

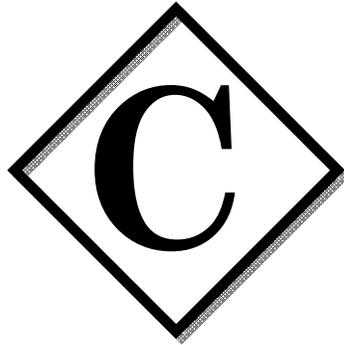
**RESOURCE PACK**

**CSS Early Standard**

***MATHEMATICS***

*for*

***PREP / KG***



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## **Number (Counting 0 to 50)**

### **Teaching objectives:**

- ✧ To practice counting up to 50 items.
- ✧ To revise writing numbers up to 50.

### **Learning outcomes:**

Students should be able to:

- ✧ Accurately count up to 50 items.
- ✧ Write numbers up to 60.

### **Materials required:**

- ✧ Drawings of sets of up to 50 shapes or simple objects.
- ✧ Some adhesive material.
- ✧ Mini-whiteboards, markers and erasers.
- ✧ Picture flashcards of up to 50 items.
- ✧ CSS early standard mathematics Book C (page # 3)

### **Introduction:**

Revise numbers from 1–50 by counting round the class. Draw on the board sets of between ten and forty simple shapes, e.g. triangles, circles, etc., and ask students to count them and write the number next to each set.

### **Student activity:**

Ask the students to open their books at page #3 and do the first exercise together. Give the students a set amount of time to complete the other exercises before checking their work as a class.

### **Review:**

Give each student a mini-whiteboard, marker and eraser. Explain that you are going to show them one of the flashcards and they should count the

objects and write the correct number on their whiteboard. When you say, they should hold their answer up for you to see. Make sure you allow enough time for them to count the items on the flashcard.

## **Backward Counting (Counting 50 to 0)**

### **Teaching objectives:**

- ✧ To revise writing an ascending series of numbers from 1–50 in sequence.
- ✧ To revise writing a descending series of numbers from 1–50 in sequence.
- ✧ To revise before, after, and between.

### **Learning outcomes:**

Students should be able to:

- ✧ Complete a written sequence of ascending numbers from 1–50.
- ✧ Complete a written sequence of descending numbers from 50–1.
- ✧ Say which number is before, after or between given numbers.

### **Materials required:**

- ✧ A ball.
- ✧ Flashcards of numbers 1–50.
- ✧ Some adhesive material.
- ✧ CSS early standard mathematics Book C (pages # 4,5,6,7)

### **Introduction**

Ask the students to stand in a circle and play the ball game to practice counting from 1–50 and from 50–1. Fix the flashcard 1 on the board and ask the students to take turns to come and fix the next number until the sequence to 50 is complete. Revise the terms before and after by pointing to a number and asking the students to tell you which number comes before or after it. Repeat this activity, starting with flashcard 50 and arranging the cards in descending order.

**Student activity**

Ask the students to open their books at page 4. Explain the task and before the students begin to write, ask them to point to each box and say which number they will write in it. Make sure they follow the directions of the arrows for each sequence.

Give the students a set amount of time to complete the other exercises before checking their work as a class. Ask them to look at pages #5,6,7 and work through the exercises together.

**Review:**

Do the activity on pages # 5,6,7 of the book.

**SOLVED ASSESSMENT AS ON PAGE # 5**

**What comes before? (0 to 50)**

<u>1</u> , 2	<u>4</u> , 5	<u>7</u> , 8
<u>10</u> , 11	<u>15</u> , 16	<u>18</u> , 19
<u>20</u> , 21	<u>24</u> , 25	<u>29</u> , 30
<u>32</u> , 33	<u>35</u> , 36	<u>37</u> , 38
<u>40</u> , 41	<u>42</u> , 43	<u>44</u> , 45
<u>46</u> , 47	<u>47</u> , 48	<u>49</u> , 50

