

Curriculum Map: Math

Course: MATH I Sub-topic: General

Grade(s): 1

Unit: Unit 1: Numbers Within 10: Addition and Subtraction

Timeline: 12 Weeks

Unit Description: This unit extends children's understanding of adding and subtracting within 10. Children preview skills they will be learning in this unit and assess what they do and do not know about them. Children record their progress after completing each lesson and reflect on their learning at the end of the unit.

Unit Essential Questions:

- Which skills seem related to something you already know?
- Which skills do you think you would use in your everyday life? Why?

Unit Big Ideas:

The major themes of the unit are:

- You can count on to solve addition problems and subtraction problems.
- Knowing how to read and model a problem can help you decide whether to add or subtract.
- Numbers can be broken into parts. You can use what you know about parts of numbers to help you develop and choose addition and subtraction strategies.

Unit Key Terminology & Definitions:

- add
- five
- subtract
- ten
- strategy
- discuss
- important

Topic: Lesson 0: Lessons for the First Five Days

Core Lesson

Student

Learning

Objectives:

Session 1:

Session 2:

Session 3:

Session 4:

Session 5:

Core Lesson

Materials:

Session 1:

Session 2:

Session 3:

Session 4:

Session 5:

Topic: Lesson 1: Count On To Add

Minutes for Topic: 300

Core Lesson

Description:

In this lesson children relate counting to addition by applying the counting on strategy to find an unknown sum. Children develop reasoning skills as they see a group of objects as a single quantity from which they can count on. They also see the number that they start with as a part of the total and keep track of how many they count on.

**Core Lesson
Student
Learning
Objectives:**

- add within ten
- apply the counting on strategy
- analyze counting strategy

**Core Lesson
Big Ideas:**

Children use counting on as one of several strategies to add and subtract within 20.

**Core Lesson
Materials:**

LESSON

- Per Child: 10 counting cubes (9 of one color and 1 of another color)
- 10 two-color counters
- For Display: 10 counters, 1 plastic cup, 3 sticky notes

ACTIVITIES

- Per Child: 10 connecting cubes, 10 two-color counters, a strip of paper, a pencil, index cards
- Per Pair: 30 connecting cubes (20 of one color, 10 of another color)
- For Display: 8 pencils, small box, sticky notes
- Activity Sheets: Number Paths, Number Cards 0-11

**Core Lesson
Key
Terminology &
Definitions:**

- add
- addition equation
- count on
- total

Topic: Lesson 2: Doubles and Near Doubles

Minutes for Topic: 300

**Core Lesson
Description:**

In this lesson children are introduced to the strategies of doubles and doubles plus one. Children use models to first find sums of doubles and then to find sums of doubles plus one. As they continue to work with doubles plus one. As they continue to work with doubles and doubles plus one addition equations, children come to recognize that they can double the lesser addend and add 1 more when adding consecutive numbers.

**Core Lesson
Student
Learning
Objectives:**

- Relate an image of two equal groups to doubles.
- Relate an image of two equal groups with one left over to doubles plus one.
- Write addition equations for doubles and doubles plus one.
- Use properties to write a doubles plus one expression (3 addends) as an expression with 2 addends.

**Core Lesson
Big Ideas:**

Children are expected to fluently add and subtract numbers to 10. Previously in this unit children have counted on from one number to add.

**Core Lesson
Materials:**

Lesson *Per Child:* 10 two-color counters, 2 crayons (1 yellow, 1 red)

Per Pair: 1 number cube

Activities *Per Child:* 7 two-color counters, 5 index cards

Per Pair: 10 connecting cubes (5 of one color and 5 of another), 10 counters

Activity Sheet: Addition Table 1

**Core Lesson
Key
Terminology &
Definitions:**

addend

doubles

doubles plus 1

Topic: Lesson 3: Adding In Any Order

Topic: Lesson 4: Understand Missing Addends

Topic: Lesson 5: Number Partners For 10

Topic: Unit 1 Mid-Unit Assessment or Digital Comprehension Check

Topic: Lesson 6: Count On To Subtract

Topic: Lesson 7: Add and Subtract in Word Problems

Topic: Lesson 8: Subtract to Compare in Word Problems

Topic: Lesson 9: Understand True and False Equations

Topic: Lesson 10: Use Strategies For Addition and Subtraction Facts

Topic: Unit 1 Unit Assessment or Digital Comprehension Check

Unit: Unit 2: Numbers Within 20: Addition and Subtraction and Representing Data

Timeline: 9 Weeks

Unit Description: This unit introduces children to adding and subtracting within 20. Children preview the skills they will be learning in this unit and assess what they know and do not know about them. Children record their progress after completing each lesson and reflect on their learning at the end of the unit.

