Multiplication

SPECIFIC OBJECTIVES

The students will
- ❍ recall the multiplication tables of 1–10.
- ❍ be able to multiply a 4-digit number by a 1-digit number.
- ❍ learn the multiplication tables of 11–15.
- ❍ be able to do vertical multiplication using multiplication facts 11–15.
- ❍ be able to multiply by numbers greater than 20.
- ❍ know the shortcut of multiplication by 10s, 100s and 1000s.
- ❍ know the use of multiplication in day-to-day life.
- ❍ understand the multiplication facts/properties.
- ❍ be able to estimate the product of two numbers by rounding to nearest tens.
- ❍ perform the operations in a chain.

CONTENTS EXPLAINED INSIDE THE CHAPTER

TEACHING AIDS

Grid papers, a pencil, a chalk, a blackboard, etc.

TEACHING STRATEGY

❍ At the beginning of the chapter, the teacher should recall the students about the multiplication tables (1–10) learnt earlier in the previous classes. Thereafter, she should instruct them to do part (A to D) given in 'Let Us Recall'.

❍ Next, the teacher should teach the vertical multiplication of 4-digit numbers by 1-digit number, following the same rules used earlier for smaller numbers to the students. For text and practice exercise, she should go to page 116.

❍ Then, she should teach them multiplication tables from 11 to 15 and then she should move to pages 117–122 for text and exercise.

❍ Further, for doing "vertical multiplication using multiplication facts 11–15" and "multiplication by numbers greater than 20," She should use the text and exercises given on pages 122–124 and ask them to practice these exercises.

❍ Now, she should give them the idea about how to multiply a number by 10s, 100s and 1000s easily. Also, she should discuss the topics 'multiplying numbers by 20, 30, …, 90', 'multiplying two multiples of 10' and 'multiplying numbers by 200, 300, 400, …, 900. To do this, she can solve few problems using chalk and a blackboard. After that, she should move to pages 125–127 for related text and exercises.

❍ Next, she should discuss situations from daily life where they need to use multiplication of bigger numbers. Then, she should move to pages 127–128 for text and exercise.

❍ Again, she should discuss about the multiplication facts/properties through some examples as explained on pages 128–129 and then ask the students to do exercise 4.10 for providing more practice.

❍ Henceforth, she should discuss some situations in real life, where we need to find the estimated product of bigger numbers and we don't want the exact product.
(Note: Here, only rounding to nearest tens is included)
After that, she should go to pages 130–131 for text and exercise.

❍ For Fun Zone, the teacher should first talk about the process of manufacturing any item like *chapati*, bread or biscuits made from wheat, and then she should explain the 'mechanism of number conversion factory' shown on page 131. Hence, she should ask them to operate it for other inputs. She may transform the chain as shown below:
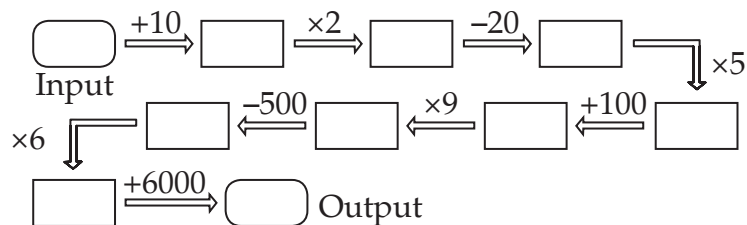
Now, she may ask to fill the box using pencil for other input and get the final output.

❍ Further, the teacher should ask the students to think of the operations used in one-half of each figure mentioned in the puzzle and find the other central number after doing the operations in part A. In part B, she should encourage them to consider the first two figures and hence find the central number of third figure.

❍ Finally, the teacher should involve them in performing perform Maths Lab Activity.

SUGGESTED WORKSHEET

❑ The teacher may provide this sheet to the students and ask them to colour the grids using given colour key.

