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SCO INTERNATIONAL SCIENCE OLYMPIAD

CLASS 5 SYLLABUS

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

Designed from Class 5 Science syllabus pathways and aligned with SCO's platform flow for guided preparation, practice, observation, reporting, and future-ready scientific growth.

- age-fit science guidance for Class 5 / upper-primary learners globally
- chapter-wise pathways across Human Body, Plants, Food, Water, Air, Fuels, Natural Resources, and Solar System
- preparation roadmap, classroom implementation ideas, and skill-building for concept clarity, scientific enquiry, and Olympiad readiness

Human Body	Plants	Natural Resources	Food & Digestion	Food Preservation
Water	Air & Fuels	Solar System	Science	Skills

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Class 5 Official Syllabus Guide

For Students • Teachers • Schools

Purpose of the Syllabus

This syllabus guide presents the Class 5 Science learning pathway for the SCO International Science Olympiad. It helps students understand what to learn, helps teachers plan lessons and practice, and helps schools communicate a clear science-preparation roadmap to families.

Syllabus at a Glance

Eight connected chapters build scientific vocabulary, observation skills, concept clarity, environmental awareness, and Olympiad-style reasoning.

Chapter	Chapter Name	Quick Note	Learning Outcome
1	**Human Body and Health**	Body systems, hygiene, nutrition, disease prevention, and healthy habits.	Identify body functions and explain daily choices that protect health.
2	**Plants: Foods**	Plant parts used as food, crop sources, photosynthesis, and food groups from plants.	Classify plant foods and connect plant growth with human nutrition.
3	**Natural Resources and Calamities**	Resources, conservation, floods, droughts, earthquakes, cyclones, and safety.	Explain resource use and suggest responsible actions before, during, and after calamities.
4	**Food and Digestion**	Nutrients, balanced diet, digestive organs, absorption, and energy for the body.	Trace the food journey and explain how digestion supports growth and activity.
5	**Food Preservation, Food Spoilage and Food Management**	Spoilage causes, germs, safe handling, storage, drying, salting, cooling, and hygiene.	Choose safe storage and preservation methods for common food situations.
6	**Importance of Water**	Sources, water cycle, conservation, safe drinking water, and water in living things.	Describe how water moves, why it matters, and how it can be conserved.
7	**Air and Fuels**	Air composition, oxygen, combustion, fuels, pollution, renewable energy, and safety.	Connect air, fuels, burning, pollution, and responsible energy use.
8	**Our Solar System**	Sun, planets, Moon, rotation, revolution, seasons, day-night, asteroids, and exploration.	Recognize solar-system objects and explain simple motion-based phenomena.

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CHAPTER 1 Human Body and Health

Quick Chapter Note

Healthy bodies grow through correct knowledge, hygiene, nutrition, rest, and safe habits.

Learning Outcomes	Core Concepts	Classroom / Practice Use
• identify major organs and body systems in simple terms • explain how food, exercise, sleep, and hygiene help the body • recognize basic disease-prevention habits such as handwashing and clean surroundings • connect body signals such as pain, fever, thirst, and tiredness with health decisions	• major organs: heart, lungs, brain, stomach, bones, muscles • nutrition, exercise, rest, cleanliness, immunity and safety • healthy routines, first aid awareness and responsible choices	• body-system chart labelling • health habit diary • handwashing and hygiene observation activity • balanced routine discussion

Olympiad Practice Focus: diagram-based identification, health-situation reasoning, cause-effect questions.

CHAPTER 2 Plants: Foods

Quick Chapter Note

Plants provide food, oxygen, fibre, medicines, fuel sources, and materials for daily life.

Learning Outcomes	Core Concepts	Classroom / Practice Use
• classify edible plant parts: roots, stems, leaves, flowers, fruits and seeds • explain that plants need sunlight, air, water, nutrients and space • connect photosynthesis with food formation and oxygen release • compare cereals, pulses, fruits, vegetables, spices, oils and plant-based products	• edible plant parts and examples • photosynthesis as a simple food-making process • crop sources, plant nutrition and food chains	• seed observation jar • plant-food sorting chart • leaf-stomata discussion through diagrams • school garden observation

Olympiad Practice Focus: classification, plant-process reasoning, food-source matching and evidence-based explanation.

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CHAPTER 3 Natural Resources and Calamities

Quick Chapter Note

Natural resources support life, while calamities remind communities to prepare, conserve, and act responsibly.

Learning Outcomes	Core Concepts	Classroom / Practice Use
• name key resources such as air, water, soil, forests, minerals and sunlight • explain why resources should be used wisely and not wasted • identify major calamities including floods, droughts, earthquakes, cyclones and fires • suggest age-appropriate safety, preparedness and recovery actions	• renewable and non-renewable resources at a basic level • disaster causes and effects • community safety, conservation and emergency readiness	• calamity safety poster • resource-use audit of classroom • mock preparedness checklist • case discussion on floods or droughts

Olympiad Practice Focus: case-study interpretation, disaster-safety choices and resource-conservation reasoning.

CHAPTER 4 Food and Digestion

Quick Chapter Note

Food gives energy and building materials; digestion changes food into forms the body can use.

Learning Outcomes	Core Concepts	Classroom / Practice Use
• describe major nutrients: carbohydrates, proteins, fats, vitamins, minerals, fibre and water • explain the role of mouth, teeth, saliva, stomach, intestines, liver and pancreas in simple language • connect balanced diet with growth, energy and immunity • recognize why overeating, junk food and unsafe water can affect digestion	• food groups and nutrients • digestive pathway from mouth to intestine • absorption, energy and waste removal	• digestive-system flow diagram • meal-plate balance activity • chewing and saliva observation discussion • food diary reflection

Olympiad Practice Focus: sequence-of-digestion questions, nutrient-function matching and balanced-diet application.

