Starfall
Kindergarten
MATHEMATICS

Place Value, Number Collections, & Review 10-20

Starfall Education Foundation
P.O. Box 359, Boulder, CO 80306

UNIT **12**

Place Value, Number Collections, & Review 10-20

Week 29

Week 29 Summary

This week the children will use their own monthly calendars to explore a variety of math concepts such as story problems, before or after, addition, the number that comes between, counting on, and smallest and largest. They will review the different ways to represent numbers, the value of coins, and they will be introduced to the quarter and "Coin Bingo." The children will also:

- Play the "Number Grid Game"
- Review numbers and sets from 10 to 20
- Perform number exercises
- Review place value

Preparation

DAY 1

Choose a set of Number Cards for the children to use for "number exercises," and generate a calendar for the current month for each child.

DAY 2

The children will use their math bags, individual whiteboards and markers. They will also need a "Number Grid" game board, a pair of dice, and two playing pieces.

DAY 3

For today's lesson you will need a bag of coins that contains 1 quarter, 25 pennies, 5 nickels, and 2 dimes.

Label a blank game spinner with *1¢, 5¢, 10¢,* and *25¢* on the spinner. The children will each need a Bingo coin card to play "Coin Bingo." Prepare extra copies to accommodate a larger class.

DAY 4

The children will need pencils, crayons, scissors and glue sticks.

Optional: Set up "mini centers" for the children to work in as they finish today's worksheet.

DAY ⑤

Activity Center 1 — Navigate classroom computers to *Starfall.com*.

Activity Center 2 — The children will need "Coin Town" game board, a paper or plastic cup of coins (pennies, nickels and dimes) to use as a bank, one empty paper or plastic cup for each child, and a coin spinner.

Activity Center 3 — The children will need a "Number Grid Game: Count to 50" game board, dominoes and playing pieces.

Activity Center 4 — Prepare materials for this week's Teacher's Choice Activity.

Summative Assessment — You will use a box of connect cubes and Number Cards 5 through 20 to perform this week's Summative Assessment.

Prepare a Summative Assessment Checklist for Unit 12, Week 29.

Summative Assessment
Unit 12 - Week 29

	DAY ①	DAY ②
Daily Routines	• Calendar • Place Value • Weather • Hundreds Chart • Number Line	
Magic Math Moment	Number exercises	Find That Number
Math Concepts	Number recognition Counting on Calendar activity More/Less	Place Value (Tens and Ones) "The Number Grid Game" Number representations Number recognition
Formative / Summative Assessment	Complete Monthly Calendar (Number Concepts)	Coin combinations to solve story problems
Workbooks & Media	Monthly Calendar	

DAY 3	DAY 4	DAY 5
• Calendar • Place Value		
• Weather • Hundreds Chart		
• Number Line		

DAY 3	DAY 4	Learning Centers
Counting between numbers	Coin Book 1	*Starfall.com:* **1** • Monthly Calendar • Add & Subtract: "Coin Book," 0–10 and Place Value
Counting on to a specified number Count backward Review coin values Introduce Quarter Coin combinations to equal a quarter Introduce "Coin Bingo"	Addition and subtraction combinations 0 through 10 Number representations Trace numerals 10 through 20	"Coin Town" Game **2** "Count to 50 Number Grid" Game **3**
"Coin Bingo"	Match numbers to objects	Teacher's Choice **4**
	Starfall.com: Add & Subtract: "My Coin Book 1" Workbook pages 37, 38, and 39	Summative Assessment: Number Representations **5** Use connect cubes to create number representations 5 through 20

Magic Math Moment

Number Exercises (Numbercises)

Place several Number Cards face down in a pocket chart. Say: **Let's do some number exercises! First we'll count how many times we can hop on one foot. Ready?** (Do this.)

Say: **I will choose someone to turn a Number Card and we will hop on one foot enough times to match the number on the card.** A volunteer does this. The children identify the number on the Number Card then hop on one foot the corresponding number of times.

The volunteer chooses the next volunteer who chooses an action, then reveals a Number Card. The class identifies the number and does the action the corresponding number of times.

Play continues as time allows.

Note: Choose numbers the children have difficulty recognizing to reinforce number recognition.

