Locus Learning Grade 6 Official Syllabus

Our syllabus, fully updated to reflect the latest NEP 2020 guidelines.

The Mathematics and Science sections are strictly mapped to the *newest NCERT textbooks ("Ganit Prakash" and "Curiosity/Jigyasa", respectively).* The AI and Coding section is aligned with the official CBSE Skill Education framework **(Subject Codes 901 and 910)** for Class 6.

Mathematics (NCERT: *Ganit Prakash*)

This curriculum shifts focus from rote calculation to pattern recognition, logical thinking, and foundational geometry.

1. **Patterns in Mathematics:** Identifying rules, visual sequences, and mathematical relationships.
2. **Lines and Angles:** Understanding fundamental geometry, rays, line segments, and intersecting lines.
3. **Number Play:** Deep dive into factors, multiples, prime numbers, and divisibility rules.
4. **Data Handling and Presentation:** Collecting, organizing, and visually interpreting data (bar graphs, pictographs).
5. **Prime Time:** Advanced concepts in prime factorization, HCF (Highest Common Factor), and LCM (Lowest Common Multiple).
6. **Perimeter and Area:** Measuring boundaries and enclosed surfaces of basic geometric shapes.
7. **Fractions:** Understanding parts of a whole, equivalent fractions, and fundamental operations.
8. **Playing with Constructions:** Practical geometry using a compass and straightedge.
9. **Symmetry:** Exploring reflectional symmetry in nature and mathematical figures.
10. **The Other Side of Zero:** Introduction to negative numbers, the number line, and integers.

Science (NCERT: *Curiosity / Jigyasa*)

This curriculum emphasizes experiential learning, observation, and connecting scientific concepts to the real world.

1. **The Wonderful World of Science:** Introduction to the scientific method, observation, and inquiry.
2. **Diversity in the Living World:** Categorizing plants, animals, and understanding biodiversity.
3. **Mindful Eating: A Path to a Healthy Body:** Nutrition, components of a balanced diet, and preventing deficiency diseases.
4. **Exploring Magnets:** Properties of magnets, magnetic fields, and how compasses work.
5. **Measurement of Length and Motion:** Standard units of measurement and identifying different types of motion.

6. **Materials Around Us:** Sorting everyday materials by physical properties (transparency, solubility, hardness).
7. **Temperature and its Measurement:** Understanding heat, cold, and how to use clinical and laboratory thermometers.
8. **A Journey through States of Water:** The water cycle, evaporation, condensation, and conservation.
9. **Methods of Separation in Everyday Life:** Practical techniques like filtration, evaporation, winnowing, and decantation.
10. **Living Creatures: Exploring their Characteristics:** Understanding habitats, adaptation, and ecosystem interactions.
11. **Nature's Treasures:** Identifying and conserving natural resources.
12. **Beyond Earth:** Foundational astronomy, exploring the solar system, and identifying constellations.

AI & Coding (CBSE Skill Education)

For Grade 6, the CBSE framework focuses on building computational thinking through block-based programming and introducing the conceptual basics of Artificial Intelligence.

Coding & Computational Thinking

1. **Digital Literacy:** Cyber safety, responsible online behavior, and understanding digital footprints.
2. **Algorithms & Flowcharts:** Breaking down real-world problems into logical, step-by-step sequences.
3. **Block-Based Programming:** Hands-on introduction using visual platforms (like MakeCode, Scratch, or PictoBlox).
4. **Variables & Data Types:** How to store, track, and manipulate information within a computer program.
5. **Arithmetic & Logical Operators:** Using math and logic (AND, OR, NOT) to control program outcomes.
6. **Control Flow (Conditionals):** Implementing IF/ELSE statements to allow programs to make decisions.
7. **Loops:** Using repetition to write efficient, optimized code.

Artificial Intelligence Foundation

1. **Introduction to AI:** Defining Artificial Intelligence and distinguishing it from standard machine automation.
2. **AI in Daily Life:** Identifying real-world applications (smart home devices, recommendation engines, voice assistants).
3. **Domains of AI:** A high-level introduction to Computer Vision, Natural Language Processing (NLP), and Data Science.
4. **AI Ethics:** Basic understanding of machine bias and the responsible use of technology.