Unit Big Ideas:

- 10 is an important number
- teen numbers are made up of a 10 and some ones
- numbers can be put together and broken apart in different ways
- you can use what you know about adding and subtracting. Up to 10 to and subtract up to 20.

Topic: Lesson 11: Understand Teen Numbers

Core Lesson Description: In this lesson children explore the structure of numbers between 10 and 20, often referred to as teen numbers. They develop the concepts that teen numbers are composed of a group of 10s and a group of 1s.

Core Lesson Student Learning Objectives:

Content objectives:

- Recognize that 10 ones and 1 ten represent the same quantity
- Understand that the numbers between 10 and 20 are composed of 1 ten and some ones.
- Model teen numbers

Core Lesson Essential Questions:

Core Lesson Big Ideas: In Grade 1 children are expected to fluently add and subtract numbers to 10. Previously in this unit children have counted on from one number to add.

Core Lesson Materials: Connecting cubes, ten frames, counters, and 100's chart.

Core Lesson Key Terminology & Definitions:

ones, teen numbers, tens

Topic: Lesson 12: Make a Ten to Add

Core Lesson Description: In this lesson children learn the strategy of making 10 to add within 20. This involves breaking apart an addend and associating one part of it with another addend to make 10 and then applying the understanding that teen numbers can be thought of as "10 plus some number".

Core Lesson Student Learning Objectives:

- When adding 2 one digit numbers understand the rationale for decomposing one addend to make 10.
- Use the strategy of making 10 to add numbers within 20.
- use and articulate mental math strategies to add

Core Lesson Counters, connecting cubes, and 10 frames.

Materials:**Core Lesson****Key**

Make a ten - a strategy that uses combinations of numbers that add to ten.

Terminology &**Definitions:**

tens- groups of 10 ones.

Topic: Lesson 13: Totals Greater Than Ten**Core Lesson****Description:**

In this lesson children extend their understanding of the doubles, doubles plus one, and make a ten strategies to model and solve addition problems with sums greater than 10.

Core Lesson**Student****Learning****Objectives:**

* Know the partner that makes 10 for any number.

* Know all decompositions for numbers within 10.

*Add to solve word problems.

*Know that teen numbers can be decomposed as 10 + some number.

Core Lesson**Materials:**

Per child: 10 connectin gcubes (5 of each of two different colors), 27 two-color counters

Per pair: 20 connecting cubes (10 each in two different colors)

For Display: two pictures of 6 balloons

Activity Sheet: 10 Frames, Number Bond Mat

Per child: 20 counters

Per pair: 20 connecting cubes, 24 two-color counters

Acitivy Sheet: 10-Frames

Core Lesson**Key**

Count on

Terminology &**Definitions:**

Doubles

Topic: Lesson 14: Add Three Numbers**Core Lesson****Description:**

Children solve word problems that involve three addends. They use the associative property to group addends to add two numbers using a familiar strategy and then add the third number.

Core Lesson**Student****Learning****Objectives:**

-Write addition expressions with three addends to represent word problems.

-Find the total of 3 addends, using strategies such as making a ten and using doubles by grouping any 2 addends,

- Explain how using strategies such as making a ten or finding doubles can help find the total of 3 numbers.

Core Lesson**Materials:**

connecting cubes, 20 two-color counters, ten frame, and pattern blocks.

Core Lesson**Key****Terminology &****Definitions:**

Addend

Topic: Unit 2 Mid-Unit Assessment or Digital Comprehension Check**Topic: Lesson 15: Make a Ten to Subtract****Core Lesson****Description:**

Children use several strategies and model to subtract single digit numbers from teen numbers.

