## GRADE - 7

# CBSE – MATH

**Integers:** Introduction, Properties Of Addition And Subtraction Of Integers, Multiplication Of Integers, Properties Of Multiplication Of Integers, Division Of Integers, Properties Of Division Of Integers

**Fractions And Decimals:** How Well Have You Learnt About Fractions?, Multiplication Of Fractions, Division Of Fractions, How Well Have You Learnt About Decimal Numbers, Multiplication Of Decimal Numbers, Division Of Decimal Numbers

**Data Handling: Introduction**, Collecting Data, Organization Of Data, Representative Values, Arithmetic Mean, Mode, Median, Use Of Bar Graphs With A Different Purpose, Chance And Probability

**Simple Equations:** A Mind – Reading Game!, Setting Up Of An Equation, Review Of What We Know, What Equation Is?, From Solution To Equation, Applications Of Simple Equations To Practical Situations

Lines And Angles: Introduction, Related Angles, Pair Of Lines, Checking For Parallel Lines

**The Triangle And Its Properties:** Introduction, Medians Of A Triangle, Altitudes Of A Triangle, Exterior Angle Of A Triangle And Its Property, Angle Sum Property Of A Triangle, Two Special Triangles: Equilateral And Isosceles, Sum Of The Lengths Of Two Sides Of A Triangle, Right – Angled Triangles And Pythagoras Property

**Congruence Of Triangles:** Congruence Of Plane Figures, Congruence Among Line Segments, Congruence Of Angles, Congruence Of Triangles, Criteria For Congruence Of Triangles, Congruence Among Right – Angled Triangles

**Comparing Quantities:** Introduction, Equivalent Ratios, Percentage Another Way Of Comparing Quantities, Use Of Percentages, Price Related To An Item Or Buying And Selling, Charge Given On Borrowed Money Or Simple Interest

**Rational Numbers:** Introduction, Need For Rational Numbers, What Are Rational Numbers?, Positive And Negative Rational Numbers, Rational Numbers On A Number Line, Rational Numbers In Standard Form, Comparison Of Rational Numbers, Rational Numbers Between Two Rational Numbers, Operations On Rational Numbers

**Practical Geometry:** Introduction, Construction Of A Line Parallel To A Given Line, Through A Point Not On The Line, Construction Of Triangles, Constructing A Triangle When The Lengths Of Its Three Sides Are Known (Sss Criterion), Constructing A Triangle When

The Lengths Of Two Sides And The Measure Of The Angle Between Them Are Known. (Sas Criterion), Constructing A Triangle When The Measures Of Two Of Its Angles And The Length Of The Side Included Between Them Is Given. (Asa Criterion), Constructing A Right – Angled Triangle When The Length Of One Leg And Its Hypotenuse Are Given (Rhs Criterion)

**Perimeter And Area:** Squares And Rectangles, Area Of A Parallelogram, Area Of A Triangle, Circles, Conversion Of Units, Applications

**Algebraic Expressions:** Introduction To Algebraic Expressions, Like And Unlike Terms, Monomials, Binomials, Trinomials And Polynomials, Addition And Subtraction Of Algebraic Expressions, Finding The Value Of An Expression, Using Algebraic Expressions Formulas And Rules

**Exponents Or Powers:** Introduction, Exponents, Laws Of Exponents, Miscellaneous Examples Using The Laws Of Exponents, Decimal Number System, Expressing Large Numbers In The Standard Form

**Symmetry:** Introduction, Lines Of Symmetry For Regular Polygons, Rotational Symmetry, Line Symmetry And Rational Symmetry

**Visualizing Solid Shapes:** Introduction: Plane Figures And Solid Shapes, Faces, Edges And Vertices, Nets For Building 3 – D Shapes, Drawing Solids On A Flat Surface, Viewing Different Sections Of A Solid, A Third Way Is By Looking At It From Certain Angles To Get Different Views

