Unit 3: Domain: Number and Operations in Base Ten

Content Area: **Mathematics**
Course(s): **Mathematics**
Time Period: **Marking Period 3**
Length: **3 Weeks**
Status: **Published**

Unit Overview

In this unit, students will compose and decompose numbers from 11-19 into ten ones and some further ones. They will use objects or drawings and record each composition or decomposition by drawing or equation. They will understand that these numbers are composed of ten ones and 1-9 ones.

Standards

MA.K.NBT.A	Work with numbers 11–19 to gain foundations for place value.
MA.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.

Essential Questions

- How can numbers be represented using the Base-Ten system?
- How do the patterns on the hundreds chart help the learner represent number sentences and drawings?
- How can you represnt in different ways?

Application of Knowledge and Skills...

Students will know that...

- Mathematics content and practices can be applied to solve problems.
- Numbers can be used for different purposes and numbers can be classified and represented in different ways.
- The base-ten numeration system is a scheme for recording numbers using digits 0-9, groups of ten and place value.

Students will be skilled at...

- define the following terms in each topic: Topic 10: how many more? Topic 11: double ten-frame, set
- representing 14-16 as the composition of 10 plus 4, 5, or 6
- representing 17-19 as the composition of 10 plus 7,8, or 9
- representing the decomposition of 11-13 as ten ones and additional ones
- representing the decomposition of 14-19 as one ten and additional ones
- representing the numbers 11-13 as the composition of 10 plus 1,2 or 3
- utilizing objects to create sets to 19

Assessments

- benchmark test
- end of the year test- administered after completing the program
- Placement Test- administered prior to delivering the program
- topic math projects
- topic quick check
- topic tests

Activities

Problem of the Day-Present a daily problem that serves as a review from the previous day's lesson.

Vocabulary - Create a chart for each new vocabulary word that includes the word's meaning and an example or use vocabulary cards as flash card game

Station activities- Each section has center activities to reinforce skill (leveled)

- Clip and Cover: Students answer questions and try to cover four spaces in a row on a gameboard to win.
- Display the Digits: Students answer the problem and display the tile that rpresents the answer.
- Quick Questions: Toss number cubes and answers questions.
- Teamwork: Students in turn explain the steps in a multi-step process.
- Think Together: Students choose and discuss answers to problems.
- Tic Tac Toe: Students use algebraic rules to compute solutions to problems
- Toss and Talk: Students toss number cubes and explain how to solve resulting problems.

STEM - Certain sections have Going Digital integrating technology

Interactive Learning - Problem-Based Interactive learning activities at the beginning of each topic such as using tools, structure,reasoning, generalizing, assessing reasonableness and modeling.

Topic Opener Projects - There is a math project for each topic (Topic 10-11). See Cross Disciplinary instruction for project and page numbers.

-

Activities to Differentiate Instruction

General strategies for modification of this curriculum for students with special needs, ELL, and gifted learners:

- **General strategies:**
  - preferential seating
  - manipulatives
  - modified workbook pages
  - practice or enrich homework pages
- **Center activities** - There are leveled center activities for each section. There is a separate activity for "Intervention", and then "On-Level" and "Advanced" are in spiral book.
- **Leveled practice pages** - There are three leveled (Reteaching, Practice, and Enrichment) sheets that can be used for practice or homework.
- **Math Concept Readers:** These readers allow the student to read the story at different levels- above level, on level, and below level. (also available on line with audio) Complete the Think and Respond and Write Math questions at the conclusion of each book.
- **Assessment**- Using Quick Check Review can determine differentiated instruction levels using sample answers and using the rubric at the Close/ Assess and Differentiate section in the teacher edition.

Content specific modification for students with special needs, ELL, and gifted learners:

- **Topic 10**
  - **Below level students:**
    - Some children struggle with the concept that 10 individual objects can be combined to form a single group of 10. It can be helpful to work with these children to show that the quantities are actually the same.
    - Model the connection between 10 ones and a group of ten as often as possible. For instance, scatter 10 counters on the floor or on a table and have children count them. Establish that there are 10 individual counters. Then scoop the counters into a small box. Paint out that there are still 10 counters, but now they are all grouped together into 1 box: it is 1 group of 10.
  - **Students with special needs:**
    - Using ten frames can be difficult for some special needs children They may find it hard to manipulate the counters or to see them clearly. For these children, it may be helpful to provide larger ten frames. You can also have them work with a partner.
    - The lessons in this topic require children to write individual numbers and number sentences. This may be difficult for children whose find motor skills are weak or who

struggle with handwriting. Instead of having these children write their answers, consider having them place small cards with numbers on them in the answer blanks instead. If you have ink pads and stamps with the numerals on them, you can have children use these as well.

