

SENIOR EXPLORERS

Age Range: 8 – 10

Cycle Overview

The **Senior Explorers** program is an intermediate cycle that builds upon foundational skills to deepen learners' understanding. Rather than just using technology, learners begin to explore **how and why** digital systems work, covering topics such as loops and conditions, AI learning processes, robotics movement, cybersecurity risks, and automated design. This program encourages critical thinking