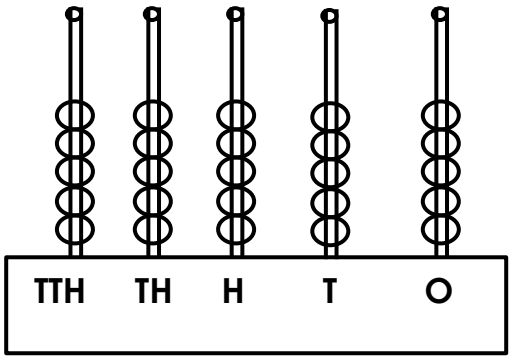
#CREATIVE PRINTERS 0703745068

LESSON NOTES (Theme based)

SUBJECT: ___MTC_____ CLASS: __P.4__ TERM:_1_YEAR:_2023__

Theme	TOPIC / Theme & class	Teachable unit / deliverable lesson
Numeracy	WHOLE NUMBERS	**Reading whole numbers up to 99,9999** **Steps** ✓ Use an abacus to identify place values of digits bin a given number. ✓ Arrange the beads on the abacus following digits in 12,345.  ✓ Use the idea of place values on the abacus to read the numbers formed. ✓ Count the first 3 digits from right to left and put a comma. ✓ Read the first two digits from left together as; **twelve thousand, three hundred forty five.** ✓ Continue using the idea of place values to read other numbers on sight. **Examples.** 9,999, 10,001, 10,002, 10,003, 10,004, 10,005, 10,006, 10,007, 10,008, 10,009, 10,010, 10,011, 10,012, 10,013, 10, 014, ……..99, 999.

Count numbers in descending order.

Descending order means arranging numbers from the biggest to the smallest.

1. Descend the following numbers.

3 1 2 4
87,643, 99,420, 98,678, 80,007

99,420, 98,678, 87,643, 80,007

1 4 3 2 5
2. 99,089, 99,086, 99,087, 99,086, 99, 085

99,089, 99,088, 99,087, 99,086, 99, 085

Filling in the missing numbers.

i) 78,123, 78,124, 78,125, _____ , _____

ii) 99,786, 99,787, 99,788, 99,789, 99,790, 99,791

activity

1. Read following numbers.

88,888, 88,889, 88,890, 88,891
88,892, 88,893, 88,894, 88,895
88,896, 88,897, 88,898, 88,899
88,900.

2. Arrange numbers in descending order.

i) 66,980, 66,988, 66,981, 66,982, 66981

66,984, 66,985, 66,983, 66,984, 66,986 66,984

ii) 31,000, 36,000, 33,000, 38,000, 32,000

34,000, 35,000, 37000, 39,000.

3. Write the number before.

i) _____, 99,999, ii) _____, 99,992, iii) _____, 66,464

4. Fill in the missing numbers correctly.

i) 99,001, 99,002, 99,003, _____, _____, _____, _____.

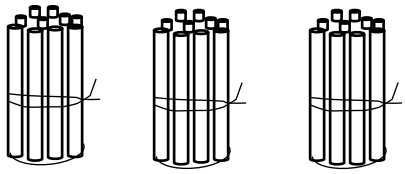
ii) 99,815, 99,816, 99,817, _____, _____, _____, _____.

iii) 22, 111, 22,112, 22,113, 22,114, _____, _____, _____, ____.

Counting whole numbers in 10s up 99,999.

Steps.

- ✓ Collect straws/ sticks as many as you can.
- ✓ Use threads, banana fibres or rubber bands and tie the straws or sticks in bundles to tens as shown.



10 + 10 + 10 = 30

- ✓ Use the bundles of tens to count in 10s.

Examples

10, 20, 30, 40, 50, 60, 70, 80, 100, 110, 120, 130, 140, 150, 160, 170, 180, 190, 200, 210, 220, 230, 240, 250, 260, 270, 280, 290, 290, 200, 310, 320, 230, 240, 310, 320, 330, 340, 350, ___, ___, ____, 1000.

1000, 1010, 1020, 1030, 1040, 1050, 1060, 1070, 1080, 1090, 1100, 1110, 1120, 1130, 1140, 1150, 1160, 1170, 1180, ……10,000.

99,860, 99,870, 99,880, 99,890, 99,900, 99,910, 99,920, 99,930, 99,940, 99,950, 99,960, 99,970, 99,980, 99,990.

Counting 10s in ascending order.

