7
1. OA.8 Determine the unknown whole number in an addition or subtraction equation relating three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations 8 +? = 11, 5 = □ – 3, 6 + 6 = □.	Topic D Lessons 14-16 Topic H Lessons 28-32	6

| Assessments	Resources
End of Module Common Assessment-Module 1 Assessment: • Scanned into School City • Should be in addition to individually developed formative assessments • AMC • Mid-Module Assessment (after Topic F) https://www.engageny.org/resource/grade-1-mathematics-module-1 **Suggested Checks for Understanding:** • Application Problem (Number Talk, pre assessment for the lesson) • Exit Slip • Stations **Other Assessments:** • **Common Core Formative Assessment Tasks** https://grade1commoncoremath.wikispaces.hcpss.org/Grade+1+Home	•Engage NY https://www.engageny.org/resource/grade-1-mathematics-module-1 •Math Perspectives Developing Number Concepts (DNC) Book 1, Book 2, Book 3 •Assessing Math concepts (AMC) Books 1 through 7 **Additional EngageNY resources:** Problem Solving by Module, snapshot assessments by standard http://www.fwps.org/tfl/math-ccss/3rd-grade-math-ccss/ ENY vocab chart http://ojusd-ca.schoolloop.com/file/1368364943627/1365835800006/8997018716581211929.pdf Homework help http://www.ojusd.org/cms/page_view?d=x&piid=&vpid=1391596408603 Resource- Pacing Suggestions: • http://www.sno.wednet.edu/index.php/departments/teaching_and_learning_services/k-5-math/pacing-guides-supporting-resources-federal-way/ • http://greatminds.net/maps/math/pacing-guides

Instructional Notes

These are recommended instructional ideas to accomplish mastery within modules. Math time will be divided between Number Talks, Numeracy Time with DNC Stations, and lessons from Engage NY. The length of module is given (number of days), but teachers need to be aware of their students' mastery of concepts/standards throughout a module, using formative assessments, in order to determine pacing for their class.

In this unit:
- The Fluency Practice in Engage NY is optional and can be used as needed or as is appropriate.
- The Application Problem can be used as a Number Talk.
- The majority of time of the Engage NY lessons is on Concept Development and Student Debrief.
- Numeracy time is DNC stations that support student needs as well as module focus.
- The Mid-Module-Assessment may be used as a pre-assessment or a mid-module check to guide instruction (After Topic F). (This assessment is not required.)
- The script provided by an Engage NY lesson is to be used as a guide when planning the lesson. The lesson should not be read to the students.
- Differentiation: *A Story of Units* give alternatives for how students access information as well as express and demonstrate their learning. *A Story of Units:* https://www.engageny.org/resource/pre-kindergarten-grade-5-mathematics-curriculum-map-and-guiding-documents

Lesson Tools Needed:
- Number bonds
- Addition chart
- Rekenrek
- Counters
- Number path
- 5-Group cards
- Hide Zero cards
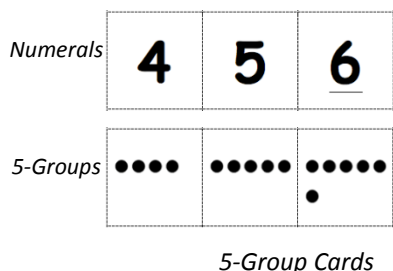
Numerals

| 4 | 5 | 6 |

5-Groups

| •••• | ••••• | ••••• • |

5-Group Cards

Mathematical Practice Support
- **MP.2 Reason abstractly and quantitatively.** Students make sense of quantities and their relations as they reason about two new problem types in Grade 1: change unknown and addend unknown. They write an addition sentence that corresponds to the situation and then reason to see that a subtraction number sentence also can be used to solve for the unknown.
  Furthermore, in Topic D, students decontextualize addition from stories and work on strategies for computing.
- **MP.6 Attend to precision.** Students clarify the meaning of the commutative property as they represent the same stories with repositioned addends. Students also state the meaning of the equal sign when they represent one amount with two different expressions connected by the equal sign.
- **MP.7 Look for and make use of structure.** Students use the structure of embedded numbers or a known part from which to count on to find a total. After studying the commutative property, the larger addend becomes a structure from which to count on. Also, they analyze the addition chart for

repeated reasoning and structures (such as 5-groups, plus ones, doubles, sums equal to 10, etc.) that can help them to better understand relationships and connections between different addition facts.

- **MP.8 Look for and express regularity in repeated reasoning**. Students recognize when they are adding they are counting on by the same amount (e.g., + 2 or + 3 is the same as counting on by 2 or 3). Therefore, they apply the same strategy to solve other problems, recognizing the repetition of the reasoning.

Number Talks:
- Model the routine for a number talk.
- Model how to sit.
- Do own mental math and put thumbs up when you know the answer.
- Model how to share and explain thinking and listen to others thinking.
- Review and practice this routine daily.
- Dot cards can be used to work on counting, counting on, 1 more/1 less, as well as seeing groups.
- Encourage students to share their solutions and explain their thinking (Math Practice #3).
- Application Problem from Engage NY lessons.

Numeracy Time:
During numeracy time, model choosing a station, how and where to get supplies, appropriate working behavior, cooperative learning strategies (working together, asking questions, sharing, turn taking, problem solving), introduce math journals as a tool to record learning and explain thinking, and how to clean up and transition to a new station or end numeracy time. Have children practice these procedures. Stations should be focused on exploration. Make sure that you are roaming and focusing on monitoring expectations.
Provide students stations that allow them to explore the manipulatives, but also allow you to ask questions and informally assess where student's conceptual understanding is. Use data from Kindergarten to provide you with a starting point to ask questions.
Ask the students questions to promote their thinking. Some suggested questions would be:
- Can you explain what you have done so far? What else is there to do?
- What do you notice when…?
- How did you reach that conclusion? Is that true for all cases?
- What would happen if…?
- What is a/ another strategy you might try?
- What are some tools that can help you?
- Have the students evaluate their learning and share something they figured out/ learned allowing for metacognition

Greeley-Evans School District 6	First Grade	Math Curriculum Guide

| Module 2: Introduction to Place Value Through Addition and Subtraction Within 20 | **Length of Unit:** 29 lessons, 33 instructional days
Oct. 22-Dec. 10
Testing window-Dec. 7-10 | |

| **Essential Questions** address the big ideas and should be the focus for the entire Module. Students will work towards making sense of concepts in order to answer the question by the end of instruction. The essential question should be a part of every day's lesson. Posting is helpful but it's the daily student debrief that allows students to reflect on the essential question.

