

## ACTIVITY-15

### ALGEBRA

#### GENERATING ALGEBRAIC EXPRESSION

1. **What we have to do?**

To generate an algebraic expression from patterns.

2. **What is required?**

Thick paper, a pack of matchsticks and adhesive.

3. **How much time required for this activity?**

30-40 minutes.

4. **What do you need to know?**

Knowledge of Patterns.

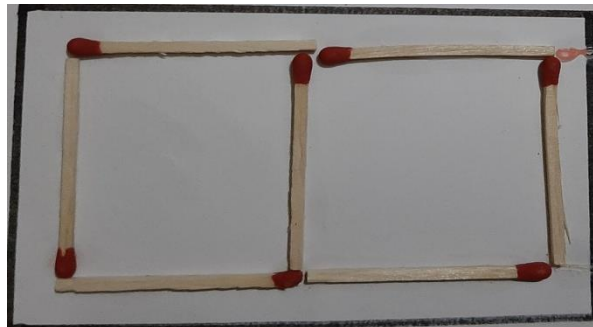
5. **How will you proceed?**

- Form groups of two students each.
- Take a few matchsticks and make a square as shown in Fig.1.



(Fig.1)

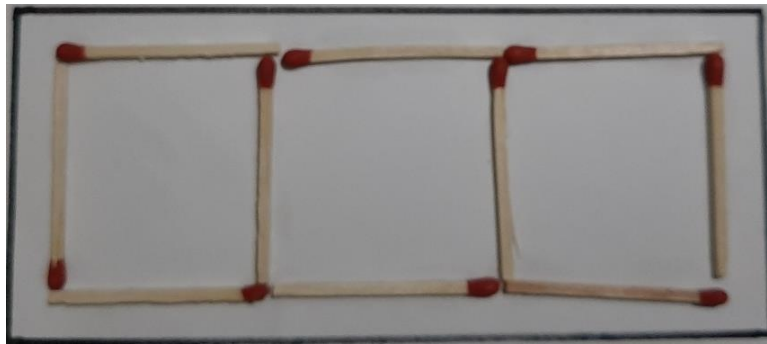
- Form another square adjoining to the first square as shown in Fig.2.



(Fig.2)

- Count and write the number of matchsticks used to form two squares.

- e. Now, make another square as shown in Fig.3 and count the total number of matchsticks used to form three squares.



(Fig.3)

- f. Continue the same process and make atleast 10 squares adjoining each other.

**6. What have you observed?**

- Complete the given table:

| Number of squares formed   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|----------------------------|---|---|---|---|---|---|---|---|---|----|
| Number of matchsticks used |   |   |   |   |   |   |   |   |   |    |

- Can you see any pattern in the above table? If yes, try to generalise it by taking variable 'n' as the number of squares so formed.
- Show the above pattern algebraically using the expression created.

**7. What have you learnt?**

**8. What you have to do as extended activity?**

- Jack's mother gave him Rs 250 on Christmas. He bought a gift of Rs x for his younger sister and donated half of the money at a church. Write an algebraic expression for the money donated at the church.

**9. Real Life Application:**

Algebraic Expressions are used not only in everyday life but as well in business, engineering and other technical fields like computer programming. They are also used to predict things that we don't yet know and to determine the relationships between the things we do.