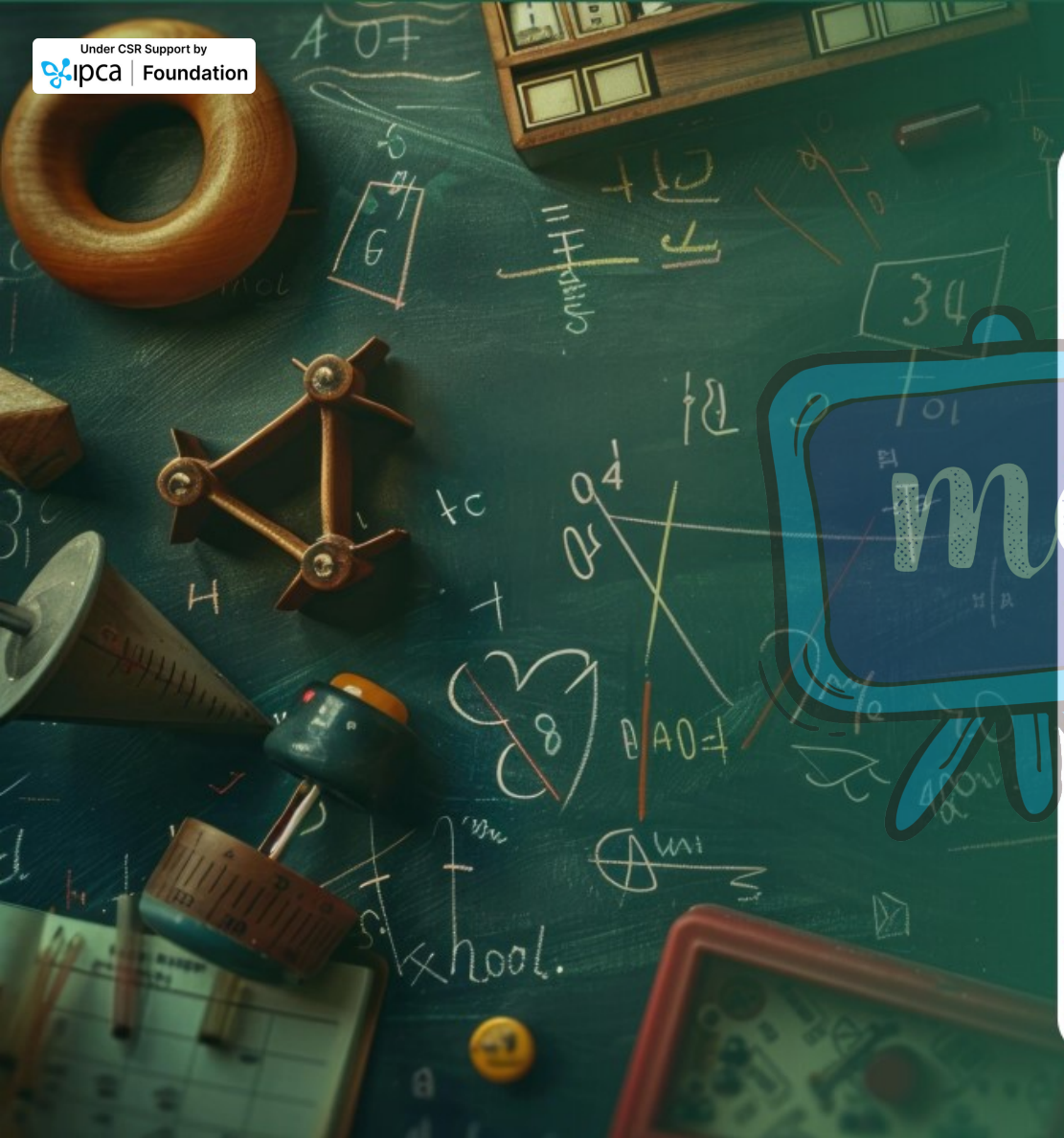
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CLASS – 6

