

# **SYLLABUS AND MARKING SCHEME FOR SOF OLYMPIADS**

## **GRADE 5**

### About International Mathematics Olympiad (IMO)

One of the popular Math Olympiad, conducted by SOF, the **IMO** is conducted at two levels

**Level 1:** The first level of the exam is organized in the respective schools of the participants during school hours only.

- The Level 1 exam is an objective-type test having duration of 60 minutes comprising of 35 objective-type questions for classes 1 to 4 and 50 objective-type questions for classes 5 to 12.
- The exam consists of four sections:  
Section-1: Logical Reasoning  
Section-2: Mathematical Reasoning  
Section-3: Everyday Mathematics  
Section-4: Achievers Section
- There are separate question papers for each and every class.
- The medium of the exam is English.
- CBSE, ICSE/ISC and other State Board syllabus is followed for the setting of test papers.
- The exam is conducted during school hours only

**Level 2:** The Level 2 is conducted for students of classes 3 to 12. The qualifiers to second round would include the following:

- Top 5% of candidates class wise that appear for the 1st level exam. Due weightage to marks scored in different sections will be given. Each section is accorded with a separate weightage.
- Zone wise top 25 rank holders class wise.
- Class topper where at least 10 students from a class appear in the exam & have scored 50% qualifying marks.

## SOF IMO Syllabus and Marking Scheme

Class	Section	No. of Questions	Marks/Question	Total Marks
1 to 4	Logical Reasoning	10	1	10
	Mathematical Reasoning	10	1	10
	Everyday Mathematics	10	1	10
	Achievers Section	5	2	10
	Grand Total	35		40
5 to 12	Logical Reasoning	15	1	15
	Mathematical Reasoning	20	1	20
	Everyday Mathematics	10	1	10
	Achievers Section	5	3	15

### CLASS 5

Section – 1: Patterns, Analogy and Classification, Coding-Decoding, Geometrical Shapes, Mirror Images, Water Images, Embedded Figures, Direction Sense Test, Ranking Test, Alphabet Test and Logical Sequence of Words, Puzzle Test.

Section – 2: Animals, Human Body and Health, Plants, Natural Resources, Pollution and Calamities, Earth and Universe, Matter, Force, Work and Energy.

Section – 3: Higher Order Thinking Questions - Syllabus as per Section – 2.

# **DETAILED SYLLABUS**

## **GRADE 5**

### Online Math Olympiad Class Syllabus for Grade 5

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Olympiads are the stepping stones to achieve better results in the competitive world that lies ahead in the life of the child. Math Olympiad examinations help students to improve their mathematical skills along with their analytical and problem solving abilities.

Hence, Olympiad Success Live has designed the course for Math Olympiad for class 2 in such a way that the foundation of the child is built up. For this, we have done great efforts in finding the tutor for class 2 Math Olympiad with relevant background and experience.

If you are interested in purchasing this course, then please Enrol Now. You will be redirected to the batch detail page, wherein you can see all the details like batch start and demo dates, fees and the registration link related to Math Olympiad for class 2 course.

## **IMO**

### Syllabus

#### **Number Sense, Roman Numerals**

- Number sense
  - Natural number, whole number and integer
  - Place and face value
  - Successor and predecessor
  - Rounding numbers (Up to 10,000)
  - To write a numeral
- Roman numerals (Up to 1000)
  - Indian system of numeration
  - International system of numeration

#### **Computation Operations**

- Operations on large numbers
  - Addition and subtraction of 6-digits numbers
  - Word problems on addition and subtraction

- Multiplication and division of large numbers
- Word problems on subtraction and division
- Simplification
  - Numerical expressions
  - BODMAS rule

## **Fractions**

- Factors and multiples
  - Definition and properties of factor and multiples
  - Even and odd numbers
  - Prime and composite numbers
  - Prime factorization
  - HCF and LCM
- Fraction
  - Definition of fraction
  - Various types of fractions (Like, unlike, unit, proper, improper, mixed and equivalent fraction)
  - To convert an improper fraction into a mixed fraction
  - To convert a mixed number into an improper fraction
  - Lowest form of fraction
  - Operations of fraction (Addition, subtraction, multiplication and division)
  - Comparison of fractions
- Playing with numbers
  - Test of divisibility by 2, 3, 4, 5, 6, 7, 8, 9, 10 and 11