(Ascending order is arranging numbers from the smallest to the biggest)

- 88,810, 88,820, 88,830, 88,840, 88,850 …….
- 77,910, 77,920, 77,930, 77,940, _____, _____, _____.
- 33,310, 33, 33,320, 33,330, 33,340, 33350

Comparing numbers

1 Which is greater?

a) 8810 or 8880

<u>8880 is greater.</u>

b) 99,990 or 99,900

99,990 is greater.

2. Which number is less?

a) 80 or 800?

80 is less.

b) 70, 010 or 70, 100?

70,100 is less

Activity

1. Count and fill in the missing numbers.

a) 10,010, 10,020, 10,030, _____, _____, _____.

b) 10,900, 10,910 , _____, _____, _____

c) 99,200, _____, _____, 99,230, 99,240.

d) 87,000, 87,010, _____, _____, 87,040.

2. Which number is greatest?

i) 70,040 0r 70,400?

_____

ii) 81,000 or 80,100 ?

_____

ii) 81,000 or 80,100?

_____

iii) 99,901 or 90,910

_____

3. Arrange the number in ascending order.

i) 59,040, 59,060, 59,030, 59, 020, 59,050, 59,010.

ii) 90,000, 90,190, 90,080, 90,70, 90,200, 90,060, 90,050, 90,040, 90,030.

Counting whole numbers in 100s up to 99,999.

Note. (100 = ten 10s)

		Examples. 100, 200, 300, 400, 500, 600, 700, 800, 900, 1100, 1200, 1300, 1400, 1500, 1600, 1700, 1800, 1900, 2000, 2100, 2200, 2300, 2400, 2500, 2600, 2700, 2800, 2900, 3000, 3100, 3200, 3300, 3400, 3500, 3600, 3700, 3800, 3900, 4000, 4100, 4200, 4300, 4400, 4500, 4600, 4600, 4700, 4800, 4900, 5000, ……10,000. 90,000, 90,100, 90,200, 90,300, 90,400, 90,500, 90,600, 90,700, 90,800, 90,900. **Activity** Fill in the missing numbers. 1. 11,100, 11200, 11300, _____, _____, _____, _____ 2. 23,500, 23,400, 2300, _____, _____. 3. 45,200, 45,300, 45,400, 45,500, _____, _____, _____. 4. 67,400, 67500, 67600, _____, _____, _____, _____ 5. 79,100, 79,200, 79,300, _____, _____, _____, _____. 6. 52,300, 52,400, 52,500, 52,600, _____, _____, _____, _____, _____. 7. 84,500, 84,600, _____, _____, _____, _____ 8. 99,900, 99,800, _____, _____. **Counting whole numbers in 1000s up to 99,999** **Examples.** 1000, 2000, 3000, 4000, 5000, 6000, 7000, 8000, 9000, 10,000, 11,000, 12,000, 13,000, 14,000, 150,000, 160,000, 17,000, 18,000, 19,000, 20,000, 21,000, 22,000, 23,000, 24,000, 25,000, 26,000, 27,000, 28,000, 29,000, 30,000, …… 80,000. 80,000, 81,000, 82,000, 83,000, 84,000, 85,000, 86,000, 87,000, 88,000, 89,000, 90,000, 91,000, 92,000, 93,000, 94,000, 95,000, 96,000, 97,000, 98,000, 99,000.

Counting 1000s ij ascending order.

Ascending order means arranging numbers from the smallest to the biggest.

Ascend the following numbers.

8 1 5 4 6
78,000, 71,000, 75,000, 74,000, 76,000

3 2 7 9
73000, 76000, 72000, 77000, 79000

71000, 72000, 73000, 74000, 75000, 76000, 77000, 78000,79000

Counting in descending order.

Descending order

(Arranging numbers from biggest to smallest)

1 6 5 3 2 4
97000, 91000, 92000, 94000, 95000, 93000, 97000, 95000, 94000, 93000, 92000, 91000

Activity

1. Ascend the following numbers.

59000, 56000, 57000, 54000, 53000, 55000, 58000, 51000, 52000.

2. Descend the numbers given below.

91000, 92,000, 98,000, 97,000, 93,000, 94000, 95000, 96,000, 99,000.

3. Fill in the following correctly.

i) 51000, 52000, _____, _____, 55000

ii) 7500, 7600, 7700, 78000, 79000, _____, 81000, _____, _____, 84000, _____.

iii) 61000, 62000, _____, _____, _____, 66000

iv) 91000, 92000, 93000, _____, _____, _____

4. Which is the greatest number

i) 990,001 or 100,000?

ii) 79000 or 97000?

