

Unit 2: Number and Operations in Base Ten

Content Area: **Mathematics**
Course(s): **Mathematics - Grade 1**
Time Period: **2nd Marking Period**
Length: **9 weeks**
Status: **Published**

Unit Overview

Understand and use place value and properties of operations to add and subtract and extend the counting sequence

Transfer

Students will be able to independently use their learning to...

Understand and apply concepts of place value and properties of operations to add and subtract and extend the counting sequence

Meaning

Understandings

Students will understand...

- Read and write numbers starting at any number less than 120
- 10 can be a bundle of 10 ones and called a ten
- 10 ones can regroup to make one ten
- Compare two numbers or sets of objects to see if they are equal
- Compare two numbers or sets of objects to see which number or group is larger
- Compare two numbers or sets of objects to see which number or groups is smaller
- Use mental math to find ten more or ten less than a given number
- Add tens to find the sum
- Count on by ones to find the sum of $22+3$

- Count on by tens to find the sum of $22+30$
- Add one-digit number and a two-digit number with regrouping
- Subtract multiples of 10 in the range of 10-90 from multiples of 10 in the range of 10-90
- Subtract multiples of 10 in the range of 10-90 from multiples of 10 in the range of 10-90 on a number line

Essential Questions

Students will keep considering...

Chapter 5: How can I use place value?

Chapter 6: How can I add and subtract two-digit numbers?

Application of Knowledge and Skill

Students will know...

- Read and write numerals and represent a number of objects with a written numeral
- How to make ten using ones
- How to show a number as tens and ones
- How to compare two-digit numbers using equal to ($=$)
- How to compare two-digit numbers using greater than ($>$)
- How to compare two-digit numbers using less than ($<$)
- Mentally find ten more and/or ten less than a given number without having to count the numbers
- How to add groups of tens within 100
- How to count on by tens or by ones to solve a two-digit addition problems
- How to add numbers with regrouping
- How to subtract by tens to find the difference
- How to use a number line to count back by tens

Students will be skilled at...

- Read and write numbers up to 120.
- Put 10 ones together to make one ten.
- Gather ones into groups of 10 to make counting tens and ones easier.

- Compare two two-digit numbers or groups of objects and determine if the number or groups are equal.
- Compare two two-digit numbers or groups of objects and determine which number or groups is greater.
- Compare two two-digit numbers or groups of objects and determine which number or groups is less.
- Find ten more or ten less than a given number.
- Add groups tens to find how many tens there are in all. Then find the sum.
- Count on groups of tens or ones to find a sum.
- Use models to show how to regroup when adding.
- Subtract to find how many tens are left. Then find the differences.
- Use a number line to subtract.

See picture examples in My Math Teacher Manual: What's the Math in this Chapter? Section (Chapters 5-6)

Academic Vocabulary

Stronger emphasis on the understanding of vocabulary to be able to retain and recall the meaning of the words.

- tens
- ones
- regroup
- equal to
- greater than
- less than
- equal to (=)
- greater than (>)
- less than (<)
- hundred

Learning Goal 1

- Count numbers to 120, starting at any number less than 120.

- Represent a number of objects with a written numeral.

Daily Targets

SWBAT:

- Count numerals up to 120. (Ch 5 lesson 13; Retrieval; Executing; DOK 1.)
- Identify the value and characteristics of a dime. (Ch 5 Lesson 3; Retrieval; Recall; DOK 2.)
- Identify the value and characteristics of a nickel. (Ch 5 Lesson 9; Retrieval; Recall; DOK 2.)
- Make groups of hundreds, tens, and ones. (Ch 5 Lesson 12; Retrieval; Executing; DOK 2.)
- Read and write numbers up to 120. (Ch 5 Lesson 14; Retrieval; DOK 1.)
- Use dimes to count by tens. (Ch. 5 Lesson 3; Comprehension; Symbolizing; DOK 2.)
- Use nickels to count by fives. (Ch 5 Lesson 9; Comprehension; Symbolizing; DOK 2.)

MA.1.NBT.A	Extend the counting sequence.
MA.1.NBT.A.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.
MA.K-12.1	Make sense of problems and persevere in solving them.
MA.K-12.2	Reason abstractly and quantitatively.
MA.K-12.3	Construct viable arguments and critique the reasoning of others.
MA.K-12.4	Model with mathematics.
MA.K-12.5	Use appropriate tools strategically.
MA.K-12.6	Attend to precision.
MA.K-12.7	Look for and make use of structure.
MA.K-12.8	Look for and express regularity in repeated reasoning.

Learning Goal 2

- Compare and order two-digit numbers based on meanings of the tens and ones using $<$, $>$, or $=$.
- Given a two-digit number, mentally find 10 more or 10 less.

Daily Targets

SWBAT:

- Compare two two-digit numbers using symbols. (Ch 5 Lesson 11; analysis; DOK 3.)
- Compare two two-digit numbers. (Ch 5 Lesson 10; Analysis; DOK 3.)
- Count and write numbers 11-19. (Ch 5 Lesson 1; Retrieval; DOK 1.)