**SOLVED ASSESSMENT AS ON PAGE # 6**

**What comes after? (0 to 50)**

11, <u>12</u>	31, <u>32</u>	33, <u>34</u>
5, <u>6</u>	15, <u>16</u>	25, <u>26</u>
17, <u>18</u>	27, <u>28</u>	47, <u>48</u>
37, <u>38</u>	43, <u>44</u>	9, <u>10</u>
26, <u>27</u>	16, <u>17</u>	45, <u>46</u>
39, <u>40</u>	19, <u>20</u>	7, <u>8</u>
29, <u>30</u>	49, <u>50</u>	14, <u>15</u>

**SOLVED ASSESSMENT AS ON PAGE # 7**

**What comes between? (0 to 50)**

36, 37, 38

39, 40, 41

43, 44, 45

48, 49, 50

46, 47, 48

16, 17, 18

33, 34, 35

41, 42, 43

21, 22, 23

12, 13, 14

## **Place Values (Ones and Tens)**

### **Teaching objectives:**

- ✧ To revise counting in tens from 10–30.
- ✧ To introduce the numbers forty and fifty.
- ✧ To practice counting in tens from 10–50.

### **Learning outcomes:**

Students should be able to:

- ✧ Count in tens from 10–30.
- ✧ Begin to use the numbers forty and fifty correctly.
- ✧ Begin to count in tens from 10–50.

### **Materials required:**

- ✧ Number and picture flashcards for 10–50.
- ✧ Enough small items, e.g. plastic bottle tops, counters for each pair/group of 3 students to have 12 items.
- ✧ CSS early standard mathematics Book C (pages # 8, 9, 10, 11, 12, 13, 14, 15, 16)

**Introduction:**

Use the flashcards to revise the numbers 10, 20, and 30. Fix the cards on the board and ask students to match the pictures and numbers. Revise the facts that:

- ✓ 10 represent one group of ten and no extra ones;
- ✓ 20 represent two groups of ten and no extra ones;
- ✓ 30 represent three groups of ten and no extra ones.

Show the students the picture for 40; bring about that it is four groups of ten and no extra ones, and ask the students to suggest how the number is written. Draw two boxes on the board headed tens and ones and ask a student to write the number on the board, and explain that it is forty. Repeat this for 50 as well.

**Student activity:**

Ask the students to open their books at pages 8. Look at each illustration in turn, count how many 10s each shows and practice saying the name of the number.

Say a number of tens and ask the students to point to the correct picture. If the students are confident enough with the names of the numbers, say a number and ask them to point to the correct illustration.

**Review 1:**

This activity will help students to count in tens and also enable them to see what a fifty items looks like. Divide the class into 10 small groups. Give each group 12–15 of the small items and ask each group to make a group of ten. Clear a space on a table or tray at the front of the class and ask each group in turn to bring their set of ten items. As each set is added, count in tens till a fifty is reached.

**Review 2:**

Do the activity on pages # 9, 10, 11, 12, 13, 14, 15, 16 of the book.

**SOLVED ASSESSMENT AS ON PAGE # 9**

**Write how many tens and ones are there?**

<b>(a)</b>	<b>Tens</b>	<b>Ones</b>	<b>(b)</b>	<b>Tens</b>	<b>Ones</b>
	4	5		4	5
<b>(c)</b>	<b>Tens</b>	<b>Ones</b>	<b>(d)</b>	<b>Tens</b>	<b>Ones</b>
	3	8		4	0

**SOLVED ASSESSMENT AS ON PAGE # 10**

<b>Tens</b>	<b>Ones</b>	Match the similar number from ones and tens.	<b>Tens</b>	<b>Ones</b>
3				7
4				5
5				0
1				4
2				1
1				9
3				3
4		In place value ones or tens both can have same numbers but its value is different.		1
2				2

**SOLVED ASSESSMENT AS ON PAGE # 11**

**Write the number of ones and tens at their correct place**

10	<u>1</u> tens <u>0</u> ones		29	<u>2</u> tens <u>9</u> ones
32	<u>3</u> tens <u>2</u> ones		39	<u>3</u> tens <u>9</u> ones
40	<u>4</u> tens <u>0</u> ones		48	<u>4</u> tens <u>8</u> ones
50	<u>5</u> tens <u>0</u> ones		39	<u>3</u> tens <u>9</u> ones
26	<u>2</u> tens <u>6</u> ones		17	<u>1</u> tens <u>7</u> ones
11	<u>1</u> tens <u>1</u> ones		30	<u>3</u> tens <u>0</u> ones

## **Number Counting (0 to 90)**

### **Teaching objectives**

- To revise and practice counting from 0 to 99.