## **Measurements**

- Measures of length
  - Conversion of higher units into lower unit and vice versa (mm-cm-dm-m-dam-hm-km)
  - Addition and subtraction of length measures
  - Multiplication and division of length measures
- Measures of mass
  - Conversion of higher units into lower unit and vice versa (kg-hg-dag-g-dg-cg-mg)

- Addition and subtraction of mass measures
- Multiplication and division of mass measures
- Measures of capacity
  - Conversion of higher units of volume into lower unit and vice versa (kl-hl-dal-l-dl-cl-ml)
  - Addition and subtraction of capacity measures
  - Multiplication and division of capacity measures

### **Temperature**

- Body temperature
- Converting from Celsius to Fahrenheit and vice versa

### **Time**

- Time
  - To convert 24-hour clock time to 12-hour clock time
  - Addition and subtraction of time
  - Duration of an activity
- Money
  - Conversion of rupees into paise and vice versa
  - Operations of money (Addition, subtraction, multiplication and division of money)

### **Basic Geometrical Concepts**

- Concept of angles
  - Definition of plane, point, line segment, line and ray
  - Definition and comparison of angles
  - Classification of angles
  - Complementary and supplementary angle
  - Parallel and perpendicular lines
- Triangles
  - Collinear and non-collinear points
  - Classification of triangles (According to their sides and angles)
  - Introduction to circle
  - Terms related to circle
- Perimeter and Area

- Perimeter and area of rectangle
- Perimeter and area of square
- Perimeter and area of triangle
- Volume
  - Volume of cube and cuboid
  - Units of volume

### **Symmetry and Data Handling**

- Numerical data, Bar Graph and Pictograph
- Symmetry
  - Definition of symmetry
  - Line of symmetry
  - Rotational symmetry

### **Decimals**

- Decimal
  - Decimal fractions
  - Place-value chart
  - Like and unlike decimals
  - Addition and subtraction of decimals
- Percentage
  - Converting a percentage into a fraction or a decimal
  - Converting a fraction or a decimal into a percentage

## **International English Olympiad (IEO)**

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We help students of class 1 to 10 in preparation of SOF IEO exam and courses through sample question and practice papers.

### **About International English Olympiad (IEO)**

The exam is a written objective-type test having a duration of 60 minutes comprising 35 objective-type questions for classes 1 to 4 and 50 objective-type questions for classes 5 to 12.

## SOF IEO Syllabus and Marking Scheme

Class	Section	No. of Questions	Marks/Question	Total Marks
1 to 4	Word & Structure Knowledge	30	1	30
	Reading			
	Spoken & Written Expression			
	Achievers Section	5	2	10
	<b>Grand Total</b>	<b>35</b>		<b>40</b>
5 to 12	Word and Structure Knowledge	45	1	45
	Reading			
	Spoken and Written Expression			
	Achievers Section	5	3	15
	<b>Grand Total</b>	<b>50</b>		<b>60</b>

### CLASS 5

Section – 1: Spellings, Collocations, Idioms, Homonyms and homophones, Words related to feelings, Travel, Food, Health, Appearance, Character, etc. Nouns, pronouns, verbs and phrasal Verbs, Adverbs, Adjectives, Articles, Prepositions, Punctuation, Tenses, Active-Passive Voice and Reported Speech etc.

Section – 2: Search for and retrieve information from various text types like news headlines, Messages, Letters, etc., Understand information given in News reports, Time-tables, Messages, etc., Acquire broad understanding of and look for specific information in short texts like messages, menu card, dialogues etc.

Section – 3: Ability to understand situation-based variations in functions like requests, Refusals, Apologies, etc. and the use of conjunctions.

Section – 4: Higher Order Thinking Questions - Syllabus as per Sections 1, 2 and 3.

## IEO detailed Syllabus

### IEO

## Syllabus

### Chapter 1

#### Nouns

- Subject- Verb Agreement- develop higher level of proficiency in the use of subject verb agreement.
- Identify nouns – with abstract nouns
- Identify common and proper nouns
- Form plurals of nouns ending in f, fe, o and y
- Form and use plurals of nouns ending in f, fe, o and y
- Identify plurals, singular possessives, and plural possessives
- Form the singular or plural possessive
- Identify and correct errors with plural and possessive nouns

## **Chapter 2**

### **Pronouns**

Providing examples of grammar in context to make children understand various aspects of grammar e.g. (basic examples of possessive pronouns – can't, won't etc.).