• What happens when we change the order of numbers when we add (or subtract)? Why?
• How can we show that addition and subtraction are related through fact families?
• How does using 10 as a benchmark help us compose numbers? | **Technical Vocabulary:**
A ten, ones, 5-groups, add, number bonds, partners to ten, subtract, teen numbers | **Academic Vocabulary:**
Groups, equals, partners |

Major standards (areas of intensive focus) - underlined and bolded Supporting standards – (supports the major standards and is taught with major standards) - bolded *Additional standards-(doesn't connect to major work but is important to the progressions) italics.* DISTRICT 6 PRIORITY STANDARDS ARE ALSO CAPITALIZED AND HIGHLIGHTED	**Unit Lessons**	**Mathematical Practices**
1.OA.1. USE ADDITION AND SUBTRACTION WITHIN 20 TO SOLVE WORD PROBLEMS INVOLVING SITUATIONS OF ADDING TO, TAKING FROM, PUTTING TOGETHER, TAKING APART, AND COMPARING, WITH UNKNOWNS IN ALL POSITIONS, E.G., BY USING OBJECTS, DRAWINGS, AND EQUATIONS WITH A SYMBOL FOR THE UNKNOWN NUMBER TO REPRESENT THE PROBLEM.	Topic A Lessons 1-11 Topic B Lessons12-21 Topic C Lessons 22-25 Topic D Lessons 26-29	2, 4, 7, 8
1.OA.2 Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.	Topic A Lessons 1-11	4, 7

<mark>1.OA.3 APPLY PROPERTIES OF OPERATIONS AS STRATEGIES TO ADD AND SUBTRACT. (STUDENTS DO NOT NEED TO USE FORMAL TERMS FOR THESE PROPERTIES.) EXAMPLES: 8+3=11 IS KNOWN, THEN 3+8=11 IS ALSO KNOWN. (COMMUTATIVE PROPERTY OF ADDITION.) TO ADD 2 + 6 + 4, THE SECOND TWO NUMBERS CAN BE ADDED TO MAKE A TEN, SO 2 + 6 + 4 = 2 + 10 = 12. (ASSOCIATIVE PROPERTY OF ADDITION.)</mark>	Topic A Lessons 1-11 Topic B Lessons12-21	2, 4, 7
1.OA.4. Understand subtraction as an unknown-addend problem.	Topic B Lessons12-21 Topic C Lessons 22-25	2, 4, 7
1.OA.5 Relate counting to addition and subtraction. (e.g. by counting on 2 to add 2.)	Topic B Lessons12-21 Topic C Lessons 22-25	2, 4,7
1. OA.6. Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten; decomposing a number leading to a ten; using the relationship between addition and subtraction; and creating equivalent but easier or known sums.	Topic A Lessons 1-11 Topic B Lessons12-21 Topic C Lessons 22-25	2, 4, 7
1. OA.7 Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. For example, which of the following equations are true and false? 6=6, 7=8-1, 5+2=2+5, 4+1=5+2.	Topic B Lessons12-21 Topic C Lessons 22-25	2, 4, 7
1. OA.8 Determine the unknown whole number in an addition or subtraction equation relating to three whole numbers. (e.g. determine the unknown number that makes the equation true in each of the equations 8+?=11, 5=___-3, 6+6=____.	Topic C Lessons 22-25	2, 4, 7
<mark>1.NBT.2. UNDERSTAND THAT THE TWO DIGITS OF A TWO-DIGIT NUMBER REPRESENT AMOUNTS OF TENS AND ONES.</mark> <mark> A. 10 CAN BE THOUGHT OF AS A BUNDLE OF TEN ONES-CALLED A "TEN".</mark> <mark> C. THE NUMBERS 10, 20, 30, 40, 50, 60, 70, 80, 90 REFER TO ONE, TWO, THREE, FOUR,</mark> <mark> FIVE, SIX, SEVEN, EIGHT, NINE TENS (AND 0 ONES)</mark>	Topic D Lessons 26-29	4, 7
1.NBT.5 Given a two-digit number, mentally find ten more or ten less than the number, without having to count. Explain the reasoning used.	Topic D Lessons 26-29	4, 7

Assessments	Resources
End of Module Common Assessment-Module 2 Assessment: • Scanned into School City • Should be in addition to individually developed formative assessments	Engage NY https://www.engageny.org/resource/grade-1-mathematics-module-2 •Math Perspectives Developing Number Concepts (DNC) Book 1, Book 2, Book 3 •Assessing Math concepts (AMC) Books 1, 2, 3, 4, 5, 6, 7

Assessments:
- AMC end of Quarter 1 goal
- Mid-Module Assessment (after Topic A)
  https://www.engageny.org/resource/grade-1-mathematics-module-2

Suggested Checks for Understanding:
- Application Problem (Number Talk, pre assessment for the lesson)
- Exit Slip
- Stations

Other Assessments:
- **Common Core Formative Assessment options**
  https://grade1commoncoremath.wikispaces.hcpss.org/Grade+1+Home

Additional EngageNY resources:
Problem Solving by Module, snapshot assessments by standard
http://www.fwps.org/tfl/math-ccss/3rd-grade-math-ccss/

ENY vocab chart http://ojusd-ca.schoolloop.com/file/1368364943627/1365835800006/8997018716581211929.pdf

Student workbook pages (with some left out according to their "omissions")
http://www.fwps.org/teaching/studentonlinelearning/student-engageny-math-books/

Homework help http://www.ojusd.org/cms/page_view?d=x&piid=&vpid=1391596408603

Resource- Pacing Suggestions:

http://www.sno.wednet.edu/index.php/departments/teaching_and_learning_services/k-5-math/pacing-guides-supporting-resources-federal-way/

EUREKA PACING GUIDES WITH RATIONALS http://greatminds.net/maps/math/pacing-guides

Instructional Notes

These are recommended instructional ideas to accomplish mastery within modules. Math time will be divided between Number Talks, Numeracy Time with DNC Stations, and lessons from Engage NY. The length of module is given (number of days), but teachers need to be aware of their students' mastery of concepts/standards throughout a module, using formative assessments, in order to determine pacing for their class.