They use number paths to relate counting up, counting back, and making a ten by subtracting

in parts that allow them to make a 10 and then subtract the rest. They relate these strategies to similar strategies they used for addition.

Core Lesson

Student

Learning

Objectives:

- Recognize that teen numbers can be decomposed and composed to subtract.
- Choose strategies to subtract single-digit numbers from teen numbers.
- Making a 10 to subtract single-digit numbers from teen numbers.

Core Lesson

Materials:

color-counters, markers, transparent bag, number paths, connecting cubes.

Core Lesson

Key

Terminology &

Definitions:

Teen numbers

Topic: Lesson 16: Find the Unknown Number

Core Lesson

Description:

Children find the unknown in equations relating three whole numbers involving sums up to 20. Word problems represent all situation types and the unknown is found in different positions.

Core Lesson

Student

Learning

Objectives:

- Find the missing numbers in an addition or subtracting equation (missing number in all positions).
- Use familiar number facts and strategies to help find a missing number in an addition or subtraction equation.
- Use related addition and subtraction facts to solve for an unknown number in an equation.

Topic: Lesson 17: Word Problems to 20

Core Lesson

Description:

In this lesson children sort objects into categories and begin to understand the benefits of organizing and representing such data. They represent categorical data in tally charts, in charts with numbers, and in picture graphs. They ask and answer questions about data, using what they know about addition, subtraction, and comparison.

Core Lesson

Student

Learning

Objectives:

- *Define meaningful categories for a given set of objects and sort objects according to the categories.
- *Count to find the number of objects in each category.
- *Represent categorical data using tally charts, charts with numbers, and picture graphs.
- *Answer questions about data in charts and graphs.
- *Compare quantities represented in charts and graphs.

Core Lesson

Key

Terminology &

Definitions:

data, picture graph, sort, tally chart, tally marks, compare

Topic: Lesson 18: Collect and Compare Data

Topic: Unit 2 Assessment or Digital Comprehension Check

Topic: Mid-Year Diagnostic Assessment

Unit: Unit 3: Tens and Ones: Counting, Place Value, Time, and Money

Timeline: 6 Weeks

Unit

Description:

This unit introduces children to place value with tens and ones. Children preview the skills they will be learning in this unit and assess what they know and do not progress after completing each lesson and reflect on their learning at the end of the unit.

Unit Essential**Questions:**

- Which skills seem related to something you already know?
- Which skills do you think you would use in your everyday life?

Unit Big Ideas:

The major themes of the unit are:

- Two-digit numbers are made of tens and ones. Knowing how to express two-digit numbers as tens and ones in different ways will help you understand the value of that number.
- You can use what you know about tens and ones in two-digit numbers to compare their values.

Unit Key**Terminology & Definitions:**

count
teen numbers
ones
discover
item
explain

I count the dots to find the total.

15 and 18 are teen numbers

When I compare 15 and 18, there are more ones in 18.

1. working with a partner is a good way to discover new ways to solve a problem.
2. We forgot to get one item on the list: a new backpack.
3. When you explain something, you make it easy to understand.

Topic: Lesson 19: Understand Tens**Core Lesson**

Description: Number and Operations in Base-10

Understand Place Value

Core Lesson**Student****Learning****Objectives:**

- Understand that the digits of a 2-digit number represent numbers of tens and ones.
- Organize 10 ones
- Express 10 ones as 1 ten and 1 ten as 10 ones
- Identify and write multiples of ten in terms of tens and ones.

Core Lesson**Big Ideas:**

Children explore tens by making a ten to add and subtract and by recognizing teen numbers as a composition of a ten and some ones.

Core Lesson**Materials:**

connecting cubes, base-ten blocks

Core Lesson**Key****Terminology &****Definitions:**

ones- single units or objects
tens- groups of 10 ones.

Topic: Lesson 20: Counting to 120

Core Lesson Description: In this lesson, children use a 120 chart to count up by 1s from any given number within 120. They look for patterns in the 120 chart that show relationships between numbers. They identify numbers that are 1 more than a given number, and they pick up the count and continue the counting sequence from any number. They count objects that are in groups of ten with extra ones and relate these quantities to the multiples of 10 on the 120 chart.