5. Which is the least number?

i) 52000 or 25000?

ii) 48000 or 84000?

iii) 99000 or 9000

Place values of 5 – digit numbers.

Note:

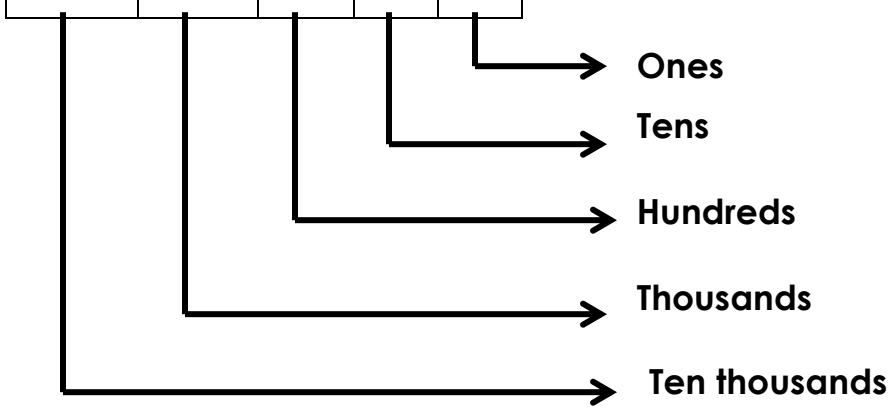
- ✓ A place value is a position name of a digit.
- ✓ When writing a place value, start with a capital letter and end with letter "s".
- ✓ When giving place value of digits, begin with the right hand side going to the left hand side.
- ✓ To find the place value of a digit of a number, arrange digits in the place value table starting from the right.

Examples

Write the place value of each digit in the number 54093.

Here, first draw a place value table and in it place the digits.

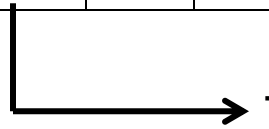
TTH	Th	H	T	O
5	4	0	9	3



EXAMPLE2

What is the place value of 7 in 97520?

TTH	Th	H	T	O
9	7	5	2	0



:- The place value of 7 in the number 97520 is thousands.

Example3

Give the place value of the underlined digit in the number 23<u>9</u>07.

TTH	Th	H	T	O
9	7	5	2	0

→ **Hundreds**

:- The place value of the underlined digit is Hundreds.

Activity

1. Write the place value of the each digit in the following numbers.

a) 367 b) 6708 c) 48623

2. Give the place value of the underlined digit.

a) 8̲94 b) 92527̲ c) 6036̲

3. Find the place value of 5 in the number 35862.

4. Write the place value of 6 in 3678.

Values of 3 – 4 digit numbers.

- ✓ Value is a product of of a digit and its place value (Position name)
- ✓ To get the value of a number, we multiply the digit by its place values.

Examples

Give the value of each digit in the number 725

H	T	O
7	2	5

Ones → 5x1 = 5

Tens → 2x10 = 20

Hundreds → 7x100 = 700

Examples

What is the value of each digit in the number 6427

Th	H	T	O
6	4	2	7

Multiply each digit by its place value

Ones → 7x1 = 7

Tens → 2x10 = 20

Hundreds → 4x100 = 400

Thousands → 6x1000 = 6000

Example3

Write the value of 6 in the number 8603.

Th	H	T	O
8	6	0	3

Hundreds

6 x 100

600

:- The value of 6 in the number 8603 is 600.

Activity

1. Give the value of each digit in the number below.

a) 439 c) 2643

b) 1037 d) 592

2. Write the value of the underlined digit.

a) 4̲70

b) 38̲75

3. Find the value of 9 in the number 39̲02

4. Give the value of 8 in the 8342.

Value of 5 digit numbers.

Example1

Give the value of each digit in the number 52467.

TTH	Th	H	T	O
5	2	4	6	7

Multiply each digit by its place value

Ones → 7x1 = 7

Tens → 6x10 = 60

Hundreds → 4x100 = 400

Thousands → 2x1000 =

Thousands → 56x10,000 = 50,000

Example 2

Write the value of 5 in the number 85276.

TTH	Th	H	T	O
8	5	2	7	6

Multiply 5 by its place

5 x 1000

5000

Therefore the value of 5 in 85276 is 5000.

