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SCO INTERNATIONAL OLYMPIAD

CLASS 2 AI SYLLABUS

A comprehensive guide for schools, teachers, parents, and students

Designed from Class 2 Artificial Intelligence learning pathways and aligned with SCO's platform flow for guided preparation, practice, reporting, and future-ready digital literacy.

- age-fit AI awareness and thinking guidance for Grade 2 / early primary learners globally
- chapter-wise pathways across AI basics, daily-life examples, sense-think-act, patterns, data games, safety, logic, and block coding
- preparation roadmap, classroom implementation ideas, and future-benefit framing for responsible digital learning

Maths	English	Science	Mental Ability	Finance Knowledge
AI	Entrepreneurship	GK	Coding	Life Skills

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SCO INTERNATIONAL AI OLYMPIAD - CLASS 2 SYLLABUS

Artificial Intelligence | Grade 2 | Student, Teacher and School Guide

This syllabus introduces young learners to Artificial Intelligence through observation, pattern recognition, simple data games, safe use habits, and creative classroom projects. It supports age-appropriate curiosity while helping students understand that AI is a tool created by people to help solve problems, recognize patterns, and support learning.

Quick Glance: Syllabus Pathway

Chapter No.	Chapter Name	Learning Focus
1	What is Artificial Intelligence	Understand AI as a smart technology that can help people when it is designed and used responsibly.
2	Artificial Intelligence Examples in Daily Life	Recognize voice assistants, maps, learning apps, cameras, and simple smart devices.
3	How Artificial Intelligence Works (Sense - Think - Act)	Learn the simple flow: collect input, process information, and respond with an action.
4	Learn Patterns, Shapes, Colors and Data Games for AI	Use patterns and simple data sorting to understand how AI learns from examples.
5	Learn Machine vs Human Capabilities for AI	Compare what machines can do well with what humans do well, including feelings, judgement, kindness, and creativity.
6	Safe and Kind Artificial Intelligence Use	Build safe, honest, respectful, and age-fit habits while using AI-supported tools.
7	Logic Puzzles and Matching Fun	Develop sequencing, matching, odd-one-out, classification, and simple reasoning skills.
8	Block Coding and Rule-Based Thinking	Understand instructions, steps, loops, conditions, and simple rule-based thinking through block-style activities.
9	Student Artificial Intelligence Project Template for Grade 2	Plan and present a simple AI-inspired idea using problem, data, rule, action, safety, and reflection.

Purpose of the Class 2 AI Syllabus

- For students: builds early AI awareness using examples from home, school, games, learning apps, cameras, and voice assistants.
- For teachers: provides a classroom-ready pathway for guided discussion, unplugged activities, visual pattern games, and simple project work.
- For schools: supports future-ready digital literacy while keeping safety, kindness, fairness, and responsible technology use at the centre of learning.

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Chapter-Wise Syllabus Notes and Learning Outcomes

Chapter 1: What is Artificial Intelligence	
Chapter Note	Artificial Intelligence is introduced as a type of smart computer technology that can help people by recognizing information, following rules, and giving useful responses. The focus is on simple, friendly examples rather than technical definitions.
Learning Outcomes	• Explain AI in simple words as smart technology made by humans. • Identify that AI can help with learning, answering, sorting, and recognizing things. • Understand that AI is not magic; it works with information and instructions.
Student Practice	Draw or describe one AI helper that can support a classroom task such as finding lost items, answering simple questions, or matching pictures.
Teacher/School Use	Teachers can use picture cards and classroom examples to help students separate real AI use from fantasy or magic thinking.

Chapter 2: Artificial Intelligence Examples in Daily Life	
Chapter Note	Students learn that AI can appear in familiar tools such as voice assistants, maps, camera face recognition, spelling help, recommendation tools, learning games, and simple robots.
Learning Outcomes	• Recognize common AI-supported tools in daily life. • Match AI tools with their purpose, such as listening, guiding, recognizing, or suggesting. • Understand that different AI tools help with different tasks.
Student Practice	Sort examples into “AI may be used” and “AI is not needed” categories, such as voice assistant, pencil, smart map, book, robot vacuum, and chair.
Teacher/School Use	Schools can use this chapter to connect AI awareness with digital citizenship and guided technology discussions.