 In this unit:
- The Fluency Practice in Engage NY is optional and can be used as needed or as is appropriate.
- The Application Problem can be used as a Number Talk.
- The majority of time of the Engage NY lessons is on Concept Development and Student Debrief.
- Numeracy time is DNC stations that support student needs as well as module focus.
- The Mid-Module-Assessment may be used as a pre-assessment or a mid-module check to guide instruction (After Topic F). (This assessment is not required.)
- The script provided by an Engage NY lesson is to be used as a guide when planning the lesson. The lesson should not be read to the students.

- Differentiation: *A Story of Units* give alternatives for how students access information as well as express and demonstrate their learning. *A Story of Units:* https://www.engageny.org/resource/pre-kindergarten-grade-5-mathematics-curriculum-map-and-guiding-documents
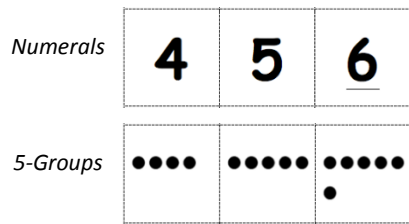
Lesson Tools Needed:

- 5-group formations: 5-groups (and 5-group cards), 5-group rows, 5-group column
- Hide Zero cards
- Number bonds
- Number path
- Rekenrek

Numerals
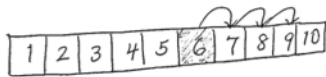
5-Groups

5-Group Rows

Number Path
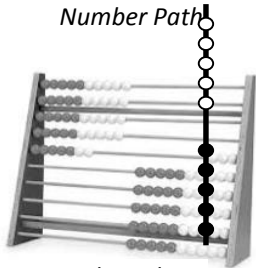
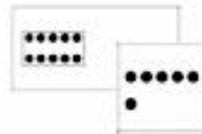*Rekenrek* *5-Group Column*   Mathematical   Hide Zero Cards   Practice Support

- **MP.2**   **Reason abstractly and quantitatively.** Students solve *change unknown* problem types such as, "Maria has 8 snowballs. Tony has 15 snowballs. Maria wants to have the same number of snowballs as Tony. How many more snowballs does Maria need to have the same number as Tony?" They write the equation 8 + __ = 15 to describe the situation, make ten or count on to 15 to find the answer of 7, and reason abstractly to make a connection to subtraction, that the same problem can be solved using 15 – 8 = __.
- **MP.4   Model with mathematics.** Students use 5-groups, number bonds, and equations to represent decompositions when both subtracting from the teens and adding to make teens when crossing the ten.
- **MP.7   Look for and make use of structure.** This module introduces students to the unit *ten*. Students use the structure of the ten to add within the teens, to add to the teens, and to subtract from the teens. For example, 14 + 3 = 10 + 4 + 3 = 17, 8 + 5 = 8 + 2 + 3 = 10 + 3 and conversely, 13 – 5 = 10 – 5 + 3 = 5 + 3.
- **MP.8   Look for and make use of repeated reasoning.** Students realize that when adding 9 to a number 1–9, they can complete the ten by decomposing the other addend into "1 and __." They internalize the commutative and associative properties, looking for ways to make ten within situations and equations.

Number Talks:
Based on your data, number talks should focus on changing numbers (AMC 2) and moving into comparing numbers (AMC 3) and saying how many more and less. Encourage students to share their solutions and explain their thinking (Math Practice #3).

Numeracy Time:
Based on your data introduce stations that work on how many more/ how many less and counting. Introduce only 1 station a day substituting it for the exploring stations. Model how to do the station. Have the whole class practice the station then add it as an independent station.
During stations monitor and ask students questions about their thinking. These questions can be:
- What strategies did you use?
- What ideas that you have learned were useful in solving this problem?
- Can you give me an example?

Model one question daily that students can ask themselves during stations. Questions can be:
- What do I already know?
- What number should I start with?
- Can I use facts I know?
- What is the most efficient strategy?
- Do I know more than one way to solve it?

Have the students evaluate their learning and share something they figured out/learned allowing for metacognition.

Greeley-Evans School District 6	First Grade	Math Curriculum Guide

Module 3: Ordering and Comparing Length Measurements as Numbers	Length of Unit: 15 Instructional Days Dec. 11-Jan 19 Testing window Jan 15-19	
Essential Questions address the big ideas and should be the focus for the entire Module. Students will work towards making sense of concepts in order to answer the question by the end of instruction. The essential question should be a part of every day's lesson. Posting is helpful but it's the daily student debrief that allows students to reflect on the essential question. • How do we know if a set has more or less? • Why are the measurements of classmates different? • Why do people collect data?	Technical Vocabulary: Height, length, graph, tally marks	Academic Vocabulary: data, shorter, longer, less than, more than

Major standards (areas of intensive focus) - underlined and bolded Supporting standards – (supports the major standards and is taught with major standards) - bolded *Additional standards-(doesn't connect to major work but is important to the progressions) italics.* DISTRICT 6 PRIORITY STANDARDS ARE ALSO CAPITALIZED AND HIGHLIGHTED	Unit Lessons	Mathematical Practices
1.OA.1. USE ADDITION AND SUBTRACTION WITHIN 20 TO SOLVE WORD PROBLEMS INVOLVING SITUATIONS OF ADDING TO, TAKING FROM, PUTTING TOGETHER, TAKING APART, AND COMPARING, WITH UNKNOWNS IN ALL POSITIONS, E.G., BY USING OBJECTS, DRAWINGS, AND EQUATIONS WITH A SYMBOL FOR THE UNKNOWN NUMBER TO REPRESENT THE PROBLEM.	Topic C lessons 7-9 Topic D lessons 10-13	2, 3, 6
1 MD.1. Order three objects by length; compare the lengths of two objects indirectly by using a third object.	Topic A Lessons 1-3 Topic B Lessons 4-6	3, 7
1.MD.2. EXPRESS THE LENGTH OF AN OBJECT AS A WHOLE NUMBER OF LENGTH UNITS, BY LENGTH, MULTIPLE COPIES OF A SHORTER OBJECT (THE LENGTH UNIT) END TO END; UNDERSTAND THAT THE LENTH MEASUREMENT OF AN OBJECT IS THE NUMBER OF SAME SIZE LENGTH UNITS THAT SPAN IT WITH NO GAPS OR OVERLAPS.	Topic B lessons 4-6 Topic C lessons 7-9	2, 3, 6
1.MD.4. ORGANIZE, REPRESENT, AND INTERPRET DATA WITH UP TO THREE CATEGORIES; ASK AND ANSWER QUESTIONS ABOUT THE TOTAL NUMBER OF DATA POINTS, HOW MANY IN EACH CATEGORY, AND HOW MANY MORE OR LESS ARE IN ONE CATEGORY THAN IN ANOTHER.	Topic D lessons 10-13	2, 3

