

SCO INTERNATIONAL

ARTIFICIAL INTELLIGENCE OLYMPIAD

GRADE 5 OFFICIAL SYLLABUS

A structured syllabus roadmap for Grade 5 learners, teachers, schools, and parents.

Designed for Grade 5 AI learning pathways and aligned with SCO's global preparation, practice, reporting, and future-ready academic growth model.

- age-fit AI literacy for primary-level learners globally
- conceptual understanding of AI, data, patterns, machine learning, safety, and real-life applications
- Ready academic document style for website view and download

AI Basics	Machine Learning	Data Thinking	Patterns	Real-life AI
Safety	Projects	AI Games	Ethics	Future Skills

SCO International Artificial Intelligence Olympiad – Class 5 Official Syllabus

This syllabus introduces Grade 5 learners to AI literacy through simple examples, classroom data, pattern recognition, everyday AI applications, responsible use, and guided mini-projects. The learning pathway is designed for global school learners and keeps child safety, fairness, and human judgement at the centre of AI learning.

Recommended PDF-ready Typography

Element	Recommended Size	Use
H2	16 pt	Main document sections
H3	12.5-13 pt	Subsections and chapter headings
Body	10.5-11 pt	Theory, instructions, and explanations
Table text	8.3-9 pt	Answer keys, chapter grids, rubrics, and compact data tables

Exam Blueprint

Part	Question Nos.	Focus	Marks
A	1-10	Understanding AI and Machine Learning	10
B	11-20	Data, Patterns, and Sequence Thinking	10
C	21-30	Real-life AI, Communication, and Safety	10
D	31-35	Achievers Section: data tasks and AI projects	10
Total	35 Questions	60 minutes	40 Marks

Chapter-wise Syllabus and Learning Outcomes

Chapter	Chapter Name	Core Learning Focus	Suggested Activities
1	Understanding AI	Explain AI as a helpful computer system that uses data, rules, and patterns; compare AI and non-AI tools.	AI vs non-AI sorting chart; everyday AI examples poster
2	Machine Learning	Understand learning from examples, labels, training data, prediction, and feedback through age-fit games.	Train a classroom rule-based classifier using labelled cards
3	Data Around Us	Identify number, text, image, sound, and date/time data; collect small classroom datasets fairly.	Collect simple class survey data and identify data types
4	Pattern Recognition and Sequence Thinking	Find patterns in numbers, letters, shapes, colours, behaviour, and simple tables.	Number, letter, colour, shape, and behaviour pattern puzzles
5	Real-Life AI Example	Explore AI in learning apps, games, recommendations, maps, and everyday digital tools.	Map AI use in games, learning apps, recommendations, and cameras
6	Real-Life AI Example 2: Communication	Understand chatbots, voice assistants, predictive text, speech recognition, and translation.	Voice assistant, chatbot, translation, and predictive text role play
7	Real-Life AI Example 3	Explore AI in transportation, safety, delivery, traffic systems, entertainment, and daily decisions.	Smart city, delivery route, traffic signal, and safety scenario tasks
8	Responsible AI for Children Safety	Practise privacy, consent, fairness, checking AI answers, digital kindness, and adult guidance.	Privacy pledge, permission checklist, bias discussion, digital

			kindness activity
9	Achievers Section I: Data Handling Tasks and Simple Machine Learning Games	Solve higher-order data classification, sorting, grouping, prediction, and error-checking tasks.	Mini datasets for sorting, prediction, classification, and error analysis
10	Achievers Section II: Grade 5 AI Projects	Plan and explain small AI projects such as image sorting, pattern games, recommendation charts, or safety posters.	Plan a safe AI project with question, data, model idea, test, and reflection
11	Cross-Chapter AI Project Bank	Integrate multiple chapters through mini-projects involving question, data, pattern, model, testing, and reflection.	Cross-chapter project portfolio and presentation

Detailed Learning Objectives

Chapter 1: Understanding AI

- Explain AI as a helpful computer system that uses data, rules, and patterns; compare AI and non-AI tools.
- Use examples, drawings, classroom observations, and small datasets to build conceptual understanding.
- Answer MCQ and scenario-based questions using reasoning, not memorisation.