Activity

1. Give the value of each digit in the number.

a) 37405 b) 82543

c) 4039

2. Find the value of the underlined digit.

a) 27<u>6</u>3 b) <u>9</u>4635

3. Write the value 4 in the number 42937

4. Give the value of 5 in 35078

Expanding 3 – 4 digi numbers using place values.

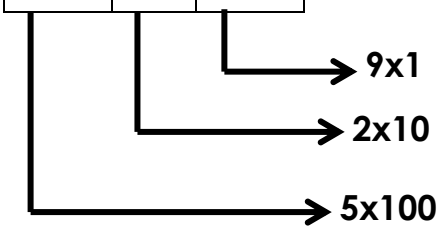
Steps

- ✓ Give place value of each digit.
- ✓ Multiply the required digitby corresponding place value of the same number.

Examples

Expand 529 using place values.

H	T	O
5	2	9

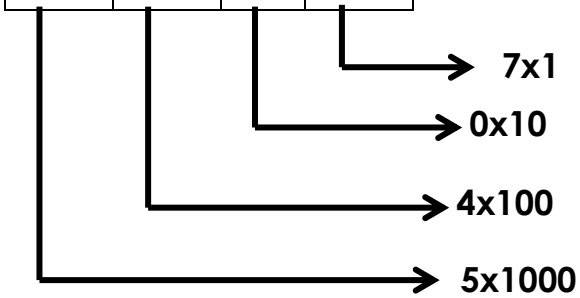


:- 529 = (5x100) + (2x10) + (9x1)

Examples 2

Write 5407 in expanded form using place values.

Th	H	T	O
5	4	0	7



Therefore 5407 = (5x1000) + (4x100) + (0x10) + (7x1)

Activity

Write the following numbers in expanded form using place values.

a) 265

b) 4728

c) 7149

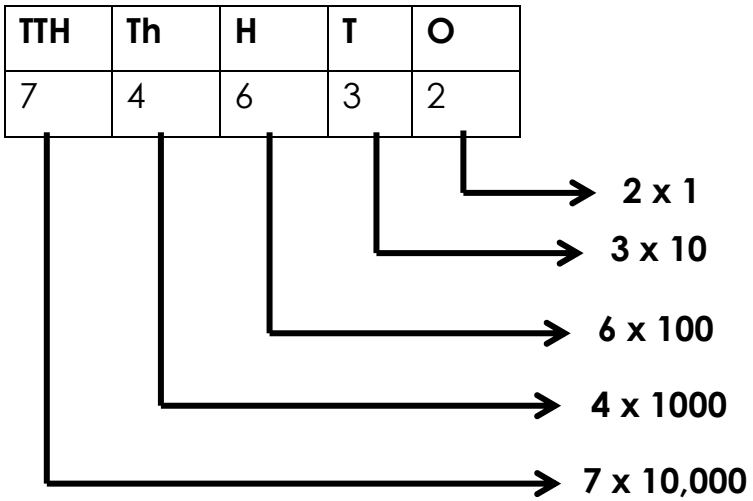
d) 968

e) 4826

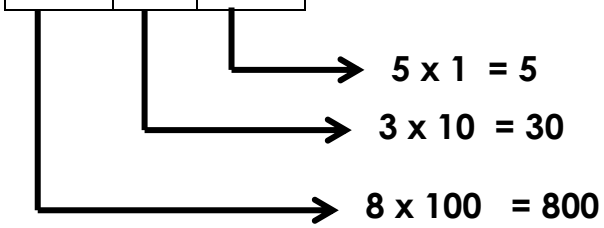
Expanding 5 digit numbers using place values.

Steps

- ✓ Draw a place value table
- ✓ Give the place value of each digit.

		✓ Multiply the required digit by the corresponding place value of the same number. **Example** Expand 74632 using place values.  Therefore 74632 = (7x10,000) + (4x1000) + (6x100) + (3x10) + (2x1) **Activity** 1. Write the following in expanded form using the place values. a) 432 b) 49045 c) 67403 d) 5497 e) 92346 **Expanding 3 – 4 digit using values.** **Step.** ✓ Draw a place value table ✓ Give the place value of each digit. ✓ Multiply the required digit by the corresponding place value of the same number. ✓ Get an accurate product as a value. **Example** Expand 835 using values.