Assessments	Resources

End of Module Common Assessment-Module 3 Assessment:
• Scanned into School City
• Should be in addition to individually developed formative assessments
 	
Suggested Checks for Understanding:
   • Application Problem (Number Talk, pre assessment for the lesson)
   • Exit Slip
   • Stations
Other Assessments:
   • Common Core Formative Assessment options
     https://grade1commoncoremath.wikispaces.hcpss.org/Grade+1+Home
Assessments:
   • AMC
	District Approved Curriculum:
	Engage NY
	https://www.engageny.org/resource/grade-1-mathematics-module-3
	
	•Math Perspectives Developing Number Concepts (DNC) Book 1, Book 2, Book 3
	•Assessing Math concepts (AMC) Books 1, 2, 3, 4, 5, 6, 7
	
	Additional EngageNY resources:
	Problem Solving by Module, snapshot assessments by standard
	http://www.fwps.org/tfl/math-ccss/3rd-grade-math-ccss/
	
	ENY vocab chart http://ojusd-ca.schoolloop.com/file/1368364943627/1365835800006/8997018716581211929.pdf
	
	Student workbook pages (with some left out according to their "omissions")
	http://www.fwps.org/teaching/studentonlinelearning/student-engageny-math-books/
	
	Homework help http://www.ojusd.org/cms/page_view?d=x&piid=&vpid=1391596408603
	
	Resource- Pacing Suggestions:
	
	http://www.sno.wednet.edu/index.php/departments/teaching_and_learning_services/k-5-math/pacing-guides-supporting-resources-federal-way/
	
	EUREKA PACING GUIDES WITH RATIONALS
	http://greatminds.net/maps/math/pacing-guides

Instructional Notes

These are recommended instructional ideas to accomplish mastery within modules. Math time will be divided between Number Talks, Numeracy Time with DNC Stations, and lessons from Engage NY. The length of module is given (number of days), but teachers need to be aware of their students' mastery of concepts/standards throughout a module, using formative assessments, in order to determine pacing for their class.

In this unit:

- The Fluency Practice in Engage NY is optional and can be used as needed or as is appropriate. If your students struggled with this standard in past modules, please use the fluency practice to work on standard 1.OA.1
- The Application Problem can be used as a Number Talk.
- The majority of time of the Engage NY lessons is on Concept Development and Student Debrief.
- Numeracy time is DNC stations that support student needs as well as module focus.
- The Mid-Module-Assessment may be used as a pre-assessment or a mid-module check to guide instruction (After Topic F). (This assessment is not required.)
- Differentiation: *A Story of Units* give alternatives for how students access information as well as express and demonstrate their learning. *A Story of Units:* https://www.engageny.org/resource/pre-kindergarten-grade-5-mathematics-curriculum-map-and-guiding-documents

Lesson Tools Needed:

- Centimeter cubes
- Centimeter rulers (simply for the purpose of naming the centimeter)
- Non-standard units (toothpicks, small and large paper clips)
- String lengths of about 25 centimeters
- Tally marks

Mathematical Practice Support

- **MP.2 Reason abstractly and quantitatively.** Students make sense of quantities and their relations as they reason about two new problem types in Grade 1: change unknown and addend unknown. They write an addition sentence that corresponds to the situation and then reason to see that a subtraction number sentence also can be used to solve for the unknown.
  Furthermore, in Topic D, students decontextualize addition from stories and work on strategies for computing.
- **MP. 3 Construct viable arguments and critique the reasoning of others.** During Topic F, students share their strategies and reasoning as they explain their solutions to various problem types. They ask useful questions to help clarify or improve peers' explanations, such as, "How does your drawing help demonstrate your thinking?" Students consider how a selected student's work helped her solve the problem as well considering other pathways for at student to correctly solve the problem. As students share their thinking, they explain the mathematical reasoning that supports their argument.
- **MP.6 Attend to precision.** Students clarify the meaning of the commutative property as they represent the same stories with repositioned addends. Students also state the meaning of the equal sign when they represent one amount with two different expressions connected by the equal sign.
- **MP.7 Look for and make use of structure.** Students use the structure of embedded numbers or a known part from which to count on to find a total. After studying the commutative property, the larger addend becomes a structure from which to count on. Also, they analyze the addition chart for repeated reasoning and structures (such as 5-groups, plus ones, doubles, sums equal to 10, etc.) that can help them to better understand relationships and connections between different addition facts.

Number Talks:
- Model the routine for a number talk.
- Model how to sit.
- Do own mental math and put thumbs up when you know the answer.
- Model how to share and explain thinking and listen to others thinking.
- Review and practice this routine daily.
- Dot cards can be used to work on counting, counting on, 1 more/1 less, as well as seeing groups.
- Encourage students to share their solutions and explain their thinking (Math Practice #3).
- Application Problem from Engage NY lessons.

Numeracy Time:
During numeracy time, model choosing a station, how and where to get supplies, appropriate working behavior, cooperative learning strategies (working together, asking questions, sharing, turn taking, problem solving), introduce math journals as a tool to record learning and explain thinking, and how to clean up and transition to a new station or end numeracy time. Have children practice these procedures. Stations should be focused on exploration. Make sure that you are roaming and focusing on monitoring expectations.

Provide students stations that allow them to explore the manipulatives, but also allow you to ask questions and informally assess where student's conceptual understanding is. Use data from Kindergarten to provide you with a starting point to ask questions.

Ask the students questions to promote their thinking. Some suggested questions would be:
- Can you explain what you have done so far? What else is there to do?
- What do you notice when…?
- How did you reach that conclusion? Is that true for all cases?
- What would happen if…?
- What is a/ another strategy you might try?
- What are some tools that can help you?

Have the students evaluate their learning and share something they figured out/ learned allowing for metacognition.