- Identify personal pronouns
- Choose between subject and object personal pronouns
- Replace the noun with a personal pronoun
- Compound subjects and objects with "I" and "me"
- Compound subjects and objects with personal pronouns
- Use possessive pronouns
- Choose between personal and reflexive pronouns
- Use reflexive pronouns
- Identify relative pronouns
- Use relative pronouns: who and whom
- Use relative pronouns: who, whom, whose, which and that

## **Chapter 3**

### **Verbs and Phrasal Verbs**

- Verb and Object
- Direct and Indirect Object
- Transitive and Intransitive Verbs
- Phrasal Verbs
- Introduce and reinforce the use of irregular verbs in their simple and continuous tense. (break, broke, broken – eat, ate, eaten);



- Creating opportunities for use of idioms, phrases, and vocabulary in context e.g. use of phrases: look: look down, look up, look down upon, look into etc.
- Identify main verbs and helping verbs
- What does the modal verb show?
- Use the correct modal verb
- Use the correct subject or verb
- Use the correct subject or verb – with compound subjects
- Is the sentence in the past, present or future tense?
- Form and use the regular past tense
- Form and use the irregular past tense
- Form and use the simple past, present and future tense
- Correct inappropriate shifts in verb tense
- Use and form the progressive verb tenses
- Choose between the past tense and past participle
- Use and form the perfect verb tenses

## **Chapter 4**

### **Adverbs**

- Adverbs and adverbial phrases
- Use of 'firstly', 'then', 'later', 'finally', etc. to link sentences to indicate the passage of time and provide a sense of closure.
- understand and use adverbs and their kinds
- Use relative adverbs
- Choose between adjectives and adverbs
- Is the word an adjective or adverb?
- Use adjectives to compare
- Spell adjectives that compare
- Use adjectives with more and most
- Use adverbs to compare

## **Chapter 5**

### **Adjectives**

- Adjective and their order(*if more than one adjective is used for a noun*)
- Adjectival Phrases

- Determiners/quantifiers
- Recapitulation of adjective phrases

## **Chapter 6**

### **Articles**

## **Chapter 7**

### **Prepositions**

- Recapitulation of prepositional phrases

## **Chapter 8**

### **Conjunctions**

- Connectors (*yet, still, as, when etc.*)
- coordinating conjunctions are **and, but, yet, or,** and **so**
- subordinating conjunctions are **after, before, as, while, until, because, since, unless, although,** and **if.**

## **Chapter 9**

### **Tenses- Perfect, Past - Simple, Continuous, and Perfect**

- Recapitulation of Tenses (Tenses-Simple, Continuous, Perfect-Present, Past, Future; Explore the past, present, and future tenses of verbs.)
- Active and Passive Voice

## **Chapter 10**

### **Punctuations**

- Commas with direct addresses, introductory words, and interjections
- Commas with compound and complex sentences
- Correct capitalisation errors
- Capitalising titles
- Formatting titles
- Formatting and capitalising titles

## **Chapter 11**

### **Jumbled words**

- Prefixes (*uni, bi, tri, semi, multi, sub, trans, fore, inter*)

- Suffixes (*ness, ly, ous, ful, less, tion, sion*)
- Different spelling rules apply for suffixes which begin with vowels and those that begin with consonants

## **Chapter 12**

### **Passive and Reported Speech**

- Difference between direct and reported speech
- Recapitulation of parts of speech
- Recapitulation of Direct and Indirect Speech

## **Chapter 13**

### **Integrated Grammar Exercise**

- Recapitulation of types of sentences and its kinds
- Transformation of sentences
- Similes and Metaphors
- Homophones Homonyms and Homographs
- Forming Antonyms using prefixes (*dis, in, im, il, ir, un*)
- Introduction to Modals (must, must not, should, should not, ought to, ought not to)

## **Chapter 14**

### **Short Composition (Notices and Messages)**

- Organise and structure meaningful sentences in a sequential manner

## **Chapter 15**

### **Composition Based on Visual Stimulus and Letter**

- Inferring Information (*from a given statement*)-analytical skills
- Letter Writing – Formal and Informal

## **Chapter 16**

### **Comprehension (Prose and Poetry)**

## **Chapter 17**

### **Spoken and Written Expression**

- Use paragraphs to organise and sequence ideas

- First person narrative (based on an unforgettable experience)
- Story writing: Write in your own word's version of any legends or fables, using punctuation, simple to complex sentences, use words and phrases to express feelings and proper use of pronouns.
- write at least two paragraphs of about 150 words at a more advanced level on any given topic
- write narratives that recount a well-elaborated event or short sequence of events; include details to describe actions, thoughts, and feelings