H	T	O
8	3	5

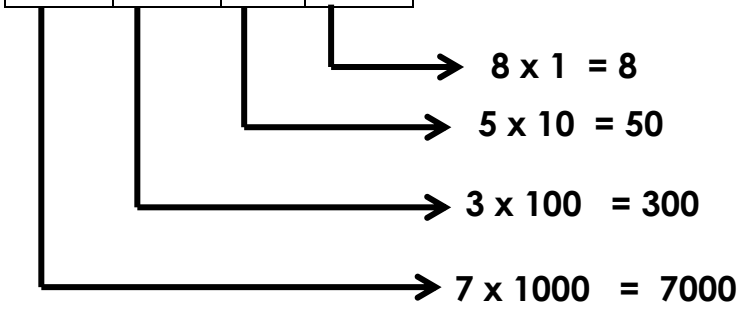


Therefore 835 = 800 + 30 + 5

Example 2

Write 7358 in expanded form using values.

Th	H	T	O
7	3	5	8



:- 7358 = 7000 + 300 + 50 + 8

Activity

Write the following digits in expanded form using values.

a) 934

b) 6785

c) 346

d) 3264

e) 9387

f) 3729

Expanding 5 – digit numbers using values.

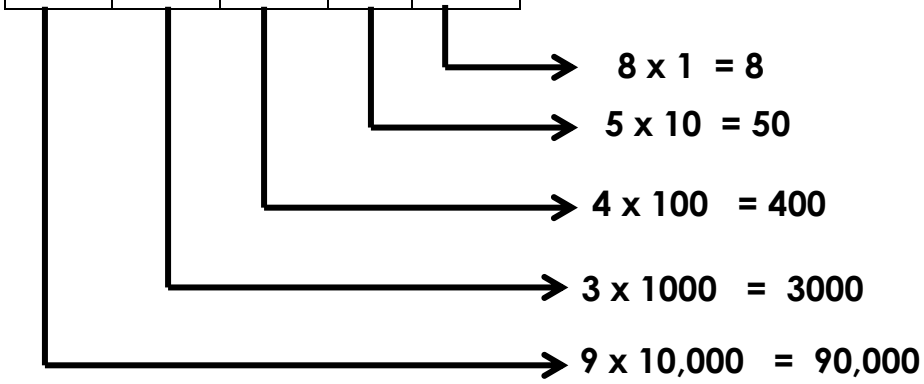
- ✓ Draw a place value table
- ✓ Give the place value of each digit.

- ✓ Multiply the required digit by the corresponding place value of the same number.
- ✓ Get an accurate product as a value.

Example

Expand 93458 in value form.

TTH	Th	H	T	O
9	3	4	5	8



:- 93458 = 90,000 + 3000 + 400 + 50 + 8

Activity

Write the following numbers in expanded form using values.

a) 1268

b) 74826

c) 39427

d) 8436

e) 89723

f. 42698

Writing in short form (place values)

Steps

- ✓ Multiply correctly
- ✓ Arrange vertically according to place value.
- ✓ Get the sum of the product

Examples.

Write the short form of the given numbers.

(5x1000) + (7x100) + (8x10) + (3x1)

(5x1000) + (7x100) + (8x10) + (3x1)

5000 + 700 + 80 + 3

5 000

700

80

\+ 3

5, 783

Example 2

What number has been expanded to get

(4x10000) + (7x100) + (3x10)

(4x10,000) + (7x100) + (3x10)

40,000

700

\+ 30

40,730

Activity

Find the number that has been expanded to get:

a) (3x100) + (5x10) + (7x1)

b) (9x100) + (8x1000) + (2x100) + (7x10) + (3x1)

c) (6x1000) + (9x10) + (2x1)

d) (6x10,000) + (7x100) + (9x10)

e) (4x1000) + (8x1)

f) (8x100) + (9x1000) + (3x10)

writing in short form(values)

To find the short form of the given number, arrange the values vertically in descending order and then add.

Example

Write the number below in short form.

60000 + 7000 + 400 + 90 + 3

60,000
7000
400
+ 90
3
67,493

Example 2

What number has been expanded to get.

80,000 + 90 + 300 + 7

80,000
300
90
80,397

Activity

Write the following numbers in short.

a) 4000 + 900 + 70 + 6

b) 80,000 + 500 + 9000 + 8

c) 4000 + 700 + 30

d) 300 + 60000 + 90 + 5

e) 2000 + 300 + 70 + 9

f) 50,000 + 900 + 3000 + 4

g) 7000 + 900 + 20

Writing numbers in words.