Counting & Cardinality

A.1 - Count to 100 by ones and by tens.

A.2 - Count forward from a given number.

B.4a - Say number names in order, pairing each object with one number.

CC.7 - Compare two numerals between 1 and 10.

Operations & Algebraic Thinking

A.2 - Solve word problems with addition and subtraction within 10.

The Calendar

1 Counting On

Gather the children in a circle on a rug or on the floor. Choose a target teen number such as 14. Say: **Let's count in order until we get to 14.**

- Choose a child to begin counting.
- The children take turns saying the next numbers in sequence. The child who says the target number (14) moves to the middle of the circle.
- The child who moved to the middle of the circle chooses the next child, who chooses the next number, and the children repeat the activity.

Challenge: Instruct the children to count by twos or fives.

2 Calendar Activity

Gather the children around the classroom calendar. Ask: **What do you notice about the numbers on this calendar?** Volunteers respond. Lead the children to understand that the numbers are in sequential order.

Choose a number on the calendar and continue: **Raise your hand if you can find the number (**chosen number**).** Select a volunteer to indicate the number.

Say: **Raise your hand if you can find the number that is:**

- **one more than 10**
- **two less than 13**

Continue with volunteers indicating the correct numbers.

Formative Assessment

Calendar Questions

Distribute a Starfall calendar for the current month to each child. The children write their names on the calendars, listen to the following clues and use pencils to trace the answers.

Clues:

- **What is the smallest number on the calendar?**
- **What is the largest number on the calendar?**
- **How old are you?**
- **What number comes after 11?**
- **Count to 5. What number comes between 3 and 5?**
- **Find the number 26.**
- **What number comes before 20?**
- **If your friend gave you 6 cookies plus 2 more, how many cookies would you have?**
- **What if another friend gave you one more cookie? How many cookies would you have altogether?**
- **What number comes between 13 and 15?**
- **What is 20 plus 4 more?**
- **Find 18.**
- **What number comes before 18?**
- **What is 10 plus 1 more?**
- **Find 13.**
- **What number comes before 16?**
- **Find the number that is 10 plus 10.**

Volunteers identify any number(s) that weren't traced. As these numbers are identified, the children trace them.

Magic Math Moment

Find That Number

Essential Question: How can we group numbers by tens and ones to see how many of each we have?

Write 41 and 14 on a whiteboard. Ask: **Who can circle the number that is 14? (**A volunteer does this.**) How do you know this number and not the other one is 14?**

Discuss the tens and the ones columns. The children should understand that the number 41 represents 4 sets of ten and 1 more, and that 14 represents 1 set of ten and 4 more. Continue as time allows with:

- 17 and 71
- 31 and 13
- 15 and 51
- 61 and 16

Counting & Cardinality

B.4a - Say number names in order, pairing each object with one number.

Operations & Algebraic Thinking

A.1 - Represent addition and subtraction in a variety of ways.

A.3 - Decompose numbers less than 11.

Number & Operations In Base Ten

A.1 - Understand numbers 11-19 are ten ones plus more ones.

Money

M.1 - Identify the value of coins.

The Number Grid Game

1 Ways to Show Numbers

Write the numeral 15 on the whiteboard. Ask: **What are some different ways we can show or represent the number 15?** Volunteers respond. Examples include a bundle of 10 and 5 ones, a dime and a nickel, and 15 tally marks.

Display the 11-20 Number Cards face down in a pocket chart.

Select a volunteer to reveal a Number Card. The volunteer announces the number to the class and places the Number Card back in the pocket chart (revealed).

2 Number Representations

Distribute individual whiteboards and markers.

Say: **On your whiteboard, draw as many ways as you can to represent the number (**revealed number**).** Volunteers share their answers.

Repeat until all of the Number Cards are revealed. Encourage the children to consider a variety of representations. Volunteers order the Number Cards if necessary.

3 **"The Number Grid" Game**

Gather the children in a semi-circle on the floor or a rug.

Say: **Backpack Bear has a new game he would like to teach us today. It's called "The Number Grid Game."**

Decide whether to use the up to 50 or up to 100 game board. Choose 2 volunteers to model the game as you give directions.

