Learning Plan

Stage 4, 8years.

Lesson 4.

Duration: 80mins

Subject: Mathematics

Topic: Numbers and Algebra

Sub-topic: Multiplication and Division

Lesson Objectives;

By the end of the lesson the learner should be able to;

* Describe what multiplication and division of numbers is
* Calculate various sums involving multiplication and division
* Solve numerous tasks related to multiplication and division.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Syllabus Elaborations/content | Time | Content/learning experiences | Teaching strategies | Class Organization | Assessment Techniques | Resources |
| Ratios and proportions, numbers involving; Single numbers digit numbers, double-digit numbers, | 10 minutes | Introduction  Students start by defining division and multiplication.  Students find out how to double a single-digit number, double a double-digit number, divide a number by a single digit number, dividing by a double digit number.  Students have been in a situation where they had ten mathematics textbooks and they are in a class of Thirty students. Their teacher had given them an assignment and they had to work on it using the only available ten textbook. They had a challenge in solving how the books were to be shared among them.  After the lesson, they learns that the ten textbooks had to be shared, one textbook among three students.  This worked out well for them. | Students get into pairs to define the terms and give single and double-digit numbers. | Pairs or small groups | Feedback to class on the definitions and the numbers | Smartboard. |
| The single-digit numbers, double-digit numbers are written on the smartboard.  Students in pairs and others in singles.  Double-digit numbers, three-digit numbers, four-digit numbers, and five-digit numbers. | 30 minutes.  10 minutes  15 minutes | Body.  This involves students getting into pairs, and a single student then they multiply to get the figures.  Students are placed in pairs for 15 groups. The first pair gets into the second pair to form one group. The group joins a single share and gets the calculations. The process continues till with the last pair.  The students with the help of their teacher count the total number of students they form from the group. They divide the total number with a single pair to get the number of pairs they had.  Further study  Students get 3 digit numbers, they multiply with 3 digit numbers, they get four digits numbers, and as well multiply with 3 digit numbers and the process continues.  Students get a three-digit number and divide it with a three-digit number, they get a four-digit number they divide with the four-digit number, and the process continues. | Students into pairs and singles  Students in pairs and groups.  Counting and division  Calculations on smartboard by the students.  Corrections done by the teacher | Pair and single students  Pair and groups.  A group  Pairs/ groups | Discussion and questioning  Calculations and questioning  Counting and division  Calculations, corrections, and questioning. | Smartboard.  Textbooks.  Records on a smartboard.  Textbooks and smartboard. |
| Further terms on numbers and algebra, multiplication and division | 15minutes. | Conclusion.  Students go through all the calculations done on the smartboard.  A few questions from students on multiplication and division.  Issuance of takeaway exercises. | The teacher responds to the students' questions  Share with the class various tackled samples. | The whole class. | Corrections, presentations, and questioning | Smartboard.  Textbooks. |

Stage 4, Multiplication and Division

Mathematics is a wide subject taught in schools and is divided into various areas. Multiplication and division of numbers have different stages as well. Stage 4 multiplication and division involves, determining which operation in a number sentence should be completed first, second, third, and so, on identifying when grouping symbols should be used, also identifying the correct order of operations in number sentences.

In this stage, learners Begin to grasp basic concepts of ratio and proportion, such as how a picture is one-fifth the size of a real dog. To answer an issue, decide whether to round up or down after division. Divide two-digit numbers by single-digit numbers to get the result (answers no greater than 20) any two-digit number can be multiplied by two. Multiply a two-digit number by a single-digit number to get a single-digit number. Multiply a single-digit number by multiples of 10 to 90. Recognize that division and multiplication are the inverse functions of each other.

Different activities of multiplication and division are involved in this stage; Students may not yet be aware that calculations can generate different answers, depending on the order in which they are done. Therefore, they use the activity 'Calculations generating different answers' to investigate. Calculations may end up generation different answers;

| **Calculation** | **Answer without using a calculator** | **Answer when using calculator** |
| --- | --- | --- |
| 1. 1 \* 25 | insert answer | insert answer |
| 2.2 \* 25 x 4 | insert answer | insert answer |
| 3. 3 \* 4 + 13 | insert answer | insert answer |

These are some of the calculations done in stage 4 to demonstrate the multiplication of numbers. Students end up coming up with different answers depending on the method, accuracy, if used a calculator or not.

At this stage, both multiplication and division of numbers is a sequential activities. For the learners to grasp the content, the teacher introduces a method where they start multiplications form simple numbers or sums to more complicated sums. Once the students have identified the numbers, they start the multiplication from single-digit numbers, they move to double-digit numbers, three-digit numbers, and so on. The teacher should lead the student and ensure that they understand each level and they can work on their own.

Examples;

|  |  |  |  |
| --- | --- | --- | --- |
|  | Calculation | Answer when using a calculator | Answer without using a calculator |
| Single-digit numbers | 2\*3 |  |  |
| Double-digit numbers | 22\*3 |  |  |
| Three-digit numbers | 200\*3 |  |  |

The students involved in this stage range from ages 7- to 8 years, thus a teacher should be attentive in handling them. Learners at this stage are prone to making errors in their calculations. Teachers should always take the correct answers for the calculations but emphasize corrections. After the first activity, the student moves on to the second activity sequentially having understood the concept in the initial step.

Learners at this stage should be introduced to simple multiplications, for instance; here is the first multiplication structure that youngsters should learn. It expands on children's already established understanding of addition by expanding it from adding the contents of a grouping to adding the contents of one group and then utilizing this to add the contents of numerous equally-sized groups. Prior expertise with equal groupings and addition is required to comprehend this multiplication structure.

2+2+2+2= 2\*4

4+4+4+4= 4\*4

This way learners are introduced to simple multiplication step by step. Once they have grasped the content of the simple multiplication, the teacher may introduce them to visual representation; this involves drawing symbols in rows and columns; for instance, in a row, you may have 4 rectangles and then 3 rectangles in a column. This equals to

4\*3.

Multiplication and division go together. The following is recommended for teachers to take care of when teaching multiplication and division;

Mental counting multiplication and division at this stage of learning are encouraged. Learners can do their multiplications by using dots where they arrange them in rows and columns. They count all in rows and columns. For division, at this level learners can be into pairs and be given sweets to share among them. That is division. For multiplication again, students can be into pairs and they keep on joining another pair, then count the total number. That is multiplication.

Mathematics involving multiplication and division are continuous; recall multiplication and division knowledge for multiplication tables up to 12 12. Divide mentally using place value, and known and derived facts. Multiply two- and three-digit numbers by a one-digit number. Ascertain if the children are comfortable with the approaches outlined in the preceding level. Multiplication and division table should be taught to students before they get to stage 4 of learning as far as multiplication and division is concerned.

As opposed to multiplication where a number comes the many time it has been multiplied, learners in stage 4 should be taught, division. The division is sharing items, things, babies or even students to a given number. This mostly involves one large quantity to be shared among a few people.

Teachers at this stage mostly apply the rule of students sharing sweets amongst themselves; a student A has 60 sweets in a class of twenty students, and the teacher asks the student to distribute the sweets in a way that every student gets an equal number. That way the students have divided.

Simple divisions may start from single-digit numbers;

4/2 =

Moving to double-digit numbers

60/2=

This means how many times can four be shared to two and how many times can sixty be shared to two.

In conclusion, multiplication and division are compulsory mathematical concepts in numbers and algebra that should be introduced to learners in stage 4 of learning. Gives the learners a wide understanding of mathematical concepts as they proceed to higher learning levels. As well as make a learner more conversant and proficient in sharing and doubling numbers.