Steps.

- ✓ Consider the place value of each digit.
- ✓ Place the numbers in the place value table.
- ✓ Read the thousands first, then the hundreds, lastly the tens and ones together.

Example

Write 8312 in words

Th	H	T	O
8	32	1	2

8000 + 300 + 12

Eight thousands, three hundred twelve.

Example 2

Write 84025 in words.

TTH	Th	H	T	O
8	4	0	2	5

84000 + 25

Eighty four thousands twenty five.

Example 3

Annet bought a dress at sh. 34500. Write this price in words.

TTH	Th	H	T	O
3	4	5	0	0

34000 + 500

Thirty four thousands, five hundred.

Activity

1. Write the following numbers in words.

a) 562

b) 1405

c) 24649

d) 25360

e) 57037

2. There are 362 pupils in our school. Write the number of pupils in words.

3. Peter sold a goat at sh. 95600. Write the price of the goat in words.

Write numbers in figures.

Steps

- ✓ Consider the place values and value of each digit.
- ✓ Add the values vertically and correctly.
- ✓ The sum is the figure.

Example

Write seven thousand three hundred sixteen.

Seven thousand ⟶ 7000

Three hundred ⟶ 300

Sixteen + 16

7316

Example 2

Mr. Lule bought a coat at forty five thousand, nine hundred shillings. Write the cost of the coat in figures.

Forty five thousands ⟶ 45000

Five hundred ⟶ + 500

Sh. 45,500

Activity

1. Write the following in figures.

a) Three hundred ninety six.

b) Nine thousand forty nine.

c) Twenty three thousand four hundred sixty eight.

d) Five thousand nine hundred fifty two.

e) Forty nine thousand, nineteen.

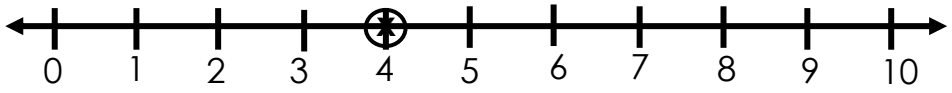
2. Mugaga has six hundred twenty seven heads of cattle. Write the number of heads he has in figures,

3. One of the candidates got ninety four thousand three hundred sixty five votes during elections. Write the number of votes he got he got in figures.

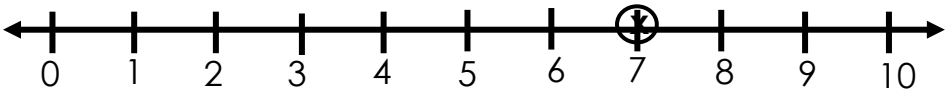
Introduction to Roundoff. (identifying the position of numbers on a number line)

A number line is a line in which all points correspond to the numbers.

Study the number line below.

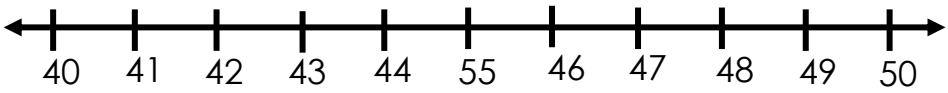


Four (4) is nearer to 0 than 10.



7 is nearer to 10 than to 0

5 is in the middle/ between 0 and 10.



- 47 is nearer to 50 than to 40
- 42 is nearer to 40 than to 50

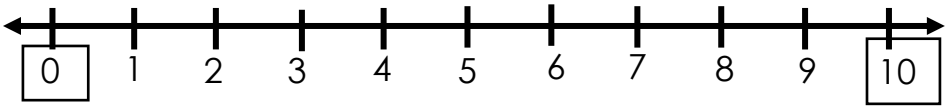
NOTE:

The numbers nearer to 0 than 10 are {1,2,3,4}

The numbers nearer to 10 than 0 are {5,6,7,8,9}

Activity

1. Use a number line below to complete the S statement.



a) 2 is nearer to _____ than to _____

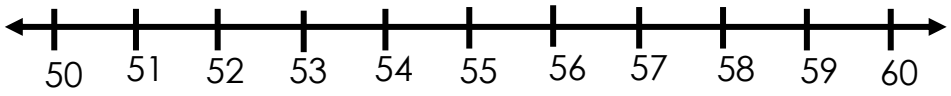
b) 8 is nearer to _____ than to _____

c) 3 is nearer to _____ than to _____

d) 1 is nearer to _____ than to _____

e) 6 is nearer to _____ than to _____

2.