### **Learning outcomes:**

- ✧ Students should be able to:
- ✧ Recognize numbers to 99.
- ✧ Count from 1 to 99.

### **Materials required:**

**Note:** Before this lesson ask each student to bring to the class a number of readily available items, e.g. plastic bottle tops, pebbles, buttons etc.; each student should bring enough so that the total will be 100. For example, if there are 20 students in the class, each should bring 5 items, but the teacher should collect a few spares incase students forget or are unable to provide them.

- ✧ A soft ball.
- ✧ 10 bundles of 10 items, e.g. pencils; number, word and picture flashcards for 60–100.
- ✧ A clear plastic bowl or a tray.
- ✧ Sets of student number, word and picture cards 10–100.
- ✧ Wall chart for 1–100.
- ✧ CSS early standard mathematics Book C (page # 17)

### **Introduction:**

Play the ball game to practice counting from 1–50. Use the bundles of ten items and the number flashcards to revise the numbers 60, 70, 80, 90, and 100. Write the number and written forms of the numbers on the board. Ask students to write other numbers between 50 and 100 e.g. 83, 77, etc. and explain how many tens and ones make up each number.

Place the bowl or the tray on a table and ask the students to bring the items they have collected and take turns to put them in the bowl/on the tray. As they do so, the students should count from 1–100. This activity will remind students of how large a number 100 is.

**Student activity:**

Ask the students to open their books at page 17. Ask them to look at the grid and identify any patterns in the numbers in the horizontal and vertical rows of figures.

Bring about that there are ten rows of ten numbers because a hundred is made up of ten groups of ten. Give each student a grid and ask them to write in the numbers from 1–100 so that it is the same as the one on page 17.

**Review:**

Do the activity on page # 17 of the book.

**SOLVED ASSESSMENT AS ON PAGE # 17**

**Write counting from 0 to 99.**

0	1	2	3	4	5	6	7	8	9
10	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	41	42	43	44	45	46	47	48	49
50	51	52	53	54	55	56	57	58	59
60	61	62	63	64	65	66	67	68	69
70	71	72	73	74	75	76	77	78	79
80	81	82	83	84	85	86	87	88	89
90	91	92	93	94	95	96	97	98	99

## **Numbers Name (Spelling 1 to 50)**

Follow the instructions from the book.

### **Ordinal Numbers**

#### **Introduction:**

In this unit, students are introduced to the ordinal numbers 1<sup>st</sup> to 10<sup>th</sup>. By the end of the unit, students should be able to recognize ordinal numbers in figures and words use ordinal numbers to rank things, and order the months of the year.

#### **Pre-assessment activity:**

- ✧ Carry out this activity in the corridor, or on the school field, or running track. Mark start and finishing lines and ask students to race against each other to see who is the fastest.
- ✧ Say ‘Go’ to start the race and give the first 10 pupils to finish ordinal number cards corresponding to their positions. As each pupil finishes, say, e.g. ‘Congratulations! You are first!’ and hand him/her the card that says ‘1st’. In the same way, give the cards to each student according to their positions.
- ✧ Ask students to stand in a line in order from 1<sup>st</sup> to 10<sup>th</sup> and hold up their ordinal number cards.
- ✧ Point to each student in turn and ask the students to repeat the ordinal numbers 1<sup>st</sup> to 10<sup>th</sup>.

### **More Activities for Ordinal Numbers**

#### **Activity 1:**

- ✧ Line up 10 objects (like book, pencil eraser, ruler, and sharpener) on a table at the front of the room.