### CBSE - SCIENCE

**Nutrition In Plants:** Mode Of Nutrition In Plants, Photosynthesis – Food Making Process In Plants, Other Modes Of Nutrition In Plants, Saprotrophs, How Nutrients Are Replenished In The Soil

**Nutrition In Animals:** Different Ways Of Taking Food, Digestion In Humans, Digestion In Grass – Eating Animals, Feeding And Digestion In Amoeba

Fibre To Fabric: Wool

**Heat:** Hot And Cold, Measuring Temperature, Laboratory Thermometer, Transfer Of Heat, Kinds Of Clothes We Wear In Summer And Winter

**Acids, Bases And Salts:** Acids And Bases, Natural Indicator Around Us, Neutralisation, Neutralizations In Everyday Life

**Physical And Chemical Changes:** Physical Changes, Chemical Change, Rusting Of Iron, Crystallisation

**Physical And Chemical Changes:** Physical Changes, Chemical Change, Rusting Of Iron, Crystallisation

**Weather, Climate And Adaptations Of Animals To Climate:** Weather, Climate, Climate And Adaptation

**Winds, Storms And Cyclones:** Air Exerts Pressure, High Speed Winds Are Accompanied By Reduced Air Pressure, Air Expands On Heating, Wind Currents Are Generated Due To Uneven Heating On The Earth, Thunderstorms And Cyclones, Destruction Caused By Cyclones, Effective Safety Measures, Advanced Technology Has Helped

**Soil:** Soil Teeming With Life, Soil Profile, Soil Types, Properties Of Soil, Moisture In Soil, Absorption Of Water By Soil, Soil And Crops

**Respiration In Organisms:** Why Do We Respire, Breathing, How Do We Breathe?, What Do We Breathe Out?, Breathing In Other Animals, Breathe Under Water, Do Plants Also Respire?

**Transportation In Animals And Plants:** Circulatory System, Excretion In Animals, Transport Of Substances In Plants

**Reproduction In Plants:** Modes Of Reproduction, Sexual Reproduction, Fruits And Seed Formation, Seed Dispersal

**Motion And Time:** Slow Or Fast, Speed, Measurement Of Time, Measuring Speed, Distance – Time Graph

**Electric Current And Its Effects:** Symbols Of Electric Components, Heating Effect Of Electric Current, Magnetic Effect Of Electric Current, Electromagnet, Electric Bell

**Light:** Light Travels Along A Straight Line, Reflection Of Light, Right Or Left! Playing With Spherical Mirrors, Images Formed By Lenses, Sunlight White Or Coloured?

**Wastewater Story:** Water, Our Lifeline, What Is Sewage?, Water Freshens Up An Eventful Journey, Wastewater Treatment Plant, Better House Keeping Practices, Sanitation And Disease, Alternative Arrangement For Sewage Disposal, Sanitation At Public Places

**Water:** A Precious Resource: How Much Water Is Available, Forms Of Water, Groundwater As An Important Source Of Water, Depletion Of Water Table, Distribution Of Water, Water Management, What Role You Can Play, Effect Of Water Scarcity On Plants

**Forests:** Our Lifeline: Visit To A Forest

### **CBSE - ENGLISH**

**Nouns:** Proper And Common Nouns, Collective, Abstract And Compound Nouns, Singular And Plural Nouns, Possessive Nouns, The Indefinite Article And Nouns, The Definite Article And Nouns

**Pronouns:** Personal Pronouns, Possessive Pronouns, Reflexive And Emphatic Pronouns

Verbs: Action And Linking Verbs, Transitive And Intransitive Verbs, Phrasal Verbs

**Tenses:** Introduction To Tenses, The Simple Tense, Using The Simple Tense, The Continuous Tense, Using The Continuous Tense, Present And Past Perfect Tenses, And Their Uses

**Voice:** Active And Passive Voices

**Adjectives:** Adjectives Of Qualities, Quantities And Number, Possessive Adjectives, The Positive, Comparative And Superlative Forms Of Adjectives