- The players place their playing pieces at 0 on the game board.
- They take turns. For each turn the players roll the dice, add the dots together, then move their playing pieces the corresponding number of spaces.
- The children name the numbers they land on.
- The game ends when the first player reaches 50 or 100.

Note: For demonstration purposes, once a player moves his or her playing piece, the player chooses a classmate to name the number he or she landed on. It is not necessary to finish the game. The children will play "The Number Grid Game" during **Day 5** Learning Centers.

Formative Assessment

Number Stories

Distribute a math bag to each child. The children remove the plastic bags containing coins.

Ask: **If you want to buy a balloon that costs 12 cents, what coins could you use to pay for it? Take the coins out of your bags and count out 12 cents.** Walk around as the children do this to assess their understanding.

Choose volunteers to name combinations of 12 (12 pennies, 2 nickels and 2 pennies, 1 dime and 2 pennies, and 1 nickel and 7 pennies).

Create additional number stories that require the children to form coin combinations to 20 using their pennies, nickels, and dimes.

Magic ☆ Math Moment

Counting Between Numbers

Say: **Let's practice counting, but instead of starting with one, let's start with 14 and count to 18. Ready?** Count together with the children from 14 to 18.

Continue: **Now you try. This time start at 11 and count to 15.** The children do this.

Say: **Let's count again. This time we will start at 20 and count backward to 16.** Count backward with the children from 20 to 16.

Continue: **Now you try. This time start at 17 and count backward to 13.** The children do this.

Note: Indicate the numbers on the Number Line as you and the children count.

Counting & Cardinality

A.2 - Count forward from a given number.

B.4a - Say number names in order, pairing each object with one number.

CC.3 - Count backward from a given number.

CC.6 - Identify odd and even numbers.

Money

M.1 - Identify the value of coins.

Introduce Quarter and Review Coin Values

Materials

☐ *Backpack Bear's Math Big Book*, pages 13-15

☐ Bag of coins containing 1 quarter, 25 pennies, 5 nickels, and 2 dimes

☐ Bingo Coin Cards

☐ Prepared game spinner

Essential Question: How can knowing the name and value of a penny, nickel, dime, and quarter help us in the real world?

1 Review the Penny, Nickel, and Dime and Introduce the Quarter

Say: **Let's review the coins we have learned so far.** (penny, nickel, dime)

Review *Backpack Bear's Math Big Book*, pages 13-15

Ask: **Who knows the name of a coin that is worth 25 cents? (**Volunteers respond.**) Right, it is a quarter.**

Turn to page 14 and introduce the quarter by reciting the rhyme and then having the children repeat the rhyme with you.

2 Combinations of Coins That Equal a Quarter

Gather the children in a semi-circle on a rug or the floor. Indicate your bag of coins. Say: **I have a bag of coins.**

Indicate the quarter. Say: **This is a quarter. A quarter is worth twenty-five cents. If a penny is worth one cent, how many pennies would it take to make twenty-five cents? Right, it would take twenty-five pennies to equal twenty-five cents.** Count out 25 pennies and have the children count with you.

Write 25 pennies = 1 quarter on the whiteboard.

Indicate a nickel and ask: **How much is a nickel worth? (**Volunteers respond.**) Right, a nickel is worth five cents. Let's see how many nickels it takes to make twenty-five cents. Since nickels are worth 5 cents we can count by fives. Use your fingers as we count to keep track of how many nickels or fives it takes.**

Raise one finger for each set of fives as you count with the children. Write 5 nickels = 1 quarter on the whiteboard.

Indicate a dime.

Ask: **How much is a dime worth? Right, a dime is worth 10 cents. Let's see how many dimes it takes to make twenty-five cents. Since a dime is worth 10 cents we can count by tens.** (Count 10, 20.)

Ask: **Are two dimes enough to make twenty-five cents? (**Volunteers respond.**) No, two dimes are only twenty cents. Let's try adding one more.**

Count 10, 20, 30. Say: **Oh no! Two dimes are not enough, and three dimes are too many. What can we do to make twenty-five cents?**

Lead the children to discover that two dimes and one nickel or two dimes and five pennies both equal twenty-five cents. Write both combinations on the board.

③ Introduce "Coin Bingo"

Distribute a "Coin Bingo" card and a math bag to each child. Say: **You will use the connect cubes from your math bags for this game.**

Choose a volunteer to spin the spinner and identify the coin it lands on.