## National Science Olympiad (NSO)

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### About National Science Olympiad (NSO)

**NSO** is conducted at two levels:

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- The level 1 exam is an objective-type test having a duration of 60 minutes and comprising 35 objective-type questions for classes 1 to 4 and 50 objective-type questions for classes 5 to 12.
- The exam consists of three sections for classes 1 to 10:  
Section-1: Logical Reasoning  
Section-2: Science  
Section-3: Achievers Section

**Level 2:** The level 2 is conducted for students of classes 3 to 12. The qualifiers to second round would include the following:

- Top 5% of candidates class wise that appear for the 1st level exam. Due weightage to marks scored in different sections will be given. Each section is accorded with a separate weightage.
- Zone wise top 25 rank holders class wise.
- Class topper where at least 10 students from a class appear in the exam & have scored 50% qualifying marks.

## SOF NSO Syllabus and Marking Scheme

Class	Section	No. of Questions	Marks/Question	Total Marks
1 to 4	Logical Reasoning	5	1	5
	Science	25	1	25
	Achievers Section	5	2	10
	Grand Total	35		40
5 to 10	Logical Reasoning	10	1	10
	Science	35	1	35
	Achievers Section	5	3	15
	Grand Total	50		60

### CLASS 5

Section – 1: Patterns, Analogy and Classification, Coding-Decoding, Geometrical Shapes, Mirror Images, Water Images, Embedded Figures, Direction Sense Test, Ranking Test, Alphabet Test and Logical Sequence of Words, Puzzle Test.

Section – 2: Animals, Human Body and Health, Plants, Natural Resources, Pollution and Calamities, Earth and Universe, Matter, Force, Work and Energy.

Section – 3: Higher Order Thinking Questions - Syllabus as per Section – 2.

## NSO Detailed Syllabus

Olympiads are the steppingstones to achieve better results in the competitive world that lies ahead in the life of the child. Science Olympiad examinations help students to improve their analytical and problem-solving abilities.

Hence, Olympiad Success Live has designed the course for Science Olympiad for class 2 in such a way that the foundation of the child is built up. For this, we have done great efforts in finding the tutor for class 2 Science Olympiad with relevant background and experience.

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# NSO

## Syllabus

### Animals

- Classification of animals and birds - vertebrate and invertebrate
- Food chains and web
- Habitat and adaptation
- Animals as producers, consumers, decomposers, scavengers
- Animals lay eggs or give birth to young ones
- Life cycle of an animal/ an insect/a bird
- Classification of different animals based on
  - Body covering: Scales, shell, feathers, fur and wool
  - Feeding habits: Herbivores, carnivores, omnivores
  - Organs aiding in breathing: Lungs, gills, body surface or moist skin, spiracles
  - Methods of moving: Land animals, reptiles, insects, birds, aquatic animals, migration

### Human body and Health

- Cells, tissues, organs and organ systems
- Explain to which system the organs belong to and the basic functioning of these systems in coordination with the other parts, like digestive, respiration, excretory and nervous system
- Organ system: Nervous system, skeletal system, muscular system, circulatory system, digestive system, breathing system, excretory system, reproductive system
- Types of muscles: Involuntary and voluntary muscles
- Skeletal system-bones
  - Importance of bones, muscles and joints for the body
  - Different types of joints
  - Functions of bones, major bones of the body - arms, legs, chest bone, skull, jawbone, backbone
  - Care of bones and joints, food items to make the bones strong
- Importance of good posture and exercise
- Circulatory System

- Organs/parts of the circulatory system, their structure, functions (heart, arteries, veins), functions of blood
- Process of circulation through pictures, visuals in simple terms (no technical knowledge to be given)
- Components of a balanced diet, importance of eating a balanced diet
- Junk food: meaning and examples; adverse effects of eating junk food
- Preservation of perishable and non-perishable food
- Ways to make diet healthier (e.g., sprouting, fermentation)
- Nutrients: Proteins, carbohydrates, fats, vitamins, minerals
- Diseases related to food habits, lifestyle (obesity, anaemia, diabetes, blood pressure); and symptoms of the diseases in simple terms
- Prevention of the diseases in non-technical terms
- Deficiency diseases - some common deficiency diseases and ways to prevent and treat them: Kwashiorkor, marasmus, night blindness, anaemia, rickets, scurvy, beriberi, goitre
- Communicable and non-communicable disease
- Type of germs, disease caused by them and mode their mode of transmission
- Meaning of food adulteration and examples of some common adulterants (awareness level only)

