



Pedagogical process for teaching math in India (Grades 6 to 9)

Suggested pedagogical process for teaching math from Grades 6	
Role of the teacher	Approach/Activities
Create opportunities for students to encounter large numbers of up to 8 digits	Cost of property, the population of different towns
Encourage students to compare numbers and classify numbers based on their properties, such as odd, even, etc.	Observing patterns and recognizing differences
Use everyday life situations for playing with numbers	Addition, subtraction of fractions/decimals, ratio, HCF, LCM, etc.
Explore various geometrical figures and observe their characteristics in and outside classrooms	Identifying examples of angles in the surroundings, measuring the angles to classify them, observing 3-D shapes and discussing elements, etc.
Classify angles, quadrilaterals, and other geometric shapes such as spheres, cubes, cylinders, etc.	Amount of rotation to classify angles, sides, and angles for quadrilaterals, etc.

National council of educational research and teaching. (2017). *Learning outcomes at the elementary stage*. Chrome extension://efaidnbmnnnibpcajpcgclefindmkaj/https://ncert.nic.in/pdf/publication/otherpublications/tilops101.pdf

Suggested pedagogical process for teaching math from Grades 7	
Role of the teacher	Approach/Activities
Provide contexts for exploring the rules of multiplication and division of integers	Number line or number patterns
Explore the multiplication and division of fractions/decimals through daily life examples	Paper folding activities
Conduct activities of adding or subtracting the number of objects of the same category in the classroom	Using notebooks or pencils for this activity
Provide daily life examples to help the understanding of concepts of percentage, simple interest, profit, and loss	Activities related to bank loan
Explore everyday situations to draw examples of angles	Road junction, English alphabets like X, T, etc.
Create groups to verify the properties of various pairs of angles	Drawing diagram
Organize activities to understand different types of triangles	Draw, measure, and compare different types of triangles
Identify and understand properties of symmetrical figures from the surroundings	Visualize symmetry through paper folding, rotating objects

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Suggested pedagogical process for teaching math for grade 8	
Role of the teacher	Approach/Activities
Provide opportunities for students to explore examples of rational numbers with all operations and find patterns in those operations	Addition, subtraction, multiplication, and division of rational numbers
Create opportunities to explore patterns in square numbers, square roots, cubes, etc.	Squares, cubes, and square roots and cube roots
Use various algebraic identities in solving problems of daily life	Algebra
Use everyday situations to teach profit and loss, percentage, and Simple interest.	Simple interest, percent, profit, and loss
Teach the concept of compound interest by repeated use of simple interest	Compound interest
Measure the angles and sides of different quadrilaterals and identify patterns	Solve problems related to angles of a quadrilateral
Represent 3D shapes on a plane surface like paper, board, etc.	Find the area, volume, and surface area of different geometrical shapes such as cubes, polygons, etc.
Collect data, organize them and represent them through charts and diagrams	Creating infographics
Conduct activities like throwing identical dice/coins to teach probability	Aggregating the results of throws

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Suggested pedagogical process for teaching math for grade 9	
Role of the teacher	Approach/Activities
Design activities to observe, recall and apply various concepts related to real numbers	Real numbers, algebraic and graphical expressions
Apply relevant results to factorize the polynomials	Relate algebraic and graphical representations of a linear equation
Engage students in activities to compare the graphs of linear equations in one or two variables	Drawing, comparison
Play games related to geometry	Construct different geometrical shapes
Organize group discussion on the properties of triangles and other geometrical shapes	Group discussions
Collection of data from the surroundings and analysis of the data	Surveys, understanding different ways to represent data such as bar graphs, histograms etc.
Design projects/games to understand different concepts of probabilities	Throwing dice and finding their chance of happening
Group activities to explore differences and similarities among various geometric shapes	Examine features of real-life objects
Use daily life situations to understand statistical concepts	Analyse survey data to understand the concepts of mean, median, and mode

National council of educational research and teaching. (2019). *Learning outcomes at the secondary stage*. chrome-extension://efaidnbnmnibpcjpcglclefindmkaj/https://ncert.nic.in/pdf/publication/otherpublicati ons/learning_outcomes.pdf