**FIRST TERM SCHEME OF WORK 2024/2025**

**WEEK TOPIC/CONTENT**

1. **WHOLE NUMBERS**
2. Counting and writing in millions, billions and trillions
3. Applying the counting, writing and reading of large numbers in everyday life
4. **EXERCISE IN FOUR BASIC OPERATIONS**
5. Additions, subtractions, multiplications and divisions with use of place values
6. **FRACTIONS I**
7. Meaning and identification of fractions
8. Reduction of fractions to its lowest terms
9. Equivalent fractions
10. Arranging fractions in ascending and descending order
11. **FRACTIONS II**
12. Convert fractions to decimals
13. Convert decimals to fractions
14. Convert fractions to percentages
15. Convert percentages to fractions
16. **DECIMAL FRACTIONS**
17. Meaning of decimal fractions
18. Relationship between fractions and decimals
19. **FACTORS AND MULTIPLES**
20. Prime numbers and prime factors
21. Index form
22. Common Factors and Highest Common Factors
23. Lowest Common Multiples
24. **ESTIMATION**
25. Estimate the dimensions and distances within the school within the school
26. Estimate the statistics of people
27. **RANGE OF COST OF VARIOUS ARTICLES**
28. Estimation of articles
29. Relationship between estimated prices and real prices
30. **NUMBER BASES I**
31. Counting in Base 2
32. Addition and subtraction in Base 2
33. **NUMBER BASE II**
34. Multiplication of numbers in Base 2
35. Convert Base 10 numbers to binary
36. **PERCENTAGES I**
37. Changing percentages to decimals
38. **PERCENTAGES II**
39. REVISIONS
40. EXAMINATIONS

**FIRST LESSON PLAN FOR WEEK ONE ENDING 13TH SEPTEMBER 2024**

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| --- | --- |
| **THEME:** | Numbers |
| **DATE**: | 09 – 09 – 2024 |
| **CLASS**: | JSS1 |
| **TIME**: | 8:00am - 08:40am |
| **DURATION** | 40 minutes |
| **PERIOD** | 1 |
| **SUBJECT**: | Mathematics |
| **UNIT TOPIC:** | Whole Numbers |
| **LESSON TOPIC:** | Counting of whole numbers |

**SPECIFIC OBJECTIVE**: By the end of the lesson, learners should be able to

1. Discuss the basis of counting
2. State basis of counting
3. Describe the roman numerals

**INSTRUCTIONAL RESOURCES:** Charts showing whole number

**LESSON PRESENTATION**

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| **STAGES** | **TEACHERS ACTIVITIES** | | STUDENTS ACTIVITIES | MODE |
| **STEP 1** | **PREVIOUS KNOWLEDGE:** The students are conversant with numbers and number systems | | Students recall. | Individual |
| **STEP 2** | **EXPLORATION:**  The teacher introduces the topic with the following questions:   1. Express 27 in tally system 2. Write in XLV in figures | | Students make attempt to answer the questions | Group |
| **STEP 3** | **DISCUSSION:**  **Counting of numbers**  It is likely that mathematics began when people started to count and measure. Counting and measuring are part of everyday life.  Ancient people used fingers and toes to help them count or group numbers in different number bases. This led them to collect numbers in groups: sometimes 5s (fingers of one hand), sometimes 10s (both hands) and even in 20s (hands and feet). When people group numbers in 5s, we say they use a base five method. The most common bases used were five, ten and twenty. For example, a person with thirty two cows would say ‘I have six fives and two cows’ when counting in **base ten.** The most widely used base is base ten also called the denary system.  **Other bases of counting: seven and sixty**  7 days = 1 week  60 seconds = 1 minute  60 minutes = 1 hour  In English, **‘dozen’** means 12, **‘score’** means 20 and **‘gross’** means 144  **System of Counting**   1. **Tally System**   Tally marks were probably the first numerals.  The ancient people employed tally marks to count large numbers. The tally marks were scratched on stones or sometimes cut on sticks but today we use tally marks to count or record large data, especially in statistics.  A tally mark of 5 is written by putting a line across a tally count of 4.  i.e = 4 and = 5   1. **Roman numerals**   The Romans used capital letters of the alphabets to represent numbers. Many people believe that the Romans used the fingers to represent numbers as follows:  I for one finger, II for two fingers, III for three fingers, V for five fingers and X for the combination of two hands ( or two V’s) .  The Roman also used L for fifty, C for hundred, D for five hundred and M for one thousand as shown below.   |  |  |  |  | | --- | --- | --- | --- | | Hindu-Arabic | Roman Numeral | Hindu-Arabic | Roman Numeral | | 1 | I | 20 | XX | | 2 | II | 40 | XL | | 3 | III | 50 | L | | 4 | IV | 60 | LX | | 5 | V | 90 | XC | | 6 | VI | 100 | C | | 7 | VII | 400 | CD | | 8 | VIII | 500 | D | | 9 | IX | 900 | CM | | 10 | X | 1000 | M | | | Students listen attentively and take down notes. | Group |
| **STEP 4** | **APPLICATION:**  Draw the tally marks for each of the following numbers:   1. 34 (b) 15   Solution   1. 34 = 2. 15 =   Show the how the following conversions can be made   1. IV means V- I i.e. 5- 4 = 4 2. VI means V+ I, i.e. 5 + 1 = 6 3. IX means X- I, i.e. 10 – 1 = 9 4. XXIV means XX + IV = 20 + 4 = 24 5. CD means D- C = 500 – 100 = 400 6. MC means M + C = 1000 + 100 = 1100 | | Students ask questions on the topic which the teacher answers. | Group |
| **STEP 5** | **EVALUATION:** The teacher evaluates the students using the following:   1. Discuss the basis of counting 2. State basis of counting 3. Describe the roman numerals | | The students answer the questions. | Group |
| **Assignment**   1. Write the following Roman figures in natural ( or counting) numbers: 2. MMMCLIV (b) MMCDLXXI (c) MCMIX (d) DCCCIV 3. Write the following natural numbers in Roman figures: 4. 2659 (b) 1009 (c) 3498 (d) 1584       **References**  **New Concept Mathematics for Junior Secondary Schools 1 by A.A ARIGBABU et al**  **New General mathematics for junior secondary schools 1 by M.F Macrae et al** | |  |  |