**Adverbs:** Adverbs Of Manner And Degree, Adverbs Of Time And Frequencies, Adverbs Of Place

**Sentence And Phrase:** Difference Between A Sentence And A Phrase, The Subject And Predicate Of A Sentence

**Subject - Verb Agreement:** Subject - Verb Agreement Rules

**Reported Speech:** Introduction To Reported Speech, Reported Statements, Reported Commands, Reported Commands, Reported Questions, Conversion Of Tenses, Changes In The Expressions Of Time

**Framing Questions:** Wh – Questions, Yes – No Questions

**Prepositions:** Introduction To Prepositions, Prepositions Of Time, Prepositions Of Place, Position Or Location, Prepositions Of Direction Or Movement, Other Relations Shown Byes Prepositions

**Conjuction:** Introduction To Conjuctions, Common Conjuctions 1, Common Conjunctions 2

**Punctuations:** Introduction To Punctuations, Punctuation Marks 1, Punctuation Marks 2, Punctuation Marks 3

Passage Reading
Poem Reading

Writing A Notice Dialogue Writing Letter Writing Article Writing

# ICSE – MATH

**Sets:** Sets And Venn Diagrams

**Algebra:** Fundamental Concepts: Constant, Variable, Term, Algebraic Expression, Polynomial, Degree, Factors, Coefficients, Multiplication Of Algebraic Expressions, Division Of Algebraic Expressions, Use Of Grouping Symbols

**Operation On Algebraic Expressions:** Addition And Subtraction Of Algebraic Expressions, Subtraction Of Algebraic Expressions

**Products:** Some Special Expansions

**Factorization:** Basic Concept, Factorization

**Simplification:** Algebraic Fractions, Simplifaication

**Exponents:** Index Or Exponent

**Algebraic Formulae:** Framing A Formula

**Equations:** Equation, Linear Equation, Solving Linear Equation In One Variable

**Linear In Equations:** Linear In Equation

**Relations And Mapping:** Ordered Pair, Relation, Mapping

**Numbers:** Natural Numbers, Even Natural Numbers, Odd Natural Numbers, Whole Numbers, Prime Numbers, Composite Numbers, Integers, Rational Numbers, Number Line, Irrational Numbers, Real Numbers, Representation Of Rational Number On The Number Line, Number System, Four Fundamental Operations On Whole Numbers, Properties Of Addition Of Whole Numbers, Properties Of Subtraction Of Whole Numbers, Properties Of Multiplication Of Whole Numbers

**Power And Roots:** Power Or Exponent Or Index, Square Of A Number, Cube Of A Number, Square Root, Perfect Square, Cube Root Of A Given Number

Integers: Representation Of Integers On Number Line, Absolute Value Of An Integer,

Fundamental Operations On Integers

**Factors And Multiples:** Factor, Prime Factorisation, Highest Common Factors (H.C.F). Or Greatest Common Divisor (G.C.D.), Methods Of Finding H.C.F. (Or G.C.D.), Multiples And Common Multiple (L.C.M.), Method Of Finding L.C.M.

**Fractions:** Fraction, Basic Operations On Fractions, Using 'Of', Using 'Bodmas', Use Of Brackets, Application Of Fractions In Solving Problems

**Decimal Fractions**: Decimal Fractions, Operations On Decimal Numbers, Multiplication Of Decimal Numbers, Division Of Decimals, Rounding Off Of Decimal Numbers, Significant Figures (Digits)

**Unitary Method:** Basic Concept

**Time And Work:** Problems On Pipes And Cisterns

**Distance, Time And Speed:** Speed

Ratio And Proportion: Ratio, Proportion

Percent And Percentage: Percentage, Percentage Change

**Profit, Loss And Discount:** Cost Price, Selling Price, Profit (Or Gain), Loss, Overhead Charges, Profit (Or Gain) Percent Or Loss Percent, To Find The S.P. When C.P. And Profit % Or Loss % Are Given, Discount