Core Lesson Student Learning Objectives:

- count on from any number on the 120 chart
- identify missing numbers in a sequence within 120
- count by 10s within 120

Core Lesson Materials:

- Base-10 blocks
- red, blue, green crayons
- copy of Start slide (Sessions 1,3,5), copy of Close Slide (Sessions 1-2, 5)
- 1 counter/pair
- 120 chart

Core Lesson Key Terminology & Definitions:

column - groups of objects or numbers that go from top and bottom

row - a group of objects or numbers that go from left to right

tens - groups of 10 ones

Topic: Lesson 21: Understand Tens and Ones

Core Lesson Description: Children decompose 2-digit numbers into groups of tens and ones, representing them in multiple ways. They recognize that the digit in the tens place of a 2-digit number denotes a number of 10s and they write 2-digit numbers by placing each digit in the appropriate place-value location.

Core Lesson Student Learning Objectives:

- represent 2-digit numbers as tens and ones
- decompose a 2-digit number as some tens and some ones in multiple ways
- model a 2-digit number in multiple ways

Core Lesson Materials:

- Base 10 blocks
- connecting cubes
- crayons
- 100 number chart

Core Lesson Key Terminology & Definitions:

digit - a symbol used to write numbers. 0,1,2,3,4,5,6,7,8, and 9 are digits

place value - the value of a digit based on its position in a number. For example, the 2 in 24 is in the tens place and has a value of 2 tens or 20

Review the following terms:

ones - single units or objects

tens - groups of 10 ones

Topic: Lesson 22: Compare Numbers

Core Lesson Description: In this lesson children use models of Base-10 Blocks to compare the number of tens and ones in 2 two-digit numbers. They use quick drawings and draw their own representations to compare 2 two-digit numbers. Two-digit numbers are compared using their relative positions on the 100 chart. Children write $<$, $>$, or $=$ to record their comparisons.

Core Lesson Student Learning Objectives:

- understand the meaning of the symbols $<$ and $>$
- compare the values of 2 two-digit numbers using tens and ones
- write the symbols $<$, $>$, and $=$ to compare 2 two-digit numbers

Core Lesson Big Ideas: In grade 1 children compare two quantities using one-to-one correspondence and subtract to find the difference. Children also understand that the two digits in a two-digit number

represents tens and ones. They understand 10, 20, 30, 40, 50, 60, 70, 80, 90, and 100 as bundles of tens and zero ones.

Core Lesson

Materials: base-10 blocks, counters, 10-frames, place-value mats, 120 charts

Core Lesson

Key

greater than - a group or number that has more

Terminology &

Definitions: greater than symbol ($>$) - a symbol that means is greater than

less than - the group or number with fewer, not as much, not as many

less than symbol ($<$) - a symbol that means is less than

compare - to decide if numbers, amounts, or sizes are greater than, less than, or equal to each other

equal sign ($=$) - a symbol that means is the same as

fewer - a lesser amount

more, more than - the greater number, quantity, or amount

Topic: Unit 3: Mid-Unit Assessment or Digital Comprehension Check

Topic: Lesson 23: Tell Time

Core Lesson Description: Children learn to tell and write time to the hour and half hour. They learn to recognize minutes on analog and digital clocks and read and write times to the hour and half hour.

Core Lesson

Student

Learning

Objectives:

- tell time to the hour and to the half hour, using analog and digital clocks
- write the time to the hour and half hour
- understand that 30 minutes is the same as a half hour

Core Lesson

Big Ideas: Children begin reading digital and analog clocks

Core Lesson

Materials: clock face model, card stock, round-head fasteners, crayons, demonstration clock

Core Lesson

Key

digital clock - a clock that uses digits to show the time.

Terminology &

Definitions: half hour - a unit of time. There are 30 minutes in on half hour.

half past - a time that is 30 minutes after an hour.

hour (h) - a unit of time. There are 60 minutes in 1 hour.

hour hand - the short hand on a clock. It shows hours.

minute (m) - a unit of time. There are 60 minutes in 1 hour.

minute hand - the longer hand on a clock. It shows minutes.

o'clock - to tell time for an hour.