- **ELL**
  - In English, as with several other Western European languages, the number words for 11 and 12 do not follow the pattern of the number words for the numbers 13-19. Children with limited English skills may be tempted to call 11 "one-teen" and 12 "two-teen" by analogy with numbers such as fourteen, sixteen, and nineteen. Be sure children understand that the numbers are called "eleven" and "twelve". In particular, check that non-native speaks understand the words" eleven" and "twelve" when you are speaking them.

- **Advanced/Gifted:**
  - Children who seem to quickly and easily understand teen numbers will benefit from activities such as the following:
  - Ask children to compare teen numbers. For instance, ask children questions such as Which is great: 17 or 14? as well as more complex questions such as How much greater is 13 than 11?
  - Have children think about objects and body parts, such as fingers and toes, that typically come in groups of ten. Ask them to draw and label these objects and share their work with classmates.

- **Topic 11**
  - **Below level students:**
    - Some children may become discouraged if they easily lost track of how many counters they have placed in double ten-frames. For these children, you may wish to create numbered counters. You can do this by placing a number sticker or small square of masking tape on each counter. Have children place these numbered counters in the double ten-frames in numeric order. Most children will quickly recognize that 5 counters always complete one row of a ten-frame, 10 counters always complete one full ten-frame, and that 15 counters always complete one full ten-frame and one row of a second ten-frame. Benchmarks such as these will help the child move toward using counters that are not numbered.
  - **Students with special needs:**
    - Special needs children benefit from extra practice with manipulatives and with visual representations of the ideas presented in the lessons. Always repeat a new concept often before moving on to a different topic.
    - If a child has difficulty coloring within specified regions or aligning counters on ten-frames evenly, allow the child to work with a partner.

  - **ELL**
    - Some children may have difficulty differentiating between the spoke words four and fourteen; six and sixteen; seven and seventeen; eight and eighteen; and nine and nineteen. This may become particularly problematic in Topic 11, as they learn to decompose numbers 11 to 10 as a ten and some ones. Write the number pairs on the board before beginning the ELL strategies.
    - Point to each 1 digit number as you say it; tap your shoe against the floor on time to stress that the word is monosyllabic. Then point to each 2-digit number as you say it; tap your shoe against eh floor two times to stress that the word is disyllabic. Clearly pronounce the syllable -teen each time you say it. Be sure to explain that the numbers

7, 11, 12, and 17 are exceptions.

- **Advanced/Gifted:**
  - Show advanced and gifted children that addends may change places without changing the sum. For example, display double ten-frames that model 15=10+5. Switch the placement of the counters in the top ten-frames to illustrate that 15 is also equal to 5 + 10. Encourage children to apply the Commutative Property of Addition to other addition number sentences.

Integrated/Cross-Disciplinary Instruction

Reading and Writing Language Arts/Science/Social Studies:

- Worldscapes Readers
- Topic Opener Math Projects
- Writing in Math/Math Journals
- Interactive Notebooks

Topic 10: What's Knew at the Zoo?: STEM: Science: Research animals with more than 2 legs. Have students draw two animals showing all their legs. Then write a number sentence that corresponds to the pictures telling how many legs altogether. p. 192

Topic 11: 12 Ways to get to 11: Art: Give each child a different number between 11-19. Students will make a paper chain with said number of links. Hang chain order. p. 206

Resources

Topics Categories in book form:

Topic 10: Composing Numbers 11-19

Topic 11: Decomposing Numbers 11-19

Master Enrichment pages

Master Reteaching pages

Master Practice pages

Student Edition workbook

On line Resources available at www.pearsonrealize.com

- Teacher Edition (TE) Textbook
- Student Edition (SE) Textbook
- Tests on line
- Concepts videos
- Math Tools

21st Century 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.CRP4.1	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.CRP8.1	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.