**Bringing Learning Alive!**

Bringing Math Alive Units

**Grade 2 – Number Concepts Unit**

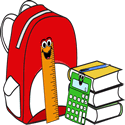
This comprehensive unit Includes:

* **14** lessons to cover listed outcomes

Each lesson includes:

* + Detailed lesson plans
  + Choice of interactive math strategies/ games
  + Choice of differentiated worksheets & tasks
* Unit Assessments
* Unit Concept Based-Projects

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Bringing Math

Alive!



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**Specific Learner Outcomes:**

**1. Say the number sequence 0 to 100 by: • 2s, 5s and 10s, forward and backward, using starting points that are multiples of 2, 5 and 10 respectively**

**• 10s, using starting points from 1 to 9**

**• 2s, starting from 1.**

Achievement Indicators

* Extend a given skip counting sequence (by 2s, 5s or 10s) forward and backward.
* Skip count by 10s, given any number from 1 to 9 as a starting point.
* Identify and correct errors and omissions in a given skip counting sequence.
* Count a given sum of money with pennies, nickels or dimes (to 100¢).
* Count quantity, using groups of 2, 5 or 10 and counting on.

**2. Demonstrate if a number (up to 100) is even or odd.**

Achievement Indicators

* Use concrete materials or pictorial representations to determine if a given number is even or odd.
* Identify even and odd numbers in a given sequence, such as in a hundred chart.
* Sort a given set of numbers into even and odd.

**3. Describe order or relative position, using ordinal numbers (up to tenth).**

Achievement Indicators

* Indicate a position of a specific object in a sequence by using ordinal numbers up to tenth.
* Compare the ordinal position of a specific object in two different given sequences.

**4. Represent and describe numbers to 100, concretely pictorially and symbolically.**

Achievement Indicators

* Represent a given number, using concrete materials such as ten frames and base ten materials.
* Represent a given number, using coins (pennies, nickels, dimes and quarters).
* Represent a given number, using tallies.
* Represent a given number pictorially.
* Represent a given number, using expressions; e.g., 24 + 6, 15 + 15, 40 – 10.
* Read a given number (0–100) in symbolic or word form.
* Record a given number (0–20) in words.

**5. Compare and order numbers up to 100.**

Achievement Indicators

* Order a given set of numbers in ascending or descending order, and verify the result, using a hundred chart, number line, ten frames or by making references to place value.
* Identify and explain errors in a given ordered sequence.
* Identify missing numbers in a given hundred chart.
* Identify errors in a given hundred chart.

**6. Estimate quantities to 100, using referents.**

Achievement Indicators

* Estimate a given quantity by comparing it to a referent (known quantity).
* Estimate the number of groups of ten in a given quantity, using 10 as a referent.
* Select between two possible estimates for a given quantity, and explain the choice.

**7. Illustrate, concretely and pictorially, the meaning of place value for numerals to 100.**

Achievement Indicators

* Explain and show with counters the meaning of each digit for a given 2-digit numeral with both digits the same; e.g., for the numeral 22, the first digit represents two tens (twenty counters) and the second digit represents two ones (two counters).
* Count the number of objects in a given set, using groups of 10s and 1s, and record the result as a 2-digit numeral under the headings 10s and 1s.
* Describe a given 2-digit numeral in at least two ways; e.g., 24 as two 10s and four 1s, twenty and four, two groups of ten and four left over, and twenty-four ones.
* Illustrate, using ten frames and diagrams, that a given numeral consists of a certain number of groups of ten and a certain number of ones.
* Illustrate, using base 10 materials, that a given numeral consists of a certain number of tens and a certain number of ones.
* Explain why the value of a digit depends on its placement within a numeral.

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**Lesson 2 – Reading and Writing Numerals to 100**

Materials

- whiteboards/ markers

- cards (A-9)

- 10-sided die

*Objectives:*

* Read numerals to 100.
* Write numerals to 100.

**Introduction**

1. Have 2 students come up to the front of the room. Give each student a card to hold in front of them (A-9). Have another student come up to the front of the room and arrange the students to create the largest number possible. Have all other students give a thumbs up if they agree or a thumbs down if they disagree. Have the student who did the arranging explain their thinking.
2. Have a student read the number aloud.
3. Continue with more examples to review reading number in the tens. If students are struggling, take away the tens place value and just have them read 1 digit numbers. Then slowly add back the tens.
4. Have 1 student call out the number 1 and tag another person. That person will call out 2, and tag, etc. This is just so that students can practice saying numbers verbally to 100.
5. To modify the above game, start with one student. The students will say “one” or “one, two.” They will tag the next student. That student can say either “two” or “two, three.” Etc.

For example:

Bob says “one.” Bob tags Sally. Sally says “two, three.” Sally tags Sarah. Sarah says “four, five.” Sarah tags Emily. Emily says “six.” Etc.

1. Hand out a place value mat to all students. Call out a number and have the students write the number into the chart. Put a place

value mat on the overhead. Ask a student to write the answer on the overhead and discuss how they knew where to put the numbers in the chart. Continue with more examples. After each example, have students verbally say their number aloud. Try to get students to come up with a rule. For example, when there is a 3 in the tens column, I know the number is thirty- something.

**Activities**

1. Have a variety of materials out for building numbers. For example, plasticine, popsicle sticks, toothpicks, macaroni. Have the students build 5, 2-digit numbers using these materials.

* At each centre: deck of cards (A = 1 through 9)
* Student flips over 2 cards
* Student build number using materials at the centre
* Ex: Flips 34. Student will count out 34 macaroni. Variation – Student will build 34 out of macaroni…they will create a “3” and a “4” using macaroni noodles.
* Next centre, students flips 73. Student will count out 73 Cheerios.