a) 52 is nearer to _____ than to _____

b) 59 is nearer to _____ than to _____

c) 56 is nearer to _____ than to _____

d) 54 is nearer to _____ than to _____

e) 57 is nearer to _____ than to _____

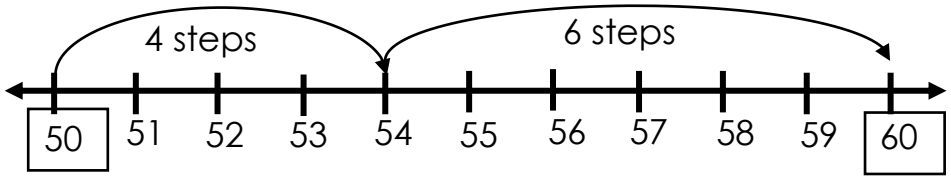
Rounding off to the nearest 10s (tens)

Rounding off is the process of approximating a number to a nearby number.

- ✓ To round off numbers to the nearest tens, we consider the digits in the ones place value.
- ✓ If the digit in the ones place value is {1,2, 3, 4} round down.
- ✓ If the digit in the ones place value is 5, 6, 7, 8, 9 round up.

Example

Round off 54 to the nearest tens



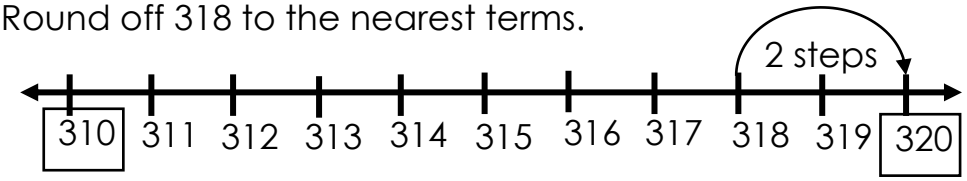
54 is nearer to 50 than to 60

So we round it down to 50.

Therefore 54 is rounded to 50.

Example 2

Round off 318 to the nearest terms.



318 is nearer to 320 than to 310.

So we round it off to 320

Therefore 318 is rounded up to 320.

Activity

Draw a number line for each of the following and round off to the nearest tens.

a) 72 c) 376 e) 794

b) 83 d) 549 f) 646

g) 245

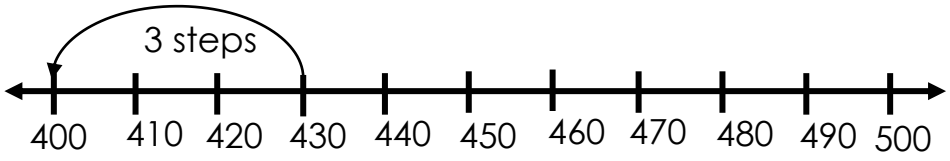
Rounding off to the nearest Hundreds.

Rounding off is the process of approximating a number to a nearer by number.

- ✓ To round off numbers to the nearest hundreds, consider the value of the digit in tens place value.
- ✓ If the value of the digit in the tens place value is 10, 20, 30, or 40, round down.
- ✓ If the value of the digit in tens place value is 50, 60, 70, 80, or 90, round up.

Example

Round off 430 to the nearest hundreds.

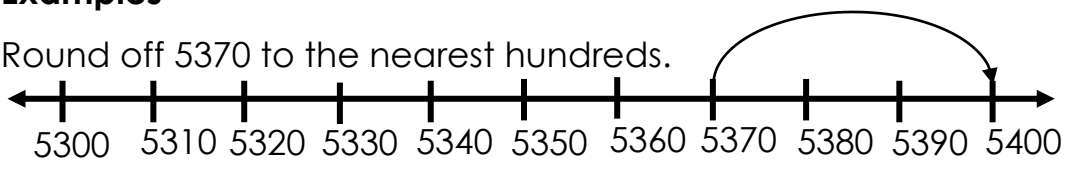


430 is nearer to 4000 than 500. So we round it off to 400.

Therefore 430 is rounded down to 400.

Examples

Round off 5370 to the nearest hundreds.



5370 is near to 5400 than 5300. So we round it up to 5400.

Therefore 5370 is rounded off to 5400.