## **Plants**

- Reproduction in plants: seed germination, grafting, shoots, bulbs, pollen, etc.
  - Stem—its types, functions, uses and modifications
  - Vascular plants
  - Parts of a flower (male and female)
  - Plants' life cycle including pollination, fertilisation, seed production, seed dispersal and germination
- Other ways of reproduction in plants
  - Vegetative reproduction-meaning
  - Vegetative reproduction from stem cuttings (potatoes, onion, ginger), root (carrot), leaf (Bryophyllum)
- New plants from seeds
- Seed germination
- Dispersal of seeds: By wind, by water, by animals, by explosion
- Crops: food crops, fibre crops, oil-producing crops
- Getting good yields from crops

- Androecium and gynoecium
- Pollination
  - Bisexual and monosexual flowers
  - Process of pollination
  - Some ways of pollination (self and cross pollination)

## **Water**

- Substances which dissolve in water
- Impurities in water
- Removing insoluble impurities
  - Sedimentation
  - Decantation
  - Filtration
- Removing soluble impurities
  - Evaporation
  - Distillation
- Removing disease germs
- Treatment of town water supply: Sedimentation, filtration, chlorination
- Water pollution

## **Natural Resources and Calamities**

- Natural and man-made resources
- The atmosphere: How does atmosphere protect us
- Composition of air
- Inhaled and exhaled air
- Properties of air
  - Air occupies space
  - Air has weight
  - Air is needed for burning
  - Air exerts pressure
- Uses of air pressure
- Air pollution
- Sources of fuels
- Need to save fuel



- Science and technology and its effect on human beings
- Natural calamities such as Forest Fire – its causes and effects
- Natural calamities: Floods, droughts, and earthquakes
- Floods and cyclones
  - Controlling floods
  - Reducing damage due to the floods
- Droughts
  - Reducing the effects of droughts
- Earthquakes
  - What causes earthquakes?
  - When there is an earthquake?
- Tsunami
- Things to do when faced with a natural calamity

### **Earth and Universe**

- The Solar Family
  - Sun and its planets as a family –galaxies, stars, comets, asteroids, meteoroids, satellites (natural and artificial)
  - Latitude and longitude
  - Imaginary lines around the earth
- The Earth and beyond
  - how the sun appears to move during the day and how shadows change
  - how the spin of the Earth leads to day and night
- Movement of the moon
- Phases of the moon
- Conditions on moon
- Exploration of the moon
- Eclipses
  - Lunar eclipse
  - Solar eclipse

### **Matter**

- Solids: Properties of solids-definite shape, geometry. Give examples of sugar crystals

- Liquids: Properties of liquids-occupy space, flow from high level to low level, take the shape of the container. Separation of liquids from solids
- Gases: Properties of gases-no definite shape and volume
- Composition of gases in air; with experiment- land and sea breezes, monsoon breezes
- Role of ventilators in houses/halls, closed spaces - warm air lighter than fresh air
- Solute and solvent

### **Force, Work and Energy**

- Need for machines. Types of simple machines used in day-to-day life (lever, screw, pulley, wheel and axle, pulley, screw, wedge)
- Need for levers
- Types of levers
  - First class lever
  - Second class lever
  - Third class lever
  - examples related to daily life
- Meaning of work, examples of work done/not done
- Definition of energy; energy is need for work
- Various kinds/forms of energy - light, heat, electricity, sound
- Renewable and non-renewable sources of energy and examples of each kind

# **REASONING**

## **Syllabus**

- Alpha Numeric Sequence Puzzle, Number, Ranking and Time Sequence Test, Logical Sequence of Words, Alphabet Test
- Analogy and Classification
- Analytical Reasoning
- Blood Relations
- Coding - Decoding
- Cubes and Dice
- Direction Sense Test
- Dot Situation
- Embedded Figures, Figure Formation, Construction of Squares, Grouping of Identical Figures, Figure Matrix
- Geometrical Shapes and Solids
- Logical Venn Diagrams
- Mathematical Operations
- Mirror Images and Water Images
- Paper Folding and Paper Cutting
- Patterns
- Series Completion and Inserting the Missing Character