

A Trip to Bhopal

CBSE, Grade 4, Maths

Learning Outcomes

Students will be able to

1. Find place value in numbers beyond 1000.
2. Appreciate the role of place value in addition, subtraction and multiplication algorithms.
3. Understand the properties of multiplication and division.
4. Uses informal and standard way of doing multiplication and division algorithms.

Prior Knowledge

Students should have knowledge about numbers; its regrouping, basic mathematical operations; able to add and subtract multiples of 10 and 100 mentally.

Smallest and Greatest Number

At the beginning of the session, the teacher can give a few numbers, for example 6,7,8,2,1 asking the whole class to form the greatest and smallest number using these digits. Later students can be split into groups and made to do the same with different sets of digits. This activity would make students realise the importance of place value, which is very essential to perform addition, subtraction as well as multiplication (repeated addition) and division (repeated subtraction).

In case some students are unable to form greatest and smallest number, the teacher should continue with a few more examples before moving to the next activity.

Video and discussion:

Two videos can be shown to students to introduce the concept of multiplication and division through array method and equal sharing method respectively. The teacher can later engage the students in discussion to ensure understanding.

Arranging of carrots in Array method:

Title of the Video: Multiplication word

problem example 1 | Multiplication and division | Arithmetic | Khan Academy - https://www.youtube.com/watch?v=fZtUn_THXnk

This video demonstrates a student friendly method to explain word problems in multiplication.

Distributing cows equally:

This video can be used to introduce the concept of division. It elaborates how division is used for sharing things equally.

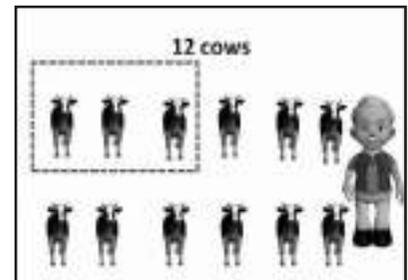
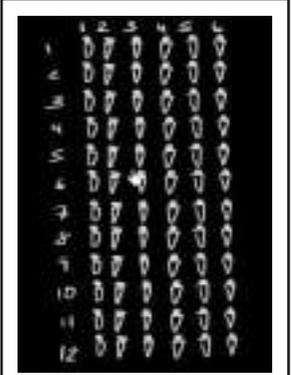


Figure 2

(e.g. 30 bags divided equally among 3 people where each person gets $30/3 = 10$).



A farmer plants 12 rows of carrots in a field. Each row has 6 carrots. How many carrots did the farmer plant?

Figure 1

Title of the Video: Maths - What is Division - Equal sharing - English - https://www.youtube.com/watch?v=LDHQx2yO_8I

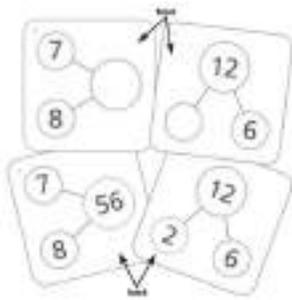


Figure 3

Number Card : Students can be split into groups and provided with number cards (5-6 cards for each group). (Figure 3) Questions based on multiplication and division can be asked.

Students have 20-30 minutes to complete the task, after which they have to explain how they arrived at the answer. If a group completes the task earlier, they can be given more cards to solve. This activity helps students understand the commutative property in multiplication. For example, when a student solves the problem $8 \times 7 = 56$, and is once again presented with the problem $7 \times 8 = ?$ it is likely that she/he tries solving it again. During the discussion, the teacher can explain about them.

10 x 10 Table

X	1	2	3	4	5	6	7	8	9	10	11	12
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												

The teacher can circulate a multiplication worksheet where students have to multiply numbers in a row with numbers in the respective

column. For example, 1 in the row will be multiplied with all the numbers in the column heading.

The advantages of using the worksheet are -

- Recognition of patterns

- Understanding the concept of *multiplication as repetitive addition*.

With enough practice using such worksheets, students might not have to memorise multiplication tables.

Discussion

The teacher can start a discussion on how students solved the problems and allow them to share their understanding. Creating multiplication table using the worksheet will be interesting because each student may approach it in a different way, for example, some students may do repeated addition while others may find a pattern between rows or recognise how the numbers keep increasing along the same row.

Practical problems to solve

Once students become familiar with the basics, the teacher can then ask practical questions based on the lesson.

Sample Questions

- If 175 students in a school are going on an excursion by bus, with each bus having a seating capacity of 35, how many buses are required?
- If 10 students have to be guided by 1 teacher, how many teachers should be there?
- If the expenditure for lunch is ₹ 50 per person how much money should they carry?

The teacher can ask similar questions, making students work in the group.

Assessments

1. Teachers can use puzzles to deepen the understanding of students. They can be given worksheets individually and later

discuss with other students in groups.

<https://www.education.com/download/worksheet/121331/addition-crossword.pdf>

More such puzzles can be found at -

MATH Crossword Puzzle

Fill in the blanks of each crossword puzzle to make the multiplication equations true.

2 x = 6

x 5 = 30

x 1 =

8 x 4 =

x 24 =

x 7 =

3 x 12 =

x x

11 5 x =

= =

22 42

x = 90

2. Approximation/estimation can be made into a fun and interesting activity. Students can do the activity hands on to understand approximation.

Find the link to the worksheet here - <https://www.education.com/download/worksheet/117525/liquid-measurement-word-problem.pdf>

8 Ounces are required for one person

DAY OF PARTY	MONDAY	TUESDAY	THURSDAY	FRIDAY	SATURDAY
HOW MANY PEOPLE ATTENDING	4 PEOPLE	8 PEOPLE	16 PEOPLE	32 PEOPLE	40 PEOPLE
HOW MUCH SHE NEEDS TO BRING in					
... ounces?	_____	_____	_____	_____	_____
... cups?	_____	_____	_____	_____	_____
... pints?	_____	_____	_____	_____	_____
... quarts?	_____	_____	_____	_____	_____
... gallons?	_____	_____	_____	_____	_____



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