**Simple Interest:** Principal, Interest, Amount, Rate, Time, Simple Interest, Formula For Finding Simple Interest

**Average:** Average

**Angles:** Angle, Pairs Of Angles, Angles At A Point, Adjacent Angles, Linear Pair Of Angles, Vertically Opposite Angles, Verification, Complementary Angles, Supplementary Angels

**Pairs Of Lines And Transversal:** Exterior Angles, Interior Angles, Corresponding Angles, Alternate Interior Angles, Angles Made By A Transversal With Two Parallel Lines

**Basic Constructions:** Bisecting A Line Segment, Bisecting An Angle, Construction Of An Angle Congruent To A Given Angle, Construction Of Perpendicular Line Segments, Construction Of Parallel Lines

**Triangles:** Vertex (Plural Vertices), Interior Angles, Exterior Angles, Interior Opposite Angles, Classification Of Triangles Based On Their Sides, Angle Property Of A Triangle,

Relation Between Exterior Angle And Interior Opposite Angles Of A Triangle

**Constructions Of Triangles:** Construction Of Special Types Of Triangles

**Congruency Of Triangles:** Congruency Of Triangles, Conditions Of Congruency Of Triangles

**Polygons:** Diagonals Of A Polygon, Angles Of A Polygon, Interior Angle Of A Polygon, Convex Polygon, Concave Polygon, Exterior Angle Of A Convex Polygon, A Regular Polygon, Quadrilateral, Different Kinds Of Quadrilaterals And Their Properties

**Symmetry, Reflection And Rotation:** Line Of Symmetry In Circle And Semicircle, Reflection, Rotational Symmetry

**Constructions:** Construction Of A Rectangle, Construction Of A Square

**Circles:** Chords, Arcs, Major Segment And Minor Segment, Semicircle, Quadrants, Secant, Tangent

**Mensuration:** Perimeter, Area, Surface Area And Volume Of Cuboid And Cube, Volume, Cube

**Statistics:** Collection Of Data, Raw Data, Classification Of Data, Range, Methods Of Presentation Of Data, Arithmetic Mean (A.M.), Graphical Representation Of Statistical Data

**Graphs:** Rectangular Coordinate Axes, Graph Or A Linear Equation In Two Variables X And Y

### **ICSE - SCIENCE**

**Measurement:** Mass, Weight, Density, Relative Density, Variations In Densities Of Liquids And Gases With Temperature, Floating, Sinking And Density

**Motion:** Rest And Motion, Types Of Motion, Simple Pendulum, Second's Pendulum, Uniform And Non – Uniform Motion, Scalar And Vector Quantities, Distance And Displacement, Acceleration Of Freely Falling Bodies

**Sound:** Production Of Sound, Propagation Of Sound, Reflection Of Sound, Echo, Sonar – An Application Of Echo, Characteristics Of Sound, Musical Instruments, Noise Pollution

**Heat:** Effects Of Heat, Temperature And Its Measurement, Qualities Of A Good Thermometer, Temperature Scales And Their Interconversion, Thermal Expansion, Thermal Expansion Of Solids, Thermal Expansion Of Liquids, Thermal Expansion Of Gases, Transfer Of Heat, Conduction, Good And Bad Conductors, Convection, Radiation, The Thermos Flask

**Light And Shadows**: Sources Of Light, Transparent, Translucent And Opaque Bodies Or Mediums, Rays And Beams, Rectilinear Propagation Of Light, Pinhole Camera, Shadow, Eclispe – Shadows Formed By Heavenly Bodies

**Reflection Of Light:** Regular And Diffuse Reflection, Laws Of Reflection, Formation Of Images By A Plane Mirror, Spherical Mirrors, Ray Diagrams, Images Formed By A Concave Mirrors, Images Formed By A Convex Mirrors, Uses Of Concave And Convex Mirrors

**Electricity:** Electric Current, Sources Of Electricity, Electric Circuits And Circuit Diagrams, Electricity At Home, House Hold Wiring System, Electrical Connection In The House, Electrical Hazards, Precautions – Safety Devices In Electrical Connections, Effects Of Electric Current, Conservation Of Electricity