Topic: Lesson 24: Money (Optional)

Core Lesson

Description: OPTIONAL LESSON

Core Lesson

Student

Learning

Objectives:

- IDENTIFY COINS (PENNIES, NICKELS, DIMES, AND QUARTERS)
- KNOW THE VALUE OF EACH COIN.

- RELATE THE VALUE OF COINS (PENNIES, DIMES, AND QUARTERS) TO THE VALUE OF ONE DOLLAR.
- COUNT ON TO FIND THE VALUE OF A SET OF DIMES AND PENNIES.

Core Lesson Materials: play or real coins

Core Lesson Key Terminology & Definitions:

- CENT - THE SMALLEST UNIT OF MONEY. 100 CENTS IS EQUAL TO 1 DOLLAR.
- DIME - A COIN WITH A VALUE OF 10 CENTS.
- DOLLAR - A UNIT OF MONEY. THERE ARE 100 CENTS IN 1 DOLLAR.
- NICKEL - A COIN WITH A VALUE OF 5 CENTS.
- PENNY - A COIN WITH A VALUE OF 1 CENT.
- QUARTER - A COIN WITH A VALUE OF 25 CENTS.

Topic: Unit 3: Assessment or Digital Comprehension Check

Unit: Unit 4: Operations With Tens and Ones: Addition and Subtraction

Timeline: 5 Weeks

Unit Description: Students are introduced to operations with 2 digit numbers. Children preview skills they will be learning in this unit and assess what they know about them. Children record their progress after completing each lesson and reflect on their learning at the end of the unit.

Unit Essential Questions: Which skills seem related to something you already know?

Which skills do you think you would use in your everyday life?

Unit Big Ideas:

You can use what you know about tens and ones to add and subtract tens from any number.

When adding two digit numbers, you can add tens to tens, and ones to ones.

Sometimes you need to regroup 10 ones to make a ten when you add.

Unit Materials:

base-ten blocks

connecting cubes

hundred charts

Unit Key Terminology & Definitions:

fewer

more

total

plan

prepare

Topic: Lesson 25: Add and Subtract Tens

Core Lesson Description: In this lesson children build on known strategies for adding and subtracting single digits and apply these strategies to adding and subtracting multiples of 1- from 10-90. They model the relationship between groups of 10 and an equal number of unit representing a ten. Children recognize how adding tens and adding ones correlate to each other as they use word forms along with equations.

Core Lesson Student Learning Objectives:

Count tens as 1 ten, 2 tens, 3 tens... or as 10, 20, 30...

Use counting on, counting back, and strategies based on place value and properties to add and subtract multiples of 10.

Relate adding tens to adding ones.

Core Lesson Big Ideas: Children view 10 ones as a unit called a ten. They compose two digit numbers into groups of tens and some ones.

Core Lesson Materials: base ten blocks
hundreds charts

Core Lesson Key Terminology & Definitions: tens- a group of ones

Topic: Lesson 26: Understand Ten More and Ten Less

Core Lesson Description: In this lesson children mentally add and subtract 10 from to add and subtract from 2 digit numbers. As they explore 10 more and 10 less with connecting cubes and on a hundred chart, they build mental images to be able to recognize that when adding or subtracting ten, the tens digit of a number increases

Core Lesson Student Learning Objectives: Count tens as 1 ten, 3 tens

Core Lesson Big Ideas: Children view 10 ones as a unit called a ten. They build on their counting by ten skills by mentally finding 10 more or 10 less than a number.

Core Lesson Materials: 41 connecting cubes, base 10 blocks (9 rods and 9 ones), and 100 chart, number cards 0-11.

Core Lesson Key Terminology & Definitions: Digit- a symbol used to write number. The digits are 0,1,2,3,4,5,6,7,8,9.

Topic: Lesson 27: Add Tens to Any Number

Core Lesson Description: Children extend their prior work with mentally adding 10 to any number to explore adding multiples of 10 to any number within 100.

Core Lesson Student Learning Objectives: Add multiples of 10 to any 2 digit number within 100. Apply a strategy based on place value to add a 2 digit number and a multiple of 10 and relate it to a written method. Model adding a 2 digit number and a multiple of 10 using place value understanding.