MATHEMATICS

Chapter – 1

Patterns in Mathematics

Part – 2

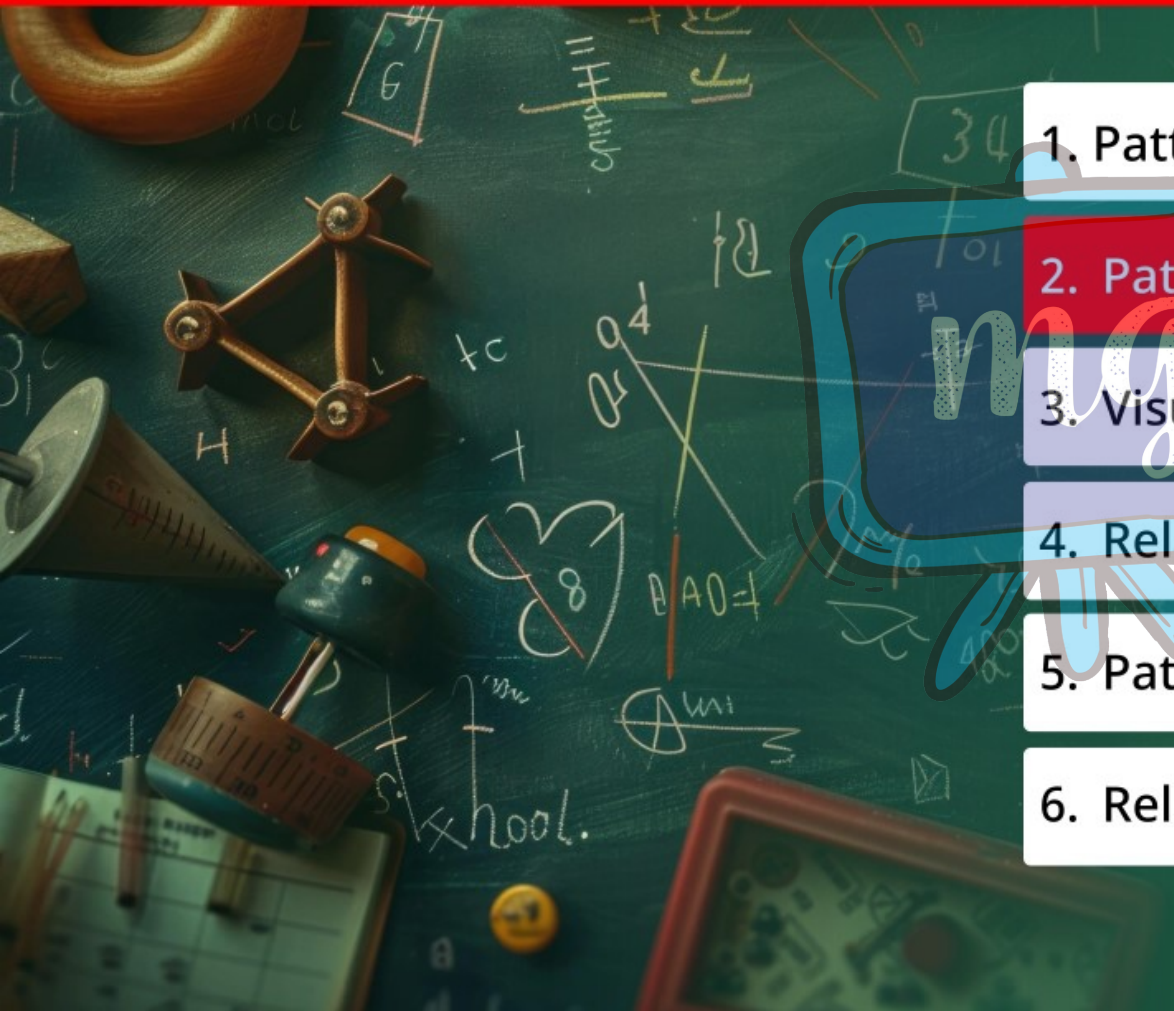
Pattern in Numbers

Lavish Aggarwal

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OVERVIEW

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1. Pattern in Nature
2. Pattern in Numbers
3. Visualising Number Sequences
4. Relations among Number Sequences
5. Patterns in Shapes
6. Relation to Number Sequences