- Count groups of ten. (Ch 5 Lesson 2; Retrieval; DOK 1.)
- Identify numbers 11-19 in isolation. (Ch 5 Lesson 1; Retrieval; DOK 1.)
- Identify numbers that are ten more and ten less than a given number. (Ch 5 Lesson 8; Comprehension; DOK 2.)
- Make a table to solve problems. (Ch 5 Lesson 6; Retrieval; Executing; DOK 2.)
- Make groups of ten and some more. (Ch 5 Lesson 4; Retrieval; Executing; DOK 2.)
- Make groups of tens and ones. (Ch 5 Lesson 5; Retrieval; Executing; DOK 2.)
- Write numbers to 100 in different ways. (Ch 5 Lesson 7; Comprehension; DOK 2.)

MA.1.NBT.B	Understand place value.
MA.1.NBT.B.2	Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases:
MA.1.NBT.B.3	Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols $>$, $=$, and $<$.
MA.1.NBT.B.2a	10 can be thought of as a bundle of ten ones — called a “ten.”
MA.1.NBT.B.2b	The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.
MA.1.NBT.B.2c	The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).
MA.1.NBT.C	Use place value understanding and properties of operations to add and subtract.
MA.1.NBT.C.5	Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.
MA.K-12.1	Make sense of problems and persevere in solving them.
MA.K-12.2	Reason abstractly and quantitatively.
MA.K-12.3	Construct viable arguments and critique the reasoning of others.
MA.K-12.4	Model with mathematics.
MA.K-12.5	Use appropriate tools strategically.
MA.K-12.6	Attend to precision.
MA.K-12.7	Look for and make use of structure.
MA.K-12.8	Look for and express regularity in repeated reasoning.

Learning Goal 3

- Add within 100, including adding a two-digit number to a one-digit number and adding a two-digit number and a multiple of 10, and explain the strategies and reasoning used.

Daily Targets

SWBAT:

- Add tens and ones to find sums within 100. (Ch 6 Lesson 3; Retrieval; Executing; DOK 1.)

- Add tens and ones to find the sum with regrouping. (Ch 6 lesson 5; Comprehension; DOK 2.)
- Add tens within 100. (Ch 6 Lesson 1; Retrieval; Executing; DOK 1.)
- Count on by tens and ones to find sums within 100. (Ch 6 Lesson 2; Retrieval; Executing; DOK 1)
- Guess, Check, and Revise to solve problems. (Ch 6 Lesson 4; Comprehension; DOK 3.)

MA.1.NBT.C	Use place value understanding and properties of operations to add and subtract.
MA.1.NBT.C.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 10, using concrete models (e.g., base ten blocks) 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.
MA.K-12.1	Make sense of problems and persevere in solving them.
MA.K-12.2	Reason abstractly and quantitatively.
MA.K-12.3	Construct viable arguments and critique the reasoning of others.
MA.K-12.5	Use appropriate tools strategically.
MA.K-12.6	Attend to precision.
MA.K-12.7	Look for and make use of structure.
MA.K-12.8	Look for and express regularity in repeated reasoning.

Learning Goal 4

- Subtract multiples of 10 in the range of 10 to 90 from multiples of 10 in the range of 10 to 90 and explain the strategies and reasoning used.

Daily Targets

SWBAT

- Relate and addition and subtraction facts to solve problems. (Ch 6 Lesson 8; Comprehension; DOK 2.)
- Subtract tens to find the difference. (Ch 6 Lesson 6; Comprehension; DOK 2.)
- Use a number line to count back by tens to subtract. (Ch 6 Lesson 7; Comprehension; DOK 2.)

MA.1.NBT.C	Use place value understanding and properties of operations to add and subtract.
MA.1.NBT.C.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.
MA.K-12.1	Make sense of problems and persevere in solving them.
MA.K-12.2	Reason abstractly and quantitatively.
MA.K-12.3	Construct viable arguments and critique the reasoning of others.
MA.K-12.4	Model with mathematics.
MA.K-12.5	Use appropriate tools strategically.

MA.K-12.6	Attend to precision.
MA.K-12.7	Look for and make use of structure.
MA.K-12.8	Look for and express regularity in repeated reasoning.

Formative Assessment and Performance Opportunities

Chapter 5 Performance Task: **Art Class** DOK 2; DOK 3- SW identify, represent, and compare numbers using place value (Rubric in TM pg. 438PT2)

Chapter 6 Performance Task: **Buying School Supplies** DOK 2; DOK 3- SW use two-digit addition and two-digit subtraction to find how many school supplies Mr. Fellows buys (Rubric in TM pg. 500PT2)

- Chapter quizzes
- Check My Progress
- Common Core Quick Check
- Concept Check
- Fluency
- Graded Classwork
- Homework
- Link It
- Teacher Observation

Summative Assessment

Chapter Tests

Benchmark Assessment

21st Century Life and Careers and Technology

CRP.K-12.CRP1	Act as a responsible and contributing citizen and employee.
CRP.K-12.CRP1.1	Career-ready individuals understand the obligations and responsibilities of being a member of a community, and they demonstrate this understanding every day through their interactions with others. They are conscientious of the impacts of their decisions on others and the environment around them. They think about the near-term and long-term consequences of their actions and seek to act in ways that contribute to the betterment of their teams, families, community and workplace. They are reliable and consistent in going beyond the minimum expectation and in participating in activities that serve the greater good.