Say: **Look for a (**name of coin**) on your Bingo card. If you have one, place a connect cube on it.**

The volunteer chooses the next volunteer to spin. The game continues until a child covers a complete row.

Explain: **The first one to cover a complete row, horizontally, vertically, or diagonally (**indicate**), is the winner.**

Formative Assessment

Play "Coin Bingo"

The children play "Coin Bingo." Observe their coin recognition skills as they play.

Magic ❄ Math Moment

My Coin Book 1

Gather the children around a classroom computer navigated to *Starfall.com,* Addition & Subtraction: "My Coin Book 1."

The children take turns finding the combinations for a given number.

Counting & Cardinality

B.4 - Understand the relationship between numbers and quantities.

Operations & Algebraic Thinking

A.1 - Represent addition and subtraction in a variety of ways.

Review Numbers and Sets 10 Through 20

Materials

☐ *Backpack Bear's Math Workbook #2*, pages 37, 38, and 39

☐ Pencils, crayons, scissors, glue sticks

1 Review Numbers 10 Through 20

Say: **Let's review the numbers from 10 to 20.** Lead the children to do this both orally and by having volunteers write the numerals on the whiteboard.

Formative Assessment

Workbook Page 39

Distribute *Backpack Bear's Math Workbook #2* and math mats. Instruct the children to turn to page 39. Check to be sure they have the correct page.

Say: **Carefully tear out page 39.** Assist as needed.

When all of the children have done this say:

- **Cut the boxes apart on the dotted lines, and place them on your math mat.**
- **Turn to page 37. Use a pencil to trace the numbers on this page.**
- **Look at the first number of this page. What is the number?** (10) **Right, 10.**
- **Find the box on your math mat that has 10 objects and glue that box in the space next to the number it matches.**

Instruct the children to complete the remainder of the page. When they finish, they turn to page 38 and follow the above directions to complete it in the same way.

As the children complete their workbook pages, partner them to compare their answers.

The children may color the objects as time allows. If you think the children will complete the pages quickly, you may set up "mini" activity centers for them while the other children complete their work.

Learning Centers

1 Computer

The children explore:

- Monthly calendar
- Add & Subtract: Coin Book: 0-10
- Add & Subtract: Place Value

Children may navigate to other *Starfall.com* math activities after they have explored those suggested above.

Counting & Cardinality

A.3 - Write numbers from 0 to 20.

B.4 - Understand the relationship between numbers and quantities.

Operations & Algebraic Thinking

A.1 - Represent addition and subtraction in a variety of ways.

Number & Operations In Base Ten

A.1 - Understand numbers 11-19 are ten ones plus more ones.

Money

M.1 - Identify the value of coins.

2 "Coin Town" Game

Materials

☐ "Coin Town" game board and coin spinner

☐ 1 cup (bank) of coins) pennies, nickels, dimes)

☐ 1 empty cup for each player

The children take turns to spin then move their playing pieces to the next coin equal to the amount shown on the spinner.

The child identifies the coin, takes the same coin out of the bank, and puts it into his or her own bank (cup).

At the end of the game, the children sort their coins and compare how many of each they have.

3 "Count to 50" Number Grid Game

Materials

☐ "Number Grid Game: Count to 50" game board

☐ Playing piece for each player

☐ Dominoes

The children place the dominoes face down. They place their playing pieces at 0 on the game board.

For each turn the player turns over a domino and adds together the dots on both sides then moves his or her playing piece the corresponding number of spaces.

Play ends when the first player reaches 50.

Note: For a more challenging game use the Count to 100 side of the game.

4 **Teacher's Choice**

Review or expand a skill from this unit according to the needs of your students.

5 **Summative Assessment:**
Number Representations

Flash a Number Card between 5 and 10.
The children create sets to represent the
number using connect cubes.

Repeat for Number Cards 11 through 20. The children
create sets of 10 (connecting a group together) and ones for these numbers.
Record results on the Summative Assessment Checklist for Unit 12, Week 29.

Materials

☐ Box of connect cubes

☐ Number Cards
5 through 20

☐ Summative
Assessment Checklist
for Unit 12, Week 29