Greeley-Evans School District 6	First Grade	Math Curriculum Guide

Module 4: Place Value, Comparison, Addition and Subtraction to 40	Length of Unit: 29 lessons, 32 instructional days Jan. 19-Mar. 7 Assessment window Mar. 3-7	

Essential Questions address the big ideas and should be the focus for the entire Module. Students will work towards making sense of concepts in order to answer the question by the end of instruction. The essential question should be a part of every day's lesson. Posting is helpful but it's the daily student debrief that allows students to reflect on the essential question. • How can making equal groups of ten objects help us count larger quantities? • What are some strategies that help me count efficiently? • How does using ten as a benchmark number help us add or subtract?	Technical Vocabulary place value, =(equal), numerals, ones, tens	Academic Vocabulary Greater than, less than

Major standards (areas of intensive focus) - underlined and bolded Supporting standards – (supports the major standards and is taught with major standards) - bolded *Additional standards-(doesn't connect to major work but is important to the progressions) italics.* DISTRICT 6 PRIORITY STANDARDS ARE ALSO CAPITALIZED AND HIGHLIGHTED	Unit Lessons	Mathematical Practices
1.OA.1. USE ADDITION AND SUBTRACTION WITHIN 20 TO SOLVE WORD PROBLEMS INVOLVING SITUATIONS OF ADDING TO, TAKING FROM, PUTTING TOGETHER, TAKING APART, AND COMPARING, WITH UNKNOWNS IN ALL POSITIONS, E.G., BY USING OBJECTS, DRAWINGS, AND EQUATIONS WITH A SYMBOL FOR THE UNKNOWN NUMBER TO REPRESENT THE PROBLEM.	Topic E Lesson 19-22	3
1.NBT.1 Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.	Topic A Lessons 1-6	6, 7

1.NBT.2. UNDERSTAND THAT THE TWO DIGITS OF A TWO-DIGIT NUMBER REPRESENT AMOUNTS OF TENS AND ONES.
    A. 10 CAN BE THOUGHT OF AS A BUNDLE OF TEN ONES-CALLED A "TEN".
    C. THE NUMBERS 10, 20, 30, 40, 50, 60, 70, 80, 90 REFER TO ONE, TWO, THREE, FOUR, FIVE, SIX, SEVEN, EIGHT, NINE TENS (AND 0 ONES)
	Topic A Lessons 1-6
	Topic B Lessons 7-10
	Topic F Lesson 23-29
		7

1.NBT.3 Compare two two-digit numbers based on meaning of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <.	Topic B Lessons 7-10	7

<mark>1.NBT.4. ADD WITHIN 100, INCLUDING ADDING A TWO-DIGIT NUMBER AND A ONE-DIGIT NUMBER AND ADDING A TWO-DIGIT NUMBER AND A MULTIPLE OF TEN, 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 AND EXPLAIN THE REASONING USED. UNDERSTAND THAT IN ADDING TWO-DIGIT NUMBERS, ONE ADDS TENS AND TENS, ONES AND ONES; AND SOMETIMES IT IS NECESSARY TO COMPOSE A TEN.</mark>	Topic C Lessons 11-12 Topic D Lessons 13-18 Topic F Lesson 23-29	3, 5, 6, 7
1.NBT.5 Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.	Topic A Lessons 1-6 Topic C Lessons 11-12	6, 7
<mark>1.NBT.6 SUBTRACT MULTIPLES OF 10 IN THE RANGE 10-90 FROM MULTIPLES OF 10 IN THE RANGE 10-90 (POSITIVE OR ZERO DIFFERENCES), USING CONCRETE MODELS OR DRAWINGS AND STRATEGIES BASED ON PLACE VALUE, PROPERTIES OF OPERATIONS, AND/OR RELATIONSHIP BETWEEN ADDITION AND SUBTRACTION; RELATE THE STRATEGY TO A WRITTEN METHOD AND EXPLAIN THE REASONING USED.</mark>	Topic C Lessons 11-12	7

Assessments	Resources
End of Module Common Assessment-Module 4 Assessment: • Scanned into School City • Should be in addition to individually developed formative assessments **Suggested Checks for Understanding:** • Application Problem (Number Talk, pre assessment for the lesson) • Exit Slips • Stations **Other Assessments:** • **Common Core Formative Assessment options** https://grade1commoncoremath.wikispaces.hcpss.org/Grade+1+Home **Assessments:** • AMC • Mid-Module Assessment (after Topic C) https://www.engageny.org/resource/grade-1-mathematics-module-4	**District Approved Curriculum:** Engage NY https://www.engageny.org/resource/grade-1-mathematics-module-4 •Math Perspectives Developing Number Concepts (DNC) Book 1, Book 2, Book 3 •Assessing Math concepts (AMC) Books 1, 2, 3, 4, 5, 6, 7 **Additional EngageNY resources:** Problem Solving by Module, snapshot assessments by standard http://www.fwps.org/tfl/math-ccss/3rd-grade-math-ccss/ ENY vocab chart http://ojusd-ca.schoolloop.com/file/1368364943627/1365835800006/8997018716581211929.pdf Student workbook pages (with some left out according to their "omissions") http://www.fwps.org/teaching/studentonlinelearning/student-engageny-math-books/ Homework help http://www.ojusd.org/cms/page_view?d=x&piid=&vpid=1391596408603

Resource- Pacing Suggestions

http://www.sno.wednet.edu/index.php/departments/teaching_and_learning_services/k-5-math/pacing-guides-supporting-resources-federal-way/

EUREKA PACING GUIDES WITH RATIONALS
http://greatminds.net/maps/math/pacing-guides

Instructional Notes

These are recommended instructional ideas to accomplish mastery within modules. Math time will be divided between Number Talks, Numeracy Time with DNC Stations, and lessons from Engage NY. The length of module is given (number of days), but teachers need to be aware of their students' mastery of concepts/standards throughout a module, using formative assessments, in order to determine pacing for their class.