**SECOND LESSON PLAN FOR WEEK ONE ENDING 15TH SEPTEMBER 2024**

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| **THEME:** | Numbers |
| **DATE**: | 11– 09 – 2024 |
| **CLASS**: | JSS1 |
| **TIME**: | 8:00 am - 8:40 am |
| **DURATION** | 40 minutes |
| **PERIOD** | II |
| **SUBJECT**: | Mathematics |
| **UNIT TOPIC:** | Whole Numbers |
| **LESSON TOPIC:** | Counting in large numbers |

**SPECIFIC OBJECTIVE**: By the end of the lesson, learners should be able to

1. Describe the counting board
2. Explain place value of numbers
3. Count and write in millions and billions

**INSTRUCTIONAL RESOURCES:** Charts

**LESSON PRESENTATION**

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| --- | --- | --- | --- | --- |
| **STAGES** | **TEACHERS ACTIVITIES** | | STUDENTS ACTIVITIES | MODE |
| **STEP 1** | **PREVIOUS KNOWLEDGE:** The students are conversant with counting and writing of numbers | | Students recall. | Individual |
| **STEP 2** | **EXPLORATION:**  The teacher introduces the topic with the following questions:   1. What is abacus? 2. What is the place value of 4 in 1236453? 3. Express CV in figures? | | Students make attempt to answer the questions. | Group |
| **STEP 3** | **DISCUSSION:**   1. **The Counting board**   A counting board is a block of stone or wood ruled in columns. Loose counters, pebbles, stones or seeds in the columns show the value of the numbers in the columns.  Counters in the right-hand column (U) represent units, counters in the next column (T) represent tens, and so on.   |  |  |  |  | | --- | --- | --- | --- | | TH | H | T | U | |  |  |  |  | |  |  |  |  | |  |  |  |  | |  |  |  |  | |  |  |  |  | |  |  | ●●● | ● | |  | ●● | ●●●● | ●●●● |   2 7 5  The diagram below is a counting board showing the number 275.  **The Abacus**  An abacus is a frame consisting of beads or disks that can be moved up or down (i.e. slide) on a series of wires or strings. Each wire has its own value. Both abacus and counting board work in the same way when carrying out calculations.   1. **Place Value of Numbers**   Numbers of units, tens, hundreds,…….., are each represented by a single numeral.  (a).For a whole number:  - the units place is at the right-hand end of the number.  - the tens place is next to the units place on the left, and so on  For example: 5834 means ↓  5 thousands, 8 hundreds, 3 tens, and 4 units.  See the illustration below:  5 8 3 4  (b) for decimal fraction, we count the places to the right from the decimal point as tenths, hundredths, thousandths, etc.  See the illustration below:  ↓ ↓ ↓ ↓ ↓  6 . 7 9 8  6 → units  . → decimal  7 → tenths  9 → hundredths  8 → thousandths  **Counting and Writing in millions, billions and trillions**  The figures 0, 1, 2, 3, 4, 5, 6, 7, 8, and 9 are called digits or units.  The table below gives the names and values of some large numbers.   |  |  | | --- | --- | | Name | Value | | **One thousand** | **1 000** | | Ten thousand | 10 000 | | One hundred thousand | 100 000 | | **One million** | **1 000 000** | | Ten million | 10 000 000 | | One hundred million | 100 000 000 | | **One billion** | **1 000 000 000** | | **One hundred billion** | **100 000 000 000** |   Large numbers can be read easily by grouping the digits in threes starting from the right hand side as shown below.  **Billion Million TH H T U**  gapgap  gapgap  gapgap  three  digitsthree  digits  three  digitsthree  digits  three  digitsthree  digits  25 800 074 4 3 0  The 1st gap separates hundreds from thousands and the second gap separates thousands from millions and the third gap separates million from billion.  Thus 25 800 074 430 reads twenty five billion, eight hundred million, seventy four thousand, eight hundred and ninety. | | Students listen attentively and take down notes. | Group |
| **STEP 4** | **APPLICATION:**  Example 1  What is the place value of each of the following?   1. the 9 in 10269 2. the 2 in 2984   Solution:   1. the 9 in 10269 is = 9 units or nine units 2. the 2 in 2984 is = 2 thousands or two thousands   Example 2  What is the value of each of the following?   1. the 8 in 1.85 2. the 0 in 16.08   Solution:   1. the 8 in 1.85 is = 8 tenths or eight tenths 2. the 0 in 16.08 is =0 in tenths or zero tenths | | Students ask questions on the topic which the teacher answers. | Group |
| **STEP 5** | **EVALUATION:**  The teacher evaluates the students using the following:   1. describe the use of abacus 2. how can you count large numbers ranging in billions and trillions 3. how can you easily identify place values of numbers | | The students answer the questions. | Group |
| **Assignment**  1 (a) The place value of 5 in 5763 is ……………  (b)What is the place value 1 in 5.691?  2. Give the value of each digit in 489 734  **References**  **New Concept Mathematics for Junior Secondary Schools 1 by A.A ARIGBABU et al**  **New General mathematics for junior secondary schools 1 by M.F Macrae et al** | |  |  |