Chapter 3: How Artificial Intelligence Works (Sense - Think - Act)	
Chapter Note	AI is explained through a simple three-step model. It senses information, thinks by using rules or patterns, and acts by giving an answer, suggestion, movement, or result.

Learning Outcomes	• Describe the Sense - Think - Act cycle using a familiar example. • Identify what input an AI tool receives, such as voice, picture, text, or number. • Identify the output, such as an answer, match, route, or reminder.
Student Practice	Use a "robot teacher helper" example: hears a question, checks a rule or example, and gives a response.
Teacher/School Use	Teachers can conduct unplugged role-play: one student gives input, one student follows rules, and another displays the output.

Chapter 4: Learn Patterns, Shapes, Colors and Data Games for Artificial Intelligence	
Chapter Note	Students build the foundation for AI learning by identifying patterns, sorting objects, matching colors and shapes, and using small groups of examples as simple data.
Learning Outcomes	• Recognize repeating patterns in colors, numbers, and shapes. • Sort objects by one feature such as color, size, shape, or category. • Understand that AI can learn from examples and patterns.
Student Practice	Create a table of red, blue, and green shapes, then ask students to predict the next item in a sequence or match similar objects.
Teacher/School Use	This chapter supports mathematics, reasoning, and early data literacy through hands-on pattern games.

Chapter 5: Learn Machine vs Human Capabilities for Artificial Intelligence	
Chapter Note	Students compare machines and humans in simple terms. Machines are fast at repeating, counting, remembering, and matching, while humans make caring decisions, understand feelings, ask deep questions, and choose responsibly.
Learning Outcomes	• Name tasks that machines can do quickly. • Name human abilities such as kindness, judgement, creativity, and care. • Understand that AI should help people, not replace human responsibility.
Student Practice	Make a two-column chart: "Machines are good at…" and "Humans are good at…". Discuss examples from school and home.
Teacher/School Use	Schools can use this chapter to prevent over-dependence on technology and promote human-centred digital learning.

Chapter 6: Safe and Kind Artificial Intelligence Use	
Chapter Note	Students learn that technology should be used safely, kindly, and honestly. They are introduced to basic privacy, asking adults for help, not sharing personal information, and treating people respectfully online.
Learning Outcomes	• Know that personal information should not be shared with apps or strangers. • Recognize that AI answers should be checked with a trusted adult or teacher. • Use AI-supported tools politely, honestly, and for learning.
Student Practice	Discuss safe/unsafe examples: sharing full address, asking a parent before using a new app, copying work without thinking, and using a learning game to practice.
Teacher/School Use	This chapter supports school digital-safety policy and age-appropriate AI ethics awareness.

Chapter 7: Logic Puzzles and Matching Fun	
Chapter Note	Logic puzzles strengthen the reasoning skills behind AI thinking. Students practice matching, odd-one-out, sequencing, classifying, comparing, and finding missing items in simple patterns.
Learning Outcomes	• Solve simple matching and sequencing puzzles. • Identify odd-one-out using clear reasons. • Explain a simple rule used to find an answer.
Student Practice	Use picture cards, animal sounds, shape sequences, number steps, and color patterns to develop reasoning confidence.
Teacher/School Use	Teachers can connect this chapter with Maths, Mental Ability, and Coding readiness.

Chapter 8: Block Coding and Rule-Based Thinking	
Chapter Note	Students learn that computers follow clear instructions. Block coding is introduced through step-by-step commands, direction words, loops, if-then rules, and simple cause-effect actions.
Learning Outcomes	• Arrange simple instructions in the correct order. • Understand a rule such as “if the color is red, place it in the red box”. • Recognize repeated steps and simple loops.
Student Practice	Create a paper “robot route” using commands such as move forward, turn left, match color, and repeat.
Teacher/School Use	This chapter prepares students for visual programming, coding games, and computational thinking without requiring advanced syntax.