- ✧ Pick up the first object and ask students to repeat after you ‘1<sup>st</sup>’.
- ✧ Place the flashcard 1st in front of the object.
- ✧ Repeat for all 10 items and flashcards.
- ✧ Ask students to point to the items and cards and recite the ordinal numbers 1<sup>st</sup> to 10<sup>th</sup> three times.
- ✧ Ask questions, e.g. ‘In which position is the eraser?’

### **Activity 2:**

- ✧ Play a game of ‘Steal the object’.
- ✧ Ask students to form 2 groups of 10 and stand in 2 rows of 10 on either side of the room, facing each other. Tell them who is 1<sup>st</sup> and who is 10<sup>th</sup> in line and ask them to call out their positions in the line in order from 1<sup>st</sup> to 10<sup>th</sup>.
- ✧ Place an object between the 2 rows of students.
- ✧ When the students are ready, call out a position and the students in that position should run forward to steal the ‘object’.
- ✧ The student who steals the ‘object’ and run back to his group scores a point for the group.
- ✧ The group with the most points at the end of the game wins.

### **Activity 3:**

- ✧ Line up 10 different objects on the floor in front of the class.
- ✧ Identify the objects in first and tenth position.
- ✧ Ask a student to stand behind e.g. the fourth object. The rest of the class checks if he is correct.
- ✧ Repeat for different positions and students until there is a pupil behind each object.

### **Activity 4:**

- ✧ Show students flashcards of different sets of objects and ask them to identify and count the objects, e.g. 5 cakes, 7 shoes, etc.

- ✧ Show the students how to arrange them in order from 1st to 5th, starting with the largest set, e.g. 10 items, 8 items 7 items, 5 items 2 items.
- ✧ Write above each flashcard 1st, 2nd, 3rd, 4th, 5th respectively.

**Activity 5:**

- ✧ Show students a calendar and explain that it shows the months of the year.
- ✧ Show the first page and ask students to say, ‘The first month of the year is January.’
- ✧ Introduce all the months in the same way; each time, pupils should repeat,
  - a. “The second month of the year is February.
  - b. “The third month of the year is March.
  - c. “The fourth month of the year is April.
  - d. “The fifth month of the year is May.
  - e. “The sixth month of the year is June.
  - f. “The seventh month of the year is July.
  - g. “The eighth month of the year is August.
  - h. “The ninth month of the year is September.
  - i. “The tenth month of the year is October.
  - j. “The eleventh month of the year is November.
  - k. “The twelfth month of the year is December.
- ✧ Bring about that the last month is December and that there are 12 months in one year.

**Review:**

Do the activity on pages # 31 and 32 of the book.

# Assessment



Match the ordinal numbers with their numerical presentations.

First		2 <sup>nd</sup>
Second		1 <sup>st</sup>
Third		6 <sup>th</sup>
Fourth		7 <sup>th</sup>
Fifth		4 <sup>th</sup>
Sixth		5 <sup>th</sup>
Seventh		3 <sup>rd</sup>
Eighth		9 <sup>th</sup>
Ninth		10 <sup>th</sup>
Tenth		8 <sup>th</sup>

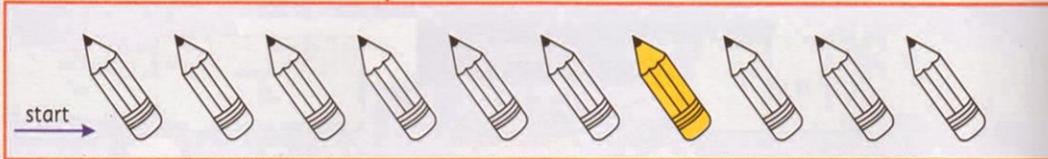
The image shows a matching exercise. On the left, there are ten boxes with ordinal numbers: First, Second, Third, Fourth, Fifth, Sixth, Seventh, Eighth, Ninth, and Tenth. On the right, there are ten boxes with numerical presentations: 2<sup>nd</sup>, 1<sup>st</sup>, 6<sup>th</sup>, 7<sup>th</sup>, 4<sup>th</sup>, 5<sup>th</sup>, 3<sup>rd</sup>, 9<sup>th</sup>, 10<sup>th</sup>, and 8<sup>th</sup>. Green lines connect the boxes to show the correct matches: First to 1<sup>st</sup>, Second to 2<sup>nd</sup>, Third to 3<sup>rd</sup>, Fourth to 4<sup>th</sup>, Fifth to 5<sup>th</sup>, Sixth to 6<sup>th</sup>, Seventh to 7<sup>th</sup>, Eighth to 8<sup>th</sup>, Ninth to 9<sup>th</sup>, and Tenth to 10<sup>th</sup>.