1. Hand out a whiteboard and markers to each student. Call out a number and have the students write the number in numerals on their whiteboard. Have student hold up their boards and check answers. Or you can put the students into pairs. Have one student call out the number and the partner will write it down in numerals. Continuing in pairs, have one partner write a number in numerals on their whiteboard and the other partner will say the number out loud. Continue as needed. If more guidance is needed, model a number on the board and have the students copy the number onto their whiteboards. Ask students what number they wrote.
2. Choose a Mover and Shaker activity.
3. Number Battles – Place students into pairs. Each pair needs a deck of cards (A-9). Pairs must split the cards equally. Each player will flip over 2 cards and rearrange to create the greatest

2-digit number. The player who has the greatest number will say their number out loud. If they say the number correctly, then they collect all the cards. The object of the game is to collect the most cards in the deck.

1. Numbers to 100 – Place students into pairs or groups. Each player will roll the 10-sided die 4 times and try to build the largest number by placing each number into the place value

chart. If a player does not like a number, they may place it into the *junk it* column and re-roll on their next turn. Each player must say their number out loud. Player will score one point if their number is the highest.

1. Choose worksheets for your students to complete to reinforce the previous activities. Either allow students to select a worksheet appropriate for their level, or the teacher may choose sheets suitable for an individual or the entire class.

**Closure**

1. Mark and discuss worksheets. Do necessary corrections.
2. Math Journal – Have students get into pairs. Have one partner say a number out loud and the other partner will write the number into their journals then switch.



Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

##### Lesson 2 – Reading and Writing Numerals to 100

Place Value Mat

|  |  |  |  |
| --- | --- | --- | --- |
| **Tens** | **Ones** |  | **Number** |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

##### Lesson 2 – Reading and Writing Numerals to 100

Numbers to 100!

Mover & Shaker (b)

**Directions:** Roll the 10-sided die 4 times. Try to build the largest number by placing each number into your place value chart. If you do not like a number, you may place it into the **junk it** column and re-roll on your next turn. Each player must say their number out loud. You will score one point if your number is the greatest.

# Points

|  |  |  |  |
| --- | --- | --- | --- |
| **Tens** | Ones | **Junk Its** | **Number** |
|  |  | \_\_\_\_ \_\_\_\_ |  |
|  |  | \_\_\_\_ \_\_\_\_ |  |
|  |  | \_\_\_\_ \_\_\_\_ |  |
|  |  | \_\_\_\_ \_\_\_\_ |  |
|  |  | \_\_\_\_ \_\_\_\_ |  |

**Thinkers:**

1. Out of all of your numbers, which was the largest number? How do you know?

2. Out of all of your numbers, which was the smallest number? How do you know?

##### Lesson 2 – Reading and Writing Numerals to 100

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Worksheet A

1. Copy each number into the box below, using your best printing.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|  |  |  |  |  |  |  |  |  |  |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
|  |  |  |  |  |  |  |  |  |  |
| 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
|  |  |  |  |  |  |  |  |  |  |
| 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 |
|  |  |  |  |  |  |  |  |  |  |
| 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 60 |
|  |  |  |  |  |  |  |  |  |  |

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

##### Lesson 2 – Reading and Writing Numerals to 100

Worksheet B

1. Write a number to show each picture.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |
|  |  |  |  |  |

2. Match each number. Say each number out loud as you match.

13 14

56 31

78 66

50 13

45 78

32 98

31 20

98 45

66 32

20 50

14 56

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

##### Boy Carrying Big Yellow PencilLesson 2 – Reading and Writing Numerals to 100

Worksheet C

1. Read each of the following. Write the number suggested.

a) 10 less than 90 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b) 4 more than 51 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

c) 5 less than 53 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

d) 10 more than 29 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

e) 3 more than 10 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

f) 2 less than 30 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. Draw a picture to represent each number.

|  |  |  |
| --- | --- | --- |
|  |  |  |
| 14 | 10 | 22 |

**Lesson 2 – Reading and Writing Numerals to 100**

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Worksheet D

1. Read each of the following. Write the number suggested.

a) 4 less than 9 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b) 6 more than 21 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

c) 2 less than 63 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

d) 10 more than 89 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. Mystery Number – Read each statement and solve for the mystery number.

a) I am a 2-digit number. My tens place is 3. My ones place is less than my tens place. What numbers could I be?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b) I am a 2-digit number. My tens place is greater than 7. My ones place is less than 2. What numbers could I be?

\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

c) Create your own mystery number problem. Show your solution.

**Lesson 2 – Reading and Writing Numeral to 100 (Answer Key)**

##### Worksheet A – Pg. 24

1. Look at students writing to ensure they have copied each number correctly.

Look for any reversals, for example 3, and correct as required.

**Worksheet B – Pg. 25**

1. 6, 7, 8, 2, 6
2. Ensure numbers are matched correctly.

13 14

56 31

78 66

50 13

45 78

32 98

31 20

98 45

66 32

20 50

14 56

**Worksheet C – Pg. 26**

1. a) 80 b) 55 c) 48 d) 39 e) 13 f) 28
2. draw 14 objects draw 10 objects draw 22 objects

**Worksheet D – Pg. 27**

1. a) 5 b) 27 c) 61 d) 99
2. a) 32 b) for ex. answers could be: 91, 90, 81, 80

c) Answers will vary – for ex. I am a 2-digit number. My tens place is less than 2. My ones place is NOT 8. What number could I be?