**THIRD LESSON PLAN FOR WEEK ONE ENDING 13TH SEPTEMBER 2024**

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| **THEME:** | Numeration |
| **DATE**: | 13 – 09 – 2024 |
| **CLASS**: | JSS1 |
| **TIME**: | 8:00am - 8:40am |
| **DURATION** | 40 MINUTES |
| **PERIOD** | III |
| **SUBJECT**: | Mathematics |
| **UNIT TOPIC:** | Whole Numbers |
| **LESSON TOPIC:** | Counting in large numbers |

**SPECIFIC OBJECTIVE**: By the end of the lesson, learners should be able to

* + 1. Define abacus
    2. Count, read and write in trillions
    3. Draw and use abacus to represent and calculate numbers

**INSTRUCTIONAL RESOURCES:** Charts showing the abacus

**LESSON PRESENTATION**

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| **STAGES** | **TEACHERS ACTIVITIES** | | STUDENTS ACTIVITIES | MODE |
| **STEP 1** | **PREVIOUS KNOWLEDGE:** The students are conversant with counting and writing of numbers | | Students recall. | Individual |
| **STEP 2** | **EXPLORATION:**  The teacher introduces the topic with the following questions:   1. What is abacus? 2. What is the place value of 1 in 1236453? 3. Express XCV in words? | | Students make attempt to answer the questions. | Group |
| **STEP 3** | **DISCUSSION:**  **The Abacus**  An abacus is a frame consisting of beads or disks that can be moved up or down (i.e. slide) on a series of wires or strings. Each wire has its own value. Both abacus and counting board work in the same way when carrying out calculations.  **Counting, Reading and Writing in Trillions**  Apart from numbers from 1 to 999999999999, we have bigger numbers. In fact for every number you mention, there will always be a bigger number. Thus if 1 added to 999999999999 we have 1 trillion.  Counting, reading and writing in trillions is the same as those of millions and billions.  **Use of Abacus**  All the beads in an abacus initially on one side of the frame and if a number is to be represented, then the required number of beads are moved to the other side of the frame.  **HTH TTH TH H T U**  **3**  **0**  **7**  **2**  An Abacus showing 2703 | | Students listen attentively and take down notes. | Group |
| **STEP 4** | **APPLICATION:**  Example 1  What is the value of each digit in 3 865 742  Solution   |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | 3 | 8 | | 6 | 5 | | 7 | 4 | 2 | | | M | H. Th | | T.Th | Th | | H | T | U | | | **Digit** | | **Value** | | | **Word Form** | | | | | 3 | | 3 000 000 | | | Three million | | | | | 8 | | 800 000 | | | Eight hundred thousand | | | | | 6 | | 60 000 | | | Sixty thousand | | | | | 5 | | 5 000 | | | Five thousand | | | | | 7 | | 700 | | | Seven hundred | | | | | 4 | | 40 | | | Forty | | | | | 2 | | 2 | | | Two | | | | | | Students ask questions on the topic which the teacher answers. | Group |
| **STEP 5** | **EVALUATION:**  The teacher evaluates the students using the following:   1. Describe the use of abacus 2. How can you count large numbers ranging in billions and trillions 3. How can you easily identify place values of numbers | | The students answer the questions. | Group |
| **Assignment**  1 (a) The place value of 5 in 5893 is ……………  (b)What is the place value 9 in 5.691?  2. Give the value of each digit in 5274138  3. Write down the number shown in the following figures:    **References**  **New Concept Mathematics for Junior Secondary Schools 1 by A.A ARIGBABU et al**  **New General mathematics for junior secondary schools 1 by M.F Macrae et al** | |  |  |