CRP.K-12.CRP2	Apply appropriate academic and technical skills.
CRP.K-12.CRP2.1	Career-ready individuals readily access and use the knowledge and skills acquired through experience and education to be more productive. They make connections between abstract concepts with real-world applications, and they make correct insights about when it is appropriate to apply the use of an academic skill in a workplace situation.
CRP.K-12.CRP4	Communicate clearly and effectively and with reason.
CRP.K-12.CRP4.1	Career-ready individuals communicate thoughts, ideas, and action plans with clarity, whether using written, verbal, and/or visual methods. They communicate in the workplace with clarity and purpose to make maximum use of their own and others' time. They are excellent writers; they master conventions, word choice, and organization, and use effective tone and presentation skills to articulate ideas. They are skilled at interacting with others; they are active listeners and speak clearly and with purpose. Career-ready individuals think about the audience for their communication and prepare accordingly to ensure the desired outcome.
CRP.K-12.CRP8	Utilize critical thinking to make sense of problems and persevere in solving them.
CRP.K-12.CRP8.1	Career-ready individuals readily recognize problems in the workplace, understand the nature of the problem, and devise effective plans to solve the problem. They are aware of problems when they occur and take action quickly to address the problem; they thoughtfully investigate the root cause of the problem prior to introducing solutions. They carefully consider the options to solve the problem. Once a solution is agreed upon, they follow through to ensure the problem is solved, whether through their own actions or the actions of others.
CRP.K-12.CRP12	Work productively in teams while using cultural global competence.
CRP.K-12.CRP12.1	Career-ready individuals positively contribute to every team, whether formal or informal. They apply an awareness of cultural difference to avoid barriers to productive and positive interaction. They find ways to increase the engagement and contribution of all team members. They plan and facilitate effective team meetings.
CAEP.9.2.4.A.1	Identify reasons why people work, different types of work, and how work can help a person achieve personal and professional goals.
CAEP.9.2.4.A.4	Explain why knowledge and skills acquired in the elementary grades lay the foundation for future academic and career success.
TECH.8.1.2.D	Digital Citizenship: Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.
TECH.8.1.2.D.CS1	Advocate and practice safe, legal, and responsible use of information and technology.

Accommodations and Modifications

See Common Error! notice in My Math Teacher Manual (Practice and Apply) for tips on differentiation for Chapters 5-6.

Computer Resources

[StMath](#)

[Math Playground](#)

[Spalsh Math](#)

[Math Game Time](#)

- Centers
- Coherence Map: achievethecore.org/coherence-map
- Computer Resources: see above for hyperlinks
- Encourage creative expression and thinking by allowing higher learners to choose how to approach a problem or assignment
- Have curriculum materials translated into native language
- If students confuse counting on by ones/tens, have them place a counter on the first number on a hundred chart and move the counter accordingly.
- If students count by tens instead of ones, remind them that they must first count by ones to make a ten.
- If students have difficulty using base ten in the "teens", practice counting, building, and using the numbers.
- Lesson Extensions
- Manipulatives
- Modifications as per IEP/504
- Review and practice
- RTI guide in My Math chapter specific
- Small group instruction
- Use a magnification device; ie. document camera; to display larger quantities of manipulatives.

Unit Resources

- AAAMath <http://www.aaamath.com/>
- ABCYA: <http://www.abcya.com>
- Brainpop <http://www.brainpop.com/>
- Coherence Map: achievethecore.org/coherence-map
- Cool math 4 kids <http://www.coolmath4kids.com/>
- Funbrain <http://www.funbrain.com/>
- <https://www.illustrativemathematics.org>
- Math Fact Café <http://www.mathfactcafe.com/>
- Math playground <http://www.mathplayground.com/>
- My Math Chapters 5-6
- My Math: Foldables
- My Math: Learning Stations
- My Math: Model the Math
- My Math: Trade Books to improve interdisciplinary connections
- My Math: Vocabulary Cards
- ST MATH (Number Line Journey Zoom, Missing Tick Marks, Pulling Petals, How Many Petals)

Interdisciplinary Connections

A Lemonade Stand (Teacher Guide page 1) - Students will add and subtract two-digit numbers while exploring our economic system of goods and services. (1.NBT.4)

Look Again (Teacher Guide page 10) provides opportunities for counting to 100, making comparisons, and discussing what plants and animals need to live. (1.NBT.2.b)

SOC.6.1.4.C.5

Explain the role of specialization in the production and exchange of goods and services.

1-LS3-1.LS3.B.1

Individuals of the same kind of plant or animal are recognizable as similar but can also vary in many ways.