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CHAPTER 5 Food Preservation, Food Spoilage and Food Management

Quick Chapter Note

Safe food practices reduce spoilage, protect health, and help families avoid waste.

Learning Outcomes	Core Concepts	Classroom / Practice Use
• identify signs of food spoilage such as smell, colour change, mould or sour taste • explain that microbes grow faster in warm, moist and unclean conditions • compare preservation methods such as drying, salting, cooling, freezing, boiling and pickling • apply clean, separate, cook and chill ideas in simple situations	• microorganisms and spoilage • temperature, moisture and storage conditions • food safety, hygiene and waste reduction	• safe lunchbox checklist • spoiled vs fresh food picture discussion • storage method matching game • food-waste management activity

Olympiad Practice Focus: safe-storage decisions, spoilage-condition analysis and food-management scenarios.

CHAPTER 6 Importance of Water

Quick Chapter Note

Water is essential for living things, weather, farming, health, cleanliness and ecosystems.

Learning Outcomes	Core Concepts	Classroom / Practice Use
• describe sources of water and ways water is used in daily life • explain evaporation, condensation, precipitation and collection in the water cycle • recognize safe drinking water practices and simple purification methods • suggest water-saving habits at home, school and community level	• water cycle and states of water • freshwater, groundwater, rivers, lakes and rainwater • conservation, pollution prevention and safe water	• mini water-cycle model • water-use survey • safe-water discussion • rainwater harvesting poster

Olympiad Practice Focus: water-cycle reasoning, conservation choices and safe-water situation analysis.

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CHAPTER 7 Air and Fuels

Quick Chapter Note

Air supports life and burning; fuels provide energy but must be used safely and responsibly.

Learning Outcomes	Core Concepts	Classroom / Practice Use
• identify major components and uses of air in simple terms • explain oxygen's role in breathing and combustion • compare common fuels and basic renewable energy sources • connect smoke, harmful gases and careless burning with air pollution and health risks	• air around us, oxygen and carbon dioxide • burning, fuels, heat and light energy • clean air, pollution, fuel conservation and fire safety	• air-occupies-space demonstration • combustion safety discussion • fuel-use comparison chart • air-pollution observation walk

Olympiad Practice Focus: combustion/air/fuel reasoning, pollution-impact analysis and safety-based decisions.

CHAPTER 8 Our Solar System

Quick Chapter Note

The Solar System helps students understand Earth's place in space and the patterns seen in the sky.

Learning Outcomes	Core Concepts	Classroom / Practice Use
• name the Sun, eight planets, Moon, asteroids, comets and dwarf planets at an introductory level • explain day-night using Earth's rotation and year using Earth's revolution • recognize basic features of planets and the role of gravity • connect observation of shadows, seasons and moon phases with space science	• Sun as the central star of the Solar System • planet order and basic characteristics • rotation, revolution, Moon, gravity and space exploration	• planet order model • shadow observation chart • day-night globe activity • moon-phase calendar observation

Olympiad Practice Focus: planet-order recall, day-night reasoning, solar-system comparison and observation-based questions.

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Assessment Blueprint

The syllabus supports concept understanding first, then reasoning, case interpretation, and higher-order science application.

Segment	Suggested Questions	Skill Measured
General Science	20	Core facts, terms, diagrams, classification, and direct application.
Reason / Assertion	10	Judging whether a science statement and its explanation are both correct.
Case Study	10	Reading a short situation or passage and applying the correct concept.
Achievers Section	10	Higher-order, multi-step, tricky or integrated science reasoning.

Preparation Roadmap for Students

A simple four-stage plan helps students move from reading to confident problem solving.

Stage 1: Learn the Concept Read one chapter at a time. Build a vocabulary list and draw simple labelled diagrams.	**Stage 2: Observe Real Life** Connect science to food, water, air, health, plants, weather, energy and the sky.
Stage 3: Practise Question Types Attempt direct MCQs, diagram MCQs, reason-assertion questions and case-based questions.	**Stage 4: Review and Explain** After every practice set, write why the correct answer is right and why other choices are wrong.

Teacher and School Use Guidance

The syllabus can be used for lesson planning, classroom enrichment, worksheets, assessment design and parent communication.

For Students	For Teachers	For Schools
• read diagrams carefully • use examples from daily life • revise vocabulary weekly • explain answers in full sentences	• use demonstrations and observation tasks • connect questions to textbook concepts • build reason-assertion practice • encourage evidence-based explanations	• share clear chapter roadmap • organize science corners or activity days • track chapter-wise readiness • support safe, inquiry-led learning

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Quick Glossary

Important words students should understand before attempting Olympiad-style science questions.

Term	Meaning
Organ	A body part that performs a special function.
Nutrient	A useful substance in food that helps the body grow, get energy or stay healthy.
Photosynthesis	The process by which green plants make food using sunlight, carbon dioxide and water.
Calamity	A serious natural event that can harm people, homes or the environment.
Preservation	A method used to keep food safe for a longer time.
Condensation	The change of water vapour into tiny liquid water droplets.
Combustion	Burning that needs fuel, oxygen and heat.
Orbit	The path followed by a planet or object as it moves around another object.

Student Readiness Checklist

Students are ready for the Class 5 Science Olympiad when they can confidently do the following.

☐ name major organs and explain basic body-health habits	☐ identify edible plant parts and explain why plants are important for food
☐ describe natural resources and give examples of calamity safety actions	☐ trace the path of food through the digestive system and explain nutrients
☐ choose safe food-storage or preservation methods for everyday situations	☐ explain the water cycle and suggest water-conservation practices
☐ connect air, oxygen, fuels, burning and pollution to real-life examples	☐ name major solar-system objects and explain day, night, rotation and revolution