In this unit:
- The Fluency Practice in Engage NY is optional and can be used as needed or as is appropriate. If your students struggled with this standard in past modules, please use the fluency practice to work on standard 1.OA.1
- The Application Problem can be used as a Number Talk.
- The majority of time of the Engage NY lessons is on Concept Development and Student Debrief.
- Numeracy time is DNC stations that support student needs as well as module focus.
- The Mid-Module-Assessment may be used as a pre-assessment or a mid-module check to guide instruction (After Topic F). (This assessment is not required.)
- Differentiation: *A Story of Units* give alternatives for how students access information as well as express and demonstrate their learning. *A Story of Units*: https://www.engageny.org/resource/pre-kindergarten-grade-5-mathematics-curriculum-map-and-guiding-documents
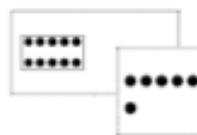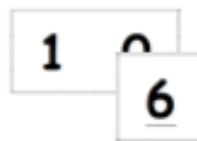
Lesson Tools Needed:

- Arrow notation
- Comparison symbols: >, <, =
- Dime
- Hide Zero cards
- Hundred chart
- Number bond
- Penny
- Place value chart
- Quick Ten
- Rekenrek
- Tape diagram

Arrow Notation

Hide Zero Cards

Mathematical Practice Support

- **MP.3 Construct viable arguments and critique the reasoning of others**. Students describe and explain their strategies for adding within 40. They critique and adjust student samples to more efficiently solve addition problems.
- **MP.5 Use appropriate tools strategically**. After learning varied representations and strategies for adding and subtracting pairs of two-digit numbers, students choose their preferred methods for representing and solving problems efficiently. Students may represent their computations using arrow notation, number bonds, quick ten drawings, and linking cubes. As they share their strategies, students explain their choice of counting on, making ten, adding tens and then ones, or adding ones and then tens.
- **MP.6 Attend to precision**. Students recognize and distinguish between units, demonstrating an understanding of the difference between 3 tens and 3 ones. They use this understanding to compare numbers and add like place value units.
- **MP.7 Look for and make use of structure**. Students are introduced to the place value chart, deepening their understanding of the structure within the number system. Throughout the module, students use this structure as they add and subtract within 40. They recognize the similarities between 2 tens + 2 tens = 4 tens and 2 + 2 = 4 and use their understanding of tens and ones to explain the connection.

Number Talks:
Based on your data, number talks should focus on doubles, doubles +/-1, combinations to 10, Number shapes (focusing on groups), dots (focusing on groups), story problems, and missing addend. Continue to practice asking questions of each other. Encourage students to share their solutions and explain their thinking (Math Practice #3).

Numeracy Time:
- Continue to practice stations that work on addition, subtraction, how many more/how many less, and doubles.
- Continue to use data to introduce stations
- Assign and reassign students to stations as needed
- Invitational Groups

During stations monitor and ask students questions about their thinking. These questions can be:
- Can you make a model to show that?
- How would you prove that?
- Why did you decide to use this method?
- What do you notice when…?
- Do you see a pattern? Can you explain the pattern?
- What do you think the answer will be?
- How does that relate to…?

Have the students evaluate their learning and share something they figured out/learned allowing for metacognition.

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Module 5: Identifying, Composing, and Partitioning Shapes	**Length of Unit:13 Lessons, 15 instructional Days** **March 8-25** **Assessment Window: March 25**	
Essential Questions address the big ideas and should be the focus for the entire Module. Students will work towards making sense of concepts in order to answer the question by the end of instruction. The essential question should be a part of every day's lesson. Posting is helpful but it's the daily student debrief that allows students to reflect on the essential question. • Why is it important to divide into equal parts? • What is half of a whole? What is a fourth of a whole? • How can we represent a number in a variety of ways?	**Technical Vocabulary (Tier 3):** fraction, whole, equal parts/shares, halves, fourths,	**Academic Vocabulary (Tier 2):** divide, represent, position, difference, altogether

Major standards (areas of intensive focus) - underlined and bolded Supporting standards – (supports the major standards and is taught with major standards) - bolded *Additional standards-(doesn't connect to major work but is important to the progressions) italics.* DISTRICT 6 PRIORITY STANDARDS ARE ALSO CAPITALIZED AND HIGHLIGTED	Unit Lessons	Mathematical Practices
1.G.1 Distinguish between defining attributes (e.g.,. triangles are closed and 3 sided) versus non-defining attributes (e.g., color, orientation, overall size); build and draw shapes to possess defining attributes.	Topic A Lessons 1-3	1, 7
1.G.2 Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape.	Topic B Lessons 4-6	1
1.G.3 PARTITION CIRCLES AND RECTANGLES INTO TWO AND FOUR EQUAL SHARES, DESCRIBE THE SHARES USING THE WORDS HALVES, FOURTHS, AND QUARTERS, AND USE THE PHRASES HALF OF, FOURTH OF, AND QUARTER OF. DESCRIBE THE WHOLE AS TWO OF, OR FOUR OF SHARES. UNDERSTAND FOR THESE EXAMPLES THAT DECOMPISING INTO MORE EQUAL SHARE CREATES SMALLER SHARES.	Topic C Lessons 7-9 Topic D Lessons 10-13	6, 7
1.MD.3 Tell and write time in hours and half-hours using analog and digital clocks. Recognize and identify coins, their names, and their values.	Topic D Lessons 10-13	6,7

Assessments	Resources

End of Module Common Assessment-Module 5 Assessment:
• Scanned into School City
• Should be in addition to individually developed formative assessments
 	
Suggested Checks for Understanding:
• Application Problem (Number Talk, pre assessment for the lesson)
• Exit Slips
• Stations
Other Assessments:
   • **Common Core Formative Assessment options** https://grade1commoncoremath.wikispaces.hcpss.org/Grade+1+Home
Assessments:
   • AMC
	Engage NY
	https://www.engageny.org/resource/grade-1-mathematics-module-5
	
	Math Perspectives Developing Number Concepts (DNC) Book 1, Book 2, Book 3
	
	Assessing Math concepts (AMC) Books 1, 2, 3, 4, 5, 6, 7
	
	Additional EngageNY resources:
	Problem Solving by Module, snapshot assessments by standard
	http://www.fwps.org/tfl/math-ccss/3rd-grade-math-ccss/
	
	ENY vocab chart http://ojusd-ca.schoolloop.com/file/1368364943627/1365835800006/8997018716581211929.pdf
	
	Student workbook pages (with some left out according to their "omissions")
	http://www.fwps.org/teaching/studentonlinelearning/student-engageny-math-books/
	
	Homework help http://www.ojusd.org/cms/page_view?d=x&piid=&vpid=1391596408603
	
	  Resource- Pacing Suggestions:
	
	http://www.sno.wednet.edu/index.php/departments/teaching_and_learning_services/k-5-math/pacing-guides-supporting-resources-federal-way/
	
	      EUREKA PACING GUIDES WITH RATIONALS
	      http://greatminds.net/maps/math/pacing-guides

Instructional Notes

These are recommended instructional ideas to accomplish mastery within modules. Math time will be divided between Number Talks, Numeracy Time with DNC Stations, and lessons from Engage NY. The length of module is given (number of days), but teachers need to be aware of their students' mastery of concepts/standards throughout a module, using formative assessments, in order to determine pacing for their class.