MULTIPLICATION BY 100s

7 × 200	2 × 700	5 × 400	2 × 900	8 × 200	3 × 500	2 × 800	4 × 300	2 × 700	4 × 500	2 × 600	2 × 600	2 × 700	2 × 600	6 × 200	9 × 200	3 × 600	3 × 400	5 × 300
3 × 600	4 × 500	4 × 300	5 × 300	3 × 500	3 × 600	6 × 200	2 × 700	4 × 400	5 × 300	3 × 500	4 × 500	7 × 200	3 × 600	5 × 300	8 × 200	5 × 300	3 × 400	5 × 400
4 × 400	2 × 600	2 × 800	6 × 200	3 × 400	3 × 400	3 × 500	4 × 200	1 × 500	5 × 200	7 × 200	4 × 400	4 × 300	7 × 200	2 × 700	6 × 200	6 × 200	7 × 200	5 × 300
2 × 700	4 × 400	7 × 200	5 × 400	9 × 200	6 × 200	3 × 100	7 × 500	4 × 800	5 × 800	1 × 800	3 × 400	2 × 800	2 × 600	4 × 500	6 × 300	4 × 300	9 × 200	5 × 400
3 × 600	5 × 300	6 × 200	2 × 700	5 × 400	2 × 500	8 × 500	7 × 500	5 × 800	8 × 400	5 × 800	3 × 100	6 × 300	7 × 200	2 × 900	5 × 300	3 × 500	5 × 400	3 × 600
2 × 700	2 × 800	5 × 400	9 × 200	1 × 200	2 × 100	8 × 500			4 × 800	5 × 700	2 × 100	4 × 400	3 × 500	9 × 200	6 × 200	6 × 200	9 × 200	3 × 600
7 × 200	7 × 200	6 × 200	1 × 200	9 × 600	1 × 800	4 × 900	3 × 100		8 × 500	6 × 600	8 × 500	2 × 100	5 × 300	8 × 200	2 × 600	3 × 500	9 × 200	3 × 500
4 × 300	4 × 500	5 × 200	8 × 700	9 × 700	1 × 600	5 × 700	9 × 400	6 × 600	4 × 900	5 × 800	9 × 400	5 × 700	1 × 200	2 × 400	5 × 100	9 × 100	5 × 400	7 × 200
2 × 600	4 × 500	2 × 800	9 × 100	9 × 800	3 × 200	5 × 800	5 × 800	7 × 500	8 × 400	6 × 600	5 × 700	5 × 800	9 × 400	5 × 700	5 × 700	1 × 400	2 × 700	4 × 400
3 × 600	5 × 300	4 × 400	5 × 400	4 × 200	2 × 400	4 × 900	9 × 400	8 × 100	6 × 600	8 × 400	8 × 400	4 × 800	3 × 200	7 × 500	8 × 400	1 × 800	5 × 400	2 × 600
5 × 400	6 × 200	2 × 600	5 × 300	4 × 500	3 × 200	4 × 900	5 × 700	6 × 100	9 × 400	8 × 400	6 × 600	6 × 100	8 × 400	6 × 600	5 × 700	4 × 200	2 × 800	5 × 400
4 × 400	5 × 300	4 × 500	2 × 900	3 × 600	1 × 900	4 × 900	5 × 700	4 × 900	5 × 200	1 × 200	8 × 100	8 × 400	7 × 500	6 × 600	3 × 200	4 × 300	6 × 200	3 × 500
5 × 400	3 × 500	2 × 900	6 × 300	6 × 300	1 × 700	9 × 400	4 × 900	6 × 600	4 × 900	5 × 700	4 × 800	4 × 800	2 × 100	8 × 100	5 × 300	2 × 800	4 × 300	4 × 500
5 × 400	7 × 200	5 × 400	4 × 300	4 × 500	2 × 700	1 × 700	1 × 900	8 × 100	6 × 100	7 × 100	2 × 100	1 × 200	3 × 400	8 × 200	4 × 400	3 × 600	4 × 300	9 × 200
5 × 400	2 × 800	5 × 400	3 × 600	2 × 700	3 × 600	2 × 900	7 × 200	1 × 600	2 × 800	3 × 600	2 × 900	5 × 400	6 × 300	2 × 700	4 × 400	8 × 200	6 × 300	2 × 900
3 × 500	5 × 400	2 × 900	8 × 200	3 × 600	6 × 300	9 × 200	5 × 300	1 × 500	3 × 400	4 × 300	3 × 600	3 × 600	9 × 200	5 × 400	2 × 600	5 × 400	3 × 500	5 × 300
8 × 300	4 × 700	4 × 600	7 × 300	8 × 300	6 × 500	4 × 700	2 × 500	3 × 700	3 × 300	8 × 300	8 × 300	7 × 400	3 × 800	9 × 300	7 × 400	5 × 600	6 × 500	4 × 700
9 × 300	6 × 400	5 × 500	7 × 300	4 × 700	3 × 700	3 × 800	9 × 300	6 × 400	3 × 700	7 × 400	8 × 300	3 × 800	3 × 900	7 × 300	6 × 400	6 × 500	8 × 300	5 × 600
9 × 300	3 × 900	3 × 900	5 × 500	9 × 300	5 × 500	7 × 300	7 × 400	6 × 400	9 × 300	7 × 400	4 × 600	3 × 800	3 × 700	3 × 700	3 × 700	3 × 900	7 × 300	3 × 800
3 × 900	7 × 300	3 × 700	6 × 500	4 × 700	8 × 300	6 × 500	3 × 700	5 × 500	6 × 400	3 × 700	9 × 300	6 × 500	4 × 600	3 × 800	3 × 700	8 × 300	3 × 700	3 × 900

Key:	1-1,000	1,001-2,000	2,001 - 3,000	3,001 - 4,000	4,001 - 10,000
	Black	Blue	Brown	Red	Orange

* Blank squares are white

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EXPECTED LEARNING OUTCOMES

Students are able to

❍ multiply 4-digit numbers by a 1-digit number.

❍ read and write the multiplication tables up to 15.

❍ multiplying numbers using multiplication facts 11–15.

❍ multiply 2- and 3-digit numbers by numbers greater than 20.

❍ do the multiplication using shortcut method.

❍ tackle the problems involving multiplication in daily life.

❍ understand the multiplication facts/properties.

❍ find the estimated product of two 2-digit numbers by rounding them to nearest tens.