# Assessment

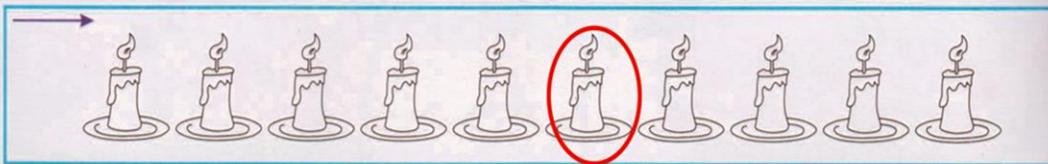
Follow the instruction and colour the object.  
First one is done for you.



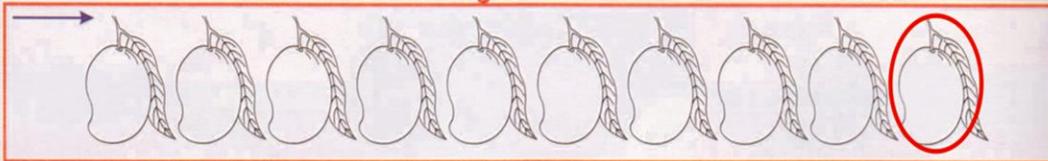
a) Colour the 7<sup>th</sup> pencil.



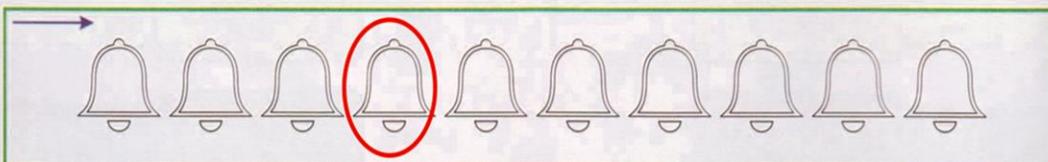
b) Colour the 6<sup>th</sup> candle.



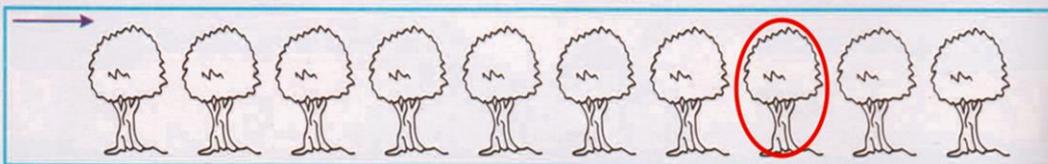
c) Colour the 10<sup>th</sup> mango.



d) Colour the 4<sup>th</sup> bell.



e) Colour the 8<sup>th</sup> tree.



## One to One Correspondence

### **Introduction:**

**One-to-One correspondence** is a foundational math skill for preschoolers. It can take months or even an entire year for preschoolers to master this skill. For this reason it is important to provide your students with plenty of opportunities to practice **one-to-one** all year long.

### **Objective:**

Use **one-to-one correspondence** to solve problems by matching sets and comparing number amounts and in counting objects to 10 and beyond and to recognize the number of objects in small groups without counting and by counting.