In this unit:
- The Fluency Practice in Engage NY is optional and can be used as needed or as is appropriate. If your students struggled with this standard in past modules, please use the fluency practice to work on standard 1.OA.1
- The Application Problem can be used as a Number Talk.
- The majority of time of the Engage NY lessons is on Concept Development and Student Debrief.
- Numeracy time is DNC stations that support student needs as well as module focus.
- Differentiation: *A Story of Units* give alternatives for how students access information as well as express and demonstrate their learning. *A Story of Units*: https://www.engageny.org/resource/pre-kindergarten-grade-5-mathematics-curriculum-map-and-guiding-documents

Lesson Tools Needed:
- Pattern blocks
- Square tiles
- Straws
- Student clocks, preferably with gears that can provide the appropriate hour-hand alignment
- Three-dimensional shape models (commercially produced or commonly found examples) including cube, cone, cylinder, rectangular prism, and sphere

Mathematical Practice Support

- **MP.1 Make sense of problems and persevere in solving them.** Although some students thrive on the visual-spatial perspective of geometric concepts, it can be quite challenging for others. Throughout the module, students will be encouraged to continue working toward success when trying to arrange shapes to create specific composite shapes and when recomposing the pieces into different shapes. For some students, sorting shapes into groups without using the common shape names can also create challenges through which they must persevere. This will take place as students distinguish shapes from among variants, palpable distractors, and difficult distractors in Topic A.

- **MP.6   Attend to precision.** Students will use clear definitions with peers as they define attributes. For example, while working with a partner, students describe a composite figure by explaining surfaces, sides, and corners so that their partners can create the same composite shape without

seeing a visual representation. Students appropriately name parts of a whole using terms such as *halves, fourths,* and *quarters*.

- **MP.7   Look for and make use of structure.** Students identify attributes in order to classify shapes such as triangles and cylinders. Students recognize that attributes such as the number of sides, surfaces, etc., are defining attributes, whereas color, size, and orientation are not. Students use their understanding of the partitioning of a circle to tell time.

Number Talks:
Based on your data, number talks should focus on doubles, doubles +/-1, combinations to 10, Number shapes (focusing on groups), dots (focusing on groups), story problems, and missing addend. Continue to practice asking questions of each other. Encourage students to share their solutions and explain their thinking (Math Practice #3).

Numeracy Time:
- Continue to practice stations that work on addition, subtraction, how many more/how many less, and doubles.
- Continue to use data to introduce stations
- Assign and reassign students to stations as needed
- Invitational Groups

During stations monitor and ask students questions about their thinking. These questions can be:
- Can you make a model to show that?
- How would you prove that?
- Why did you decide to use this method?
- What do you notice when…?
- Do you see a pattern? Can you explain the pattern?
- What do you think the answer will be?
- How does that relate to…?

Have the students evaluate their learning and share something they figured out/learned allowing for metacognition.

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Module 6 Place Value, Comparison, Addition and Subtraction to 100	**Length of Unit:** 32 instructional days Apr. 4-May 17 Testing window May 11-17	

Essential Questions address the big ideas and should be the focus for the entire Module. Students will work towards making sense of concepts in order to answer the question by the end of instruction. The essential question should be a part of every day's lesson. Posting is helpful but it's the daily student debrief that allows students to reflect on the essential question. • How can making equal groups of ten objects help us count larger quantities? • What are some strategies that help me count efficiently? How does using ten as a benchmark number help us add or subtract?	**Technical Vocabulary** Comparison problem type, dime, nickel, penny quarter, <, >, = (less than, greater than, equal)	**Academic Vocabulary**

Major standards (areas of intensive focus) - underlined and bolded Supporting standards – (supports the major standards and is taught with major standards) - bolded *Additional standards-(doesn't connect to major work but is important to the progressions) italics.* DISTRICT 6 PRIORITY STANDARDS ARE ALSO CAPITALIZED AND HIGHLIGHTED	**Unit Lessons**	**Mathematical Practices**
1.OA.1. USE ADDITION AND SUBTRACTION WITHIN 20 TO SOLVE WORD PROBLEMS INVOLVING SITUATIONS OF ADDING TO, TAKING FROM, PUTTING TOGETHER, TAKING APART, AND COMPARING, WITH UNKNOWNS IN ALL POSITIONS, E.G., BY USING OBJECTS, DRAWINGS, AND EQUATIONS WITH A SYMBOL FOR THE UNKNOWN NUMBER TO REPRESENT THE PROBLEM.	Topic A Lessons 1-2 Topic F Lessons 25-27	1, 3
1. NBT.1 Count to 120, starting at any number less than 120. in this range, read and write numerals and represent a number of objects with a written numeral	Topic B Lessons 3-9	4

1.NBT.2. UNDERSTAND THAT THE TWO DIGITS OF A TWO-DIGIT NUMBER REPRESENT AMOUNTS OF TENS AND ONES.
    A. 10 CAN BE THOUGHT OF AS A BUNDLE OF TEN ONES-CALLED A "TEN".
    C. THE NUMBERS 10, 20, 30, 40, 50, 60, 70, 80, 90 REFER TO ONE, TWO, THREE, FOUR, FIVE, SIX, SEVEN, EIGHT, NINE TENS (AND 0 ONES)
	Topic B Lessons 3-9	4

1.NBT.3. Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <.	Topic B Lessons 3-9	3,4
1.NBT.4. ADD WITHIN 100, INCLUDING ADDING A TWO-DIGIT NUMBER AND A ONE-DIGIT NUMBER AND ADDING A TWO-DIGIT NUMBER AND A MULTIPLE OF TEN, USING CONCRETE MODELS OR DRAWINGS, AND STRATEGIES BASED ON PLACE VALUE, PROPERTIES OF	Topic C Lessons 10-17 Topic D Lessons 18-19	4,5

