

SUBJECT: MATHEMATICS

CLASS: IX

CHAPTER 2: POLYNOMIALS

Curiosity Questions:

1. Have you ever wondered how the Roller Coaster has been designed and the math concept used in it?



Answer Guide:

- What is a polynomial?
- Mention a few places where the polynomials are used?
- Are the following expressions, polynomials?
- a) $V = lbh$ b) $A = lb$ c) $P = 2(l+b)$

EXPERIENTIAL LEARNING:

Video Link: <https://www.youtube.com/watch?v=9j2IZHvNzew>

The above video gives an idea about the use of polynomials in daily life.

Aim:

To prove the algebraic identity $(a+b)^3 = a^3 + 3a^2b + 3ab^2 + b^3$ using unit cubes.

Materials Required:

Unit Cubes

Procedure:

1. Take the length of one block as 'b' units and the length of three blocks as 'a' units.
2. Make cubes of dimensions $a \times a \times a$ and $b \times b \times b$.
3. Make three cuboids of dimensions $a \times a \times b$.
4. Make three cuboids of dimensions $b \times b \times a$.
5. Join all these pieces and form a cube.
6. Verify that the cube formed is of length $(a+b)$.

Result:

It is verified that $(a+b)^3 = a^3 + 3a^2b + 3ab^2 + b^3$