Chapter 2: Machine Learning

- Understand learning from examples, labels, training data, prediction, and feedback through age-fit games.
- Use examples, drawings, classroom observations, and small datasets to build conceptual understanding.
- Answer MCQ and scenario-based questions using reasoning, not memorisation.

Chapter 3: Data Around Us

- Identify number, text, image, sound, and date/time data; collect small classroom datasets fairly.
- Use examples, drawings, classroom observations, and small datasets to build conceptual understanding.
- Answer MCQ and scenario-based questions using reasoning, not memorisation.

Chapter 4: Pattern Recognition and Sequence Thinking

- Find patterns in numbers, letters, shapes, colours, behaviour, and simple tables.
- Use examples, drawings, classroom observations, and small datasets to build conceptual understanding.
- Answer MCQ and scenario-based questions using reasoning, not memorisation.

Chapter 5: Real-Life AI Example

- Explore AI in learning apps, games, recommendations, maps, and everyday digital tools.
- Use examples, drawings, classroom observations, and small datasets to build conceptual understanding.
- Answer MCQ and scenario-based questions using reasoning, not memorisation.

Chapter 6: Real-Life AI Example 2: Communication

- Understand chatbots, voice assistants, predictive text, speech recognition, and translation.
- Use examples, drawings, classroom observations, and small datasets to build conceptual understanding.
- Answer MCQ and scenario-based questions using reasoning, not memorisation.

Chapter 7: Real-Life AI Example 3

- Explore AI in transportation, safety, delivery, traffic systems, entertainment, and daily decisions.
- Use examples, drawings, classroom observations, and small datasets to build conceptual understanding.
- Answer MCQ and scenario-based questions using reasoning, not memorisation.

Chapter 8: Responsible AI for Children Safety

- Practise privacy, consent, fairness, checking AI answers, digital kindness, and adult guidance.
- Use examples, drawings, classroom observations, and small datasets to build conceptual understanding.
- Answer MCQ and scenario-based questions using reasoning, not memorisation.

Chapter 9: Achievers Section I: Data Handling Tasks and Simple Machine Learning Games

- Solve higher-order data classification, sorting, grouping, prediction, and error-checking tasks.
- Use examples, drawings, classroom observations, and small datasets to build conceptual understanding.
- Answer MCQ and scenario-based questions using reasoning, not memorisation.

Chapter 10: Achievers Section II: Grade 5 AI Projects

- Plan and explain small AI projects such as image sorting, pattern games, recommendation charts, or safety posters.
- Use examples, drawings, classroom observations, and small datasets to build conceptual understanding.
- Answer MCQ and scenario-based questions using reasoning, not memorisation.

Chapter 11: Cross-Chapter AI Project Bank

- Integrate multiple chapters through mini-projects involving question, data, pattern, model, testing, and reflection.
- Use examples, drawings, classroom observations, and small datasets to build conceptual understanding.
- Answer MCQ and scenario-based questions using reasoning, not memorisation.

Cross-Chapter Project Bank

Project	Task	Skills
AI or Not?	Create a poster comparing AI tools and non-AI tools used at home or school.	Classification, explanation, responsible use
Classroom Data Detective	Collect safe, non-private class data such as favourite fruits or reading time and show patterns.	Data collection, charts, fairness
Simple Recommender	Recommend a book or game based on two features such as topic and difficulty.	Features, rules, recommendation
Traffic Helper	Design a paper model showing how AI can adjust traffic lights using road data.	Real-life AI, sequence thinking
Responsible AI Pledge	Make a checklist for privacy, consent, checking answers, and kindness while using AI.	Safety, ethics, communication

Assessment Guidance for Schools and Teachers

- Use age-appropriate language and avoid advanced coding syntax for standard Grade 5 assessment unless used only as a visual pattern activity.
- Prefer scenario-based questions involving everyday AI tools, fairness, data quality, privacy, and human judgement.
- Encourage students to explain why an AI answer may be uncertain or biased.
- Evaluate project work using clarity of question, safe data use, pattern identification, testing, and reflection.