<mark>OPERATIONS, AND/OR THE RELATIONSHIP BETWEEN ADDITION AND SUBTRACTION; RELATE THE STRATEGY TO A WRITTEN METHOD AND EXPLAIN THE REASONING USED. UNDERSTAND THAT IN ADDING TWO-DIGIT NUMBERS, ONE ADDS TENS AND TENS, ONES AND ONES; AND SOMETIMES IT IS NECESSARY TO COMPOSE A TEN.</mark>		
<u>1.NBT.5. Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.</u>	Topic B Lessons 3-9	**4**
<mark>1.NBT.6. SUBTRACT MULTIPLES OF 10 IN THE RANGE 10-90 FROM MULTIPLES OF 10 IN THE RANGE 10-90 (POSITIVE OR ZERO DIFFERENCES), 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 AND EXPLAIN THE REASONING USED.</mark>	Topic C Lessons 10-17	**4,5**
1.MD.3 Tell and write time in hours and half-hours using analog and digital clocks. Recognize and identify coins, their names, and their values.	Topic E Lessons 20-24	**4**

Assessments	Resources
End of Module Common Assessment-Module 6 Assessment: • Scanned into School City • Should be in addition to individually developed formative assessments **Suggested Checks for Understanding:** • Application Problem (Number Talk, pre assessment for the lesson) • Exit Slip **Other Assessments:** • **Common Core Formative Assessment options** **https://grade1commoncoremath.wikispaces.hcpss.org/Grade +1+Home** **Assessments:** • AMC as needed • Mid-Module Assessment (after Topic D) https://www.engageny.org/resource/grade-1-mathematics-module-6	Engage NY https://www.engageny.org/resource/grade-1-mathematics-module-6 Math Perspectives Developing Number Concepts (DNC) Book 1, Book 2, Book 3 Assessing Math concepts (AMC) Books 1, 2, 3, 4, 5, 6, 7 **Additional EngageNY resources:** Problem Solving by Module, snapshot assessments by standard http://www.fwps.org/tfl/math-ccss/3rd-grade-math-ccss/ ENY vocab chart http://ojusd-ca.schoolloop.com/file/1368364943627/1365835800006/8997018716581211929.pdf Student workbook pages (with some left out according to their "omissions") http://www.fwps.org/teaching/studentonlinelearning/student-engageny-math-books/ Homework help http://www.ojusd.org/cms/page_view?d=x&piid=&vpid=1391596408603 Resource- Pacing Suggestions: http://www.sno.wednet.edu/index.php/departments/teaching_and_learning_services/k-5-math/pacing-guides-supporting-resources-federal-way/ EUREKA PACING GUIDES WITH RATIONALS http://greatminds.net/maps/math/pacing-guides

Instructional Notes

These are recommended instructional ideas to accomplish mastery within modules. Math time will be divided between Number Talks, Numeracy Time with DNC Stations, and lessons from Engage NY. The length of module is given (number of days), but teachers need to be aware of their students' mastery of concepts/standards throughout a module, using formative assessments, in order to determine pacing for their class.

In this unit:
- The Fluency Practice in Engage NY is optional and can be used as needed or as is appropriate. If your students struggled with this standard in past modules, please use the fluency practice to work on standard 1.OA.1
- The Application Problem can be used as a Number Talk.
- The majority of time of the Engage NY lessons is on Concept Development and Student Debrief.
- Numeracy time is DNC stations that support student needs as well as module focus.
- The Mid-Module-Assessment may be used as a pre-assessment or a mid-module check to guide instruction (After Topic F). (This assessment is not required.)

 Differentiation: *A Story of Units* give alternatives for how students access information as well as express and demonstrate their learning. *A Story of Units:* https://www.engageny.org/resource/pre-kindergarten-grade-5-mathematics-curriculum-map-and-guiding-documents

Lesson Tools Needed:

- 100-bead Rekenrek

  Tape diagram

Mathematical Practice Support
- **MP.1 Make sense of problems and persevere in solving them**. Throughout Topic A, students analyze given situations and determine whether they are compare, take away, or put together problem types. Students' drawings, such as single and double tape diagrams, represent their planning towards a solution pathway. During Topic F, students initially work independently, supporting them in learning how to persevere and make sense of problems. As students share their strategies and solutions asking and answering peer questions, they demonstrate understanding of the approaches of their peers and identify corresponding elements between the approaches.

- **MP.3 Construct viable arguments and critique the reasoning of others.** During Topic F, students share their strategies and reasoning as they explain their solutions to various problem types. They ask useful questions to help clarify or improve peers' explanations, such as, "How does your drawing help demonstrate your thinking?" Students consider how a selected student's work helped her solve the problem as well considering other pathways for at student to correctly solve the problem. As students share their thinking, they explain the mathematical reasoning that supports their argument.

- **MP.4 Model with mathematics.** Throughout this module, students model their mathematics in various ways. While problem solving, students use tape diagrams and number sentences to model situations and solutions. When sharing various strategies for adding within 100, students use number bonds, number sentences, and sometimes drawings to solve for the sums and to demonstrate their understanding and use of place value, properties of addition, and the relationship between addition and subtraction as they decompose and recompose numbers.
- **MP.5 Use appropriate tools strategically**. After learning varied representations and strategies for adding and subtracting pairs of two-digit numbers, students choose their preferred methods for representing and solving problems efficiently. As they share their strategies, students explain their choice of making ten, adding tens and then ones, or adding ones and then tens. They also demonstrate how their choice of written method (number bonds, vertical alignment, or arrow notation) expresses their strategy work.

Number Talks:
Based on your data, number talks should focus on doubles to 20, doubles +/-1, combinations to 10, ten and some more, story problems, and missing addend Give students some practice adding 3 one digit numbers. Continue to practice asking questions of each other. Encourage students to share their solutions and explain their thinking (Math Practice #3).

Numeracy Time:
- Introduce place value stations as appropriate.
- Continue to practice stations that work on addition and subtraction to 20, how many more/how many less, and doubles.
- Continue to use data to introduce stations
- Assign and reassign students to stations as needed
- Invitational Groups

During stations monitor and ask students questions about their thinking. These questions can be:
- Can you make a model to show that?
- How would you prove that?
- Why did you decide to use this method?
- What do you notice when…?
- Do you see a pattern? Can you explain the pattern?
- What do you think the answer will be?
- How does that relate to…?

Have the students evaluate their learning and share something they figured out/learned allowing for metacognition.