Core Lesson Big Ideas: Children learn strategies for adding numbers within 100 and build understanding of the base 10 system of numeration. Concrete and visual models support their understanding of place value and help them make a connection between the visual 10s and the digit that represents a group of 10s.

Core Lesson Materials: base 10 blocks, activity sheet 120 chart, number cards 0-11, place value mat.

Core Lesson Key Terminology & Definitions: ones-single units or objects. 10's- group of 10 ones.

Topic: Lesson 28: Add Two-Digit and One-Digit Numbers

Core Lesson Description: Children extend models and strategies explored in previous lessons to addition problems involving 2 digit and 1 digit addends. Children develop an understanding that sometimes it is necessary to compose a new 10.

Core Lesson Student Learning Objectives: Add 2 digit and 1 digit numbers with and without regrouping. Compose a 10 when adding ones that total 10 or more.

Core Lesson Big Ideas: Children develop concepts related to the base 10 system as they make a 10 when adding 2. Single digit numbers whose sum is greater than 10. They model and solve problems in which they add two 10s and ones to ones when adding 2 digit numbers.

Core Lesson Materials: Counters, 100 chart, base ten blocks, 10 frame.

Core Lesson Key Terminology & Definitions: Digit a symbol used to write numbers. The digits are 0,1,2,3,4,5,6,7,8,9.

Ones single units or objects.

Tens a group of 10 ones.

Topic: Lesson 29: Add Two-Digit Numbers

Topic: Unit 4: Assessment or Digital Comprehension Check

Unit: Unit 5: Length: Comparing, Ordering, Measuring

Timeline: 3 Weeks

Unit Description: This unit extends children's understanding of length. Children preview the skills they will be learning in this unit and assess what they know and do not know about them. Children record their progress after completing each lesson and reflect on their learning at the end of the unit.

Unit Essential Questions: Which skills seem related to something you already know?
Which skills do you think you would use in your everyday? Why?

Unit Big Ideas:

- You can compare the length of objects and put them in length order by lining them up at one end.
- Sometimes you can tell which of two objects is longer by comparing both of them to another object.
- You can measure an object with same-sized units to find its length.

Unit Key Terminology & Definitions: arrange

observe

process

length

longer

shorter

taller

Topic: Lesson 30: Order Objects By Length

Core Lesson Description: In this lesson, children compare the length of three objects, lining them up so that the ends of all objects are aligned and put the items in order by length. They identify the shortest, tallest, and longest objects.

Core Lesson Student Learning Objectives: Directly compare the lengths of three objects.

Order three objects by length..

Core Lesson Big Ideas: In Grade 1 children compare and order objects by length. They use a nonstandard reference unit to measure objects by layering multiple copies of a shorter object end to end. They understand that the number of such reference objects is the length measurement of the item

being measured

Core Lesson

Materials:

Per child:

3 pieces of string of different lengths

3 objects of different lengths

red and blue crayons

15 connecting cubes (3 red, 5 green, 7 yellow)

3 straws of different lengths

Per pair:

base ten blocks (9 ten rods, 18 ones units)

4 or 5 objects of different heights or lengths

1 straightedge

Core Lesson

Key

length - how long something is

Terminology & Definitions:

longer - greater in length

longest - greatest in length

shorter - lesser in length or height

shortest - least in length or height

taller - greatest in height

compare - to decide if numbers, amounts, or sizes are greater than, less than, or equal to each other

Topic: Lesson 31: Compare Lengths

Core Lesson

Description:

In this lesson children develop an understanding of indirect comparison, which underlies the use of standard measuring tools. They reason that if Object A is longer than the reference object and Object B is shorter than the reference object, then Object A is longer than Object B.

Topic: Lesson 32: Understand Length Measurement

Topic: Unit 5: Assessment or Digital Comprehension Check

Unit: Unit 6: Geometry: Analyzing, Composing, and Partitioning Shapes

Timeline: 3 Weeks

Topic: Lesson 33: Shapes

Topic: Lesson 34: Putting Shapes Together

Topic: Lesson 35: Understand Breaking Shapes Into Equal Parts

Topic: Unit 6: Assessment or Digital Comprehension Check

Topic: End-of-Year Diagnostic Assessment

Unit:

This Curriculum Map Unit has no Topics to display