Chapter 9: Student Artificial Intelligence Project Template for Grade 2	
Chapter Note	Students complete a simple guided project by identifying a small problem, choosing examples or data, defining a rule, showing an action, and explaining how the idea stays safe and kind.
Learning Outcomes	• Plan a simple AI-inspired classroom helper idea. • Describe the input, rule or pattern, and output of the idea. • Share a safety or kindness rule connected to the project.
Student Practice	Project examples: lost-bottle finder, homework reminder, shape sorter, animal sound matcher, classroom cleanup helper, or reading practice assistant.
Teacher/School Use	Schools can use this chapter for exhibition activities, oral presentation practice, and early innovation confidence.

Suggested Assessment Blueprint

Skill Area	Suggested Weight	Question Type
AI Awareness and Daily-Life Examples	20%	Identify AI helpers, match tools with uses, choose simple definitions.
Sense - Think - Act	15%	Input-output recognition, simple process questions, classroom examples.
Patterns, Data and Matching	25%	Shape, color, number, odd-one-out, sequence and sorting questions.
Machine vs Human Capability	15%	Choose what machines do well and what humans should decide.
Safe and Kind AI Use	15%	Privacy, adult guidance, fairness, kindness and responsible use.
Block Coding and Project Thinking	10%	Instruction order, rules, simple logic and mini-project structure.

Preparation Roadmap for Students, Teachers and Schools

Timeframe	Focus
Week 1	Start with AI in daily life. Use familiar examples such as maps, learning apps, voice assistants, and smart cameras.
Week 2	Teach Sense - Think - Act with role-play and simple classroom objects.
Week 3	Practice pattern games using colors, shapes, numbers, pictures, and sounds.
Week 4	Discuss machine vs human strengths and safe, kind technology habits.
Week 5	Use block-style instructions and rule-based activities to build logic.
Week 6	Complete a mini AI project template and present it in simple words.

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Student Skill Checklist

- Can explain AI as smart technology made by people.
- Can identify simple AI examples in home, school, and games.
- Can explain Sense - Think - Act using an example.
- Can solve basic color, shape, number, and matching patterns.
- Can describe one thing machines do well and one thing humans do well.
- Can name at least two safe and kind AI use rules.
- Can arrange simple block-style instructions in order.
- Can present a mini AI project idea with input, rule, output, and safety note.

Grade 2 AI Project Template

Project Step	Student-Friendly Prompt
Problem	What small school, home, or learning problem will the AI helper support?
Input / Data	What will the helper look at, hear, read, or count?
Pattern / Rule	What simple rule or pattern will it follow?
Action / Output	What answer, match, reminder, or result will it give?
Human Check	Who should check if the result is correct and safe?
Kindness Rule	How will the idea help people without hurting or excluding anyone?

Glossary for Quick Revision

Term	Meaning
AI	Smart computer technology that can help people by using information, examples, rules, or patterns.
Data	Information such as pictures, numbers, words, sounds, or answers.
Pattern	A repeated or organized order that can help predict what comes next.
Input	Information given to a computer or AI tool.
Output	The answer, action, suggestion, or result given by a computer or AI tool.
Rule	An instruction that tells what to do in a situation.
Block Coding	A beginner-friendly way of making programs by joining instruction blocks.
Safe Use	Using technology with care, adult guidance, privacy, and kindness.

Learning Alignment Note

This Class 2 AI syllabus supports early AI literacy through age-fit exploration of AI in daily life, pattern recognition, simple reasoning, natural interaction, safe use, and project-based classroom learning. The structure reflects globally recognized AI-learning directions such as human-centred AI, ethics, AI applications, AI system design, perception, representation, learning, natural interaction, and societal impact.

End of Syllabus

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