

ACTIVITY NO. - 11

Subject	MATHEMATICS
Class	VI
Chapter/Unit	Algebra
Topic	Solution of an Algebraic Expression
Time	30 minutes
Nature of Activity	Individual

What will I learn (Learning outcome)?

To evaluate algebraic expression.

Skills:- Psychomotor Coordination, Critical Thinking, Problem Solving, Representing, Evaluating

What I have to do?

To evaluate algebraic expression by activity method.

What do I require?

Thick coloured papers, cardboard and adhesive.

What do I need to know?

Concept of Variables, Constants and Basic mathematical operations.

➤ Teacher's Activity

Teacher will enable the students to recall the concept of variables, constants, basic mathematical operations and will explain the steps of the activity.

How will I proceed?

➤ Student's Activity

- Let us solve an algebraic expression as $2x + 3$ when $x = 3$, where x is a variable and 2, 3 are constants.
- Take a cardboard and paste any thick coloured paper on it, say green.
- Now, make green rectangular tiles of any convenient size and denote it by a variable (x) as shown in Fig.1.



Fig.1

- Similarly, make same sized square tiles of other two different colours, say red and blue.
- Denote red square tile with (-1) and blue square tile with $(+1)$ as shown in Fig.2.



Fig.2

- Now, to represent $2x + 3$, arrange the tiles as shown in Fig.3.



Fig.3

- Then, to solve $2x + 3$ when $x = 3$, replace each x with the value of 3 i.e., replace each green rectangular tile by three blue square tiles as shown in Fig.4.

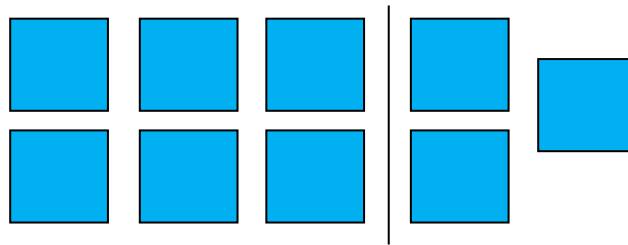


Fig.4

- Now, combine the remaining blue square tiles as shown in Fig.5.

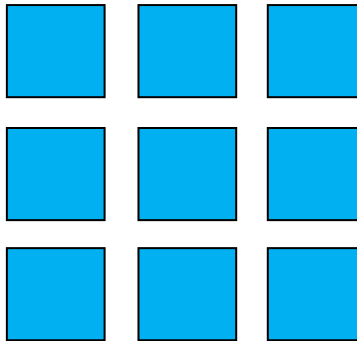


Fig.5

What have I observed?

The value of an algebraic expression $2x + 3$ when $x = 3$ is _____.

What have I learnt?

To evaluate _____.

What am I curious to know?

Solve an algebraic expression $3x + 4$ when $x = -2$ using tiles.

Let me evaluate myself

1. Complete the entries in the third column of the table:

S. No.	Expression	Value of variable	Solution of an expression	Expression satisfied: Yes/No
1.	$x + 1$	$x = 9$	10	
2.	$10y$	$y = 6$	60	
3.	$2z + 4$	$z = 7$	19	
4.	$p - 8$	$p = 8$	-8	
5.	$m + 11$	$m = 3$	15	
6.	$5x - 7$	$x = 0$	-7	
7.	$r + 9$	$r = 2$	11	
8.	$3z - 1$	$z = 1$	2	
9.	$4q$	$q = -2$	8	
10.	$10y + 10$	$y = 3$	40	

2. Complete the table:

(a)

p	6	7	8	9	10
$4p + 7$					

(b)

m	1	2	3	4	5
$7m - 1$					