Activity

Draw a number line for each of the following and round off to the nearest hundreds.

a) 220 d) 830

b) 350 e) 3970

c) 680 f) 4310

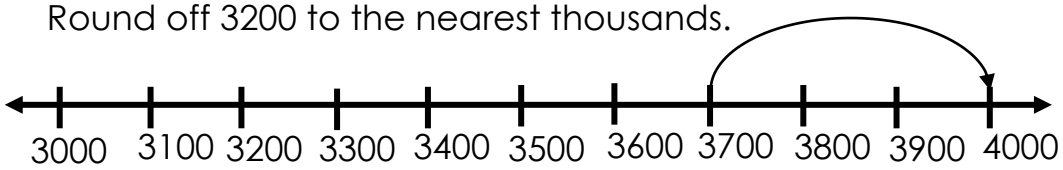
g) 830

Round off to the nearest thousands.

- ✓ To round off numbers to the nearest thousands, consider the volume of the digit in the hundreds place volume.
- ✓ The digits after the required place volume must be zeros only.

Examples

Round off 3200 to the nearest thousands.

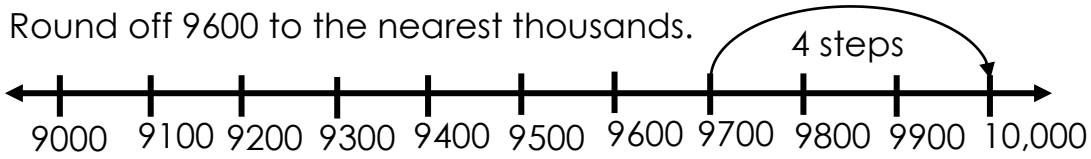


3200 is nearer to 3000 than 4000. So we round it down.

Therefor 3200 is round off to 3000.

Example 2

Round off 9600 to the nearest thousands.



9600 is nearer to 10,000 than to 9000 so we round it up.

Therefore 9600 is rounded off to 10,000.

Activity

Round off the following to the nearest thousands using a number line for each.

a) 4500

b) 1600

c) 5400

d) 2600

e) 8200

f) 7300

Roman numerals

Reading Roman numerals.

- ✓ Roman numerals are numeral system that originate from Rome.
- ✓ Only capital letters are used in writing Roman numerals.
- ✓ 1(I), 5 (V) and 10(x) are some of the key Roman numerals.

Counting from 1 to 10 in Roman numerals.

Hindu Arabic	Roman numeral
1	I
2	II
3	III
4	IV
5	V
6	VI
7	VII
8	VIII
9	IX
10	X

- ✓ To write 2,3 and 20 in Roman numerals repeat 1 or X. i.e.

2 = II 20 = XX

3 = III

- ✓ To write 6,7,8,11,12 and 13, add to 5 or 10. i.e.

6 = (5 +1) 8 = (5 + 3) 12 = (10 +2)

VI VIII XII

7 = (5 +2) 11 = (10 + 1) 13 = (10 +3)

VII XI XIII

- ✓ To write 4, subtract 1 from 5 i.e. 4 = (1 from 5)

IV

		✓ To write 9, subtract 1 from 10 i.e. 9 = (1 from10) IX **Converting Himdu Arabic numerals to Roman numerals.** **Steps.** ✓ Write in value expanded form. ✓ Give the correct letter that corresponds with Hindu Arabic. **Examples.** Change 14 to Roman numerals. 14 = 10 + 4 10 = X + 4 = IV 14 = XIV **Example 2** My mother is 20 years old. Express her age in Roman Numerals. 20 = XX = XX years. **Activity** Express the following in Roman Numerals. a) 3 d) 11 b) 19 e) 18 c) 16 f) 4 2. Our hen has 9 chicks. Write the number of chicks in Roman numerals. 3. There are 15 trees in the school compound. If they are numbered in Roman numerals, what will be written on the 15th tree? 4. My brother is 17 years old. Express his age as Roman numeral. **Converting Roman numerals to Hindu Arabic numerals.** **Examples** Express XII as a Hindu Arabic numeral.

XII

X = 10

II = + 2

XII = 12

Example 2

The last page on a magazine has XIX as its page number. Write it in Hindu Arabic numerals.

XIX

X = 10

+ IX = 9

XIX = 19

Activity

1. Express the following as Hindu Arabic numerals.

a) IX d) XX

b) XVI e) VII

c) XIV f) XVIII

2. The symbol on Vincent's jersey is XV. Write the symbols on Vincent's Jersey in Hindu Arabic numerals.

3. The label VII. Write the symbol on the door in Hindu Arabic numerals.