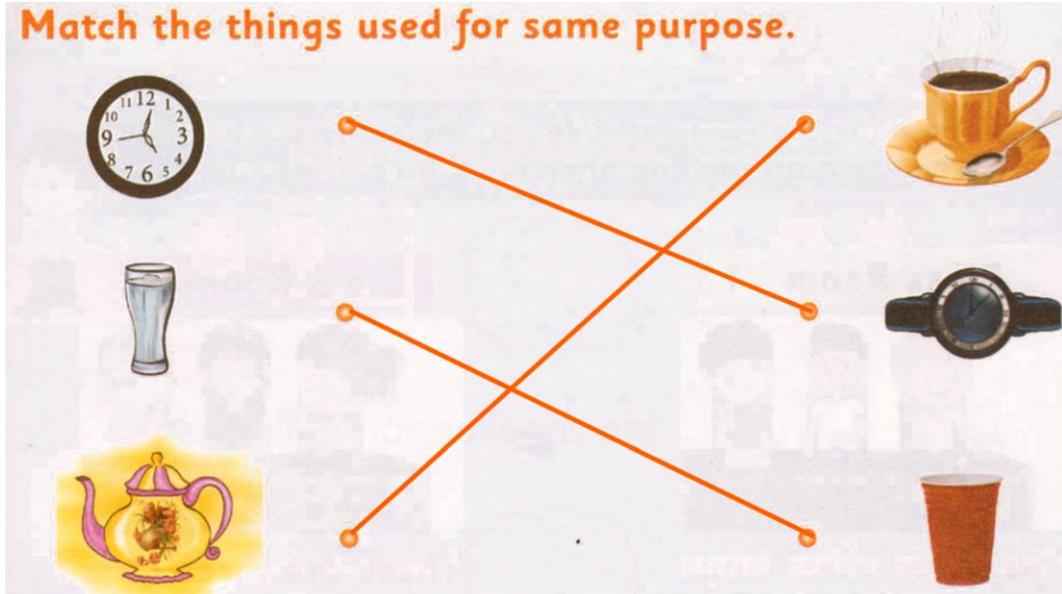
### **Teaching Methodology:**

- **Count a lot.** Make a counting game out of everyday activities whenever you think of it. Count the chairs as you set the table, the blocks as you build a tower, the books as you read aloud, and the train cars as you chug along the track. Preschoolers love to count!
- **Count objects in a line.** Toddlers and young preschoolers are easily confused when you ask them count a jumble of objects in a pile; they often count objects twice. Begin simply by putting a small number of objects in a line and asking your child to count them. Begin with just two or three objects; when your child consistently gets that number correct, add more.
- **Move the same objects around, and count again.** Take the objects out of a line and scatter them. Have your child count them. Then push them together in a very tight line. Ask your child to count once more. Eventually your child will understand that rearranging a group of objects does not change their total number.

- **Count motions.** Have your child count as you clap or hop. If this is difficult, have your child set out one counter for each movement. He can count the counters after you are finished.

**Review:**

Do the activity on page # 33 of the book.



**Equal to**

Follow the instructions from the book.

**Review:**

Do the activity on page # 35 of the book.

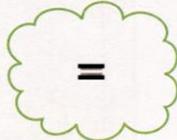
**SOLVED ASSESSMENT AS ON PAGE # 35**

Place a sign of “=” in the bubble and write in the given space if they are equal otherwise put “x” in the bubble and write not equal in the space.

# Assessment

Place a sign of “=” in the bubble and write “equal” in the given space if they are equal otherwise put (x) in the bubble and write not equal in the space.

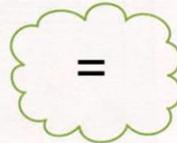
a)



Number of dogs are

equal

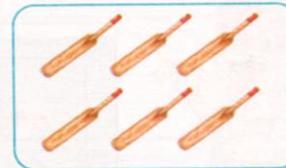
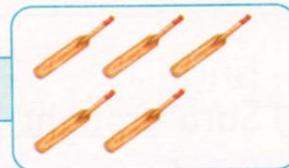
b)



Number of objects are

equal

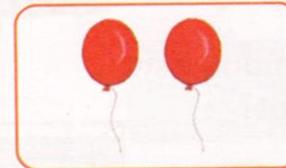
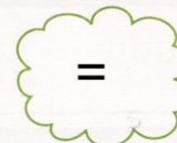
c)



Number of bats are

not equal

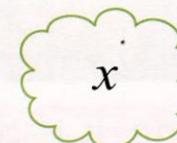
d)



Number of balloons are

equal

e)



Number of ducks are

not equal