**Introduction To Chemistry – Matter:** Introduction To Chemistry, Chemical Apparatus, States Of Matter, Simple Demonstrations To Study The States Of Matter, Molecular Nature Of Matter, Simple Demonstrations To Study The Molecular Nature Of Matter, Inter conversion Of Matter

**Physical And Chemical Changes:** Introduction, Examples Of Physical And Chemical Changes

**Properties Of Matter – Elements, Compounds And Mixtures:** Introduction – Properties Of Substances, Physical Properties Of Important Substances, Pure Substances – Elements And Compounds, Impure Substances – Mixtures, Purification Of Substances – Separation Of Mixtures

**Fundamental Chemistry – Chemical Terminology:** Introduction, The Atom, Symbol, Chemical Formula – Valency, The Symbols And Valency Chart – Of – Some Common Elements, Ion, Writing A Chemical Formula, Chemical Equations, Balancing A Chemical Equations, Chemical Reactions, Simple Problems – Molecular Weight And Percentages Composition

**Oxygen And Oxides:** Air – Introduction – To – Air, Air – Simple Experiments With Air, Air – A Mixture, Oxygen – Introduction – To – Oxygen, Preparation Of Oxygen – Laboratory Method, Other Methods Of Preparation Of Oxygen, Properties Of Oxygen – General, Properties Of Oxygen – Oxides, Uses Of Oxygen

**Hydrogen:** Introduction, Preparation Of Hydrogen – Laboratory Method, General Methods Of Preparation Of Hydrogen, Properties Of Hydrogen, Uses Of Hydrogen

**Matter:** Introduction – To Water, Natural Water, Purification Of Natural Water, Properties Of Water – Physical, Properties Of Water – Chemical, Tests For Water, Solutions, Solubility Of Solids, Liquids And Gases In Water

Acids, Bases And Salts: Introduction – Acids, Bases And Salts, Acids – Sources, Preparation, Dissociation Of Acids, Acids – Properties Of Acids, Acids – Uses Of Acids, Bases – Properties Of Bases, Bases – Uses Of Bases, Salts, Salts – Uses Of Salts

**Basic Biology:** Discovery Of The Cell, Cell Theory, Number Of Cells, Shape Of Cells, Size Of Cells, Sturcture Of A Cell, Animal Cell, Plant Cell, Differences Between Plant Cell And Animal Cell, Cell Division

**Organization In Living Beings:** Levels Of Organization, Plant Tissues, Animal Tissues

**Movement In Animals And Plants:** Types Of Movement, Locomotion In Microscopic Organisms, Locomotion In Some Invertebrates, Locomotion In Some Vertebrates, Movement In Human Body, Role Of Muscles In Movement, Movement In Plants

**Nutrition In Animals And Plants:** Modes Of Nutrition, Classes Of Food – Types Of Nutrients, A Balanced Diet, Food Fads, Food Additives, Nutrition In Plants, Nutrients For Plants, Diseases In Plants

**Ingestion, Digestion, Absorption And Assimilation:** The Digestive System In Humans, The Process Of Digestion, The Process Of Nutrition In Humans

**Respiration And Excretion In Animals And Plants:** The Process Of Respiration, Types Of Respiration, Respiratory Organs Of Some Animals, The Respiratory System In Humans, Respiration In Plants, Transpiration In Plants, The Process Of Excretion, Excretion In Humans, Excretion In Plants

**Life Under A Microscope:** What Are Microorganisms?, Bacteria, Algae, Protozoa, Fungi, Viruses, Conditions Necessary For The Growth Of Microorganisms, Useful Microorganisms, Harmful Microorganisms, Prevention Of Spoilage Of Food, Preventive Measures To Avoid Infection

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Passage Reading
Poem Reading
Writing A Notice
Dialogue Writing
Letter Writing
Article Writing