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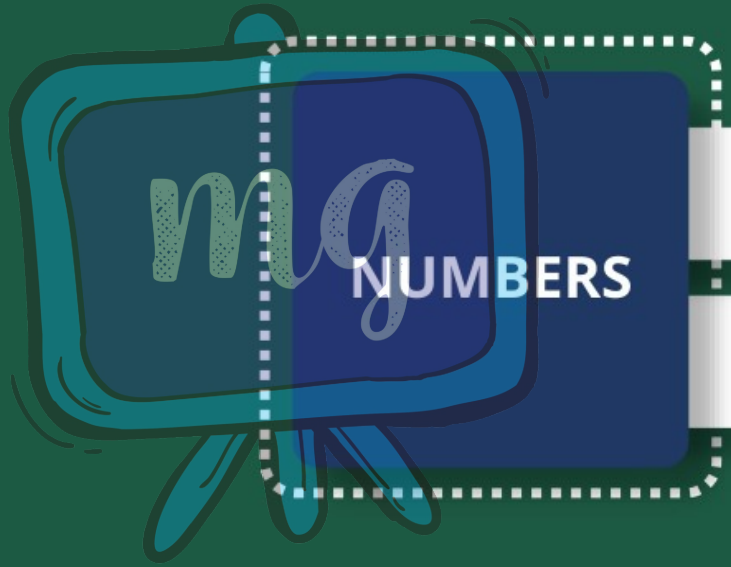
NUMBERS

Number is an arithmetic value used for representing the quantity & used in making calculations.



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Natural Numbers

Whole Numbers

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Natural Numbers

☛ N = {1,2,3,4,5 ..... }



Whole Numbers

☛ W = {0,1,2,3,4,5 ..... }

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PATTERNS IN NUMBERS

- The branch of Mathematics that studies patterns in whole numbers is called Number Theory.
- Number sequences are the most basic and among the most fascinating types of patterns that mathematicians study.

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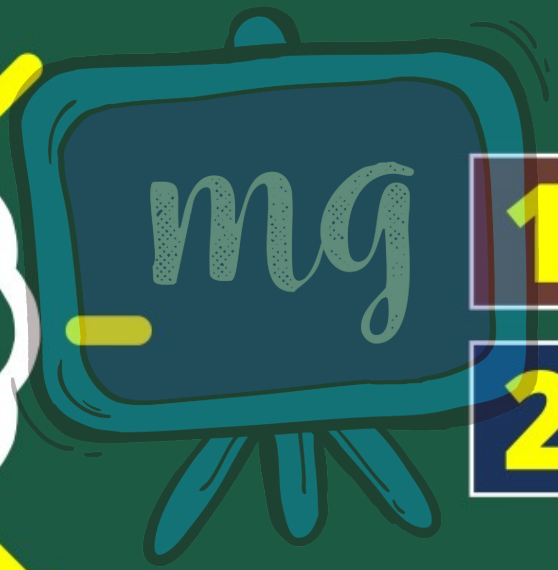
Exmaples of Number Sequences	
1, 1, 1, 1, 1, 1, 1, ...	All 1's
1, 2, 3, 4, 5, 6, 7, ...	Counting numbers
1, 3, 5, 7, 9, 11, 13, ...	Odd numbers
2, 4, 6, 8, 10, 12, 14, ...	Even numbers
1, 3, 6, 10, 15, 21, 28, ...	Triangular numbers
1, 4, 9, 16, 25, 36, 49, ...	Squares
1, 8, 27, 64, 125, 216, ...	Cubes
1, 2, 3, 5, 8, 13, 21, ...	Virahānka numbers
1, 2, 4, 8, 16, 32, 64, ...	Powers of 2
1, 3, 9, 27, 81, 243, 729, ...	Powers of 3

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LEARNING OUTCOMES

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1 Numbers

2 Pattern in Numbers

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ASSESSMENT

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1 Whole numbers –

A 0, 1, 2, 3, 4, 5, ...

B 1, 2, 3, 4, 5, 6, ...

C 2, 3, 4, 5, 6, 7, ...

D 3, 4, 5, 6, 7, 8, ...

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ASSESSMENT

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1 Odd numbers –

A 1, 3, 5, 7, 9, ...

B 0, 1, 2, 3, 4, ...

C 2, 4, 6, 8, 10, ...

D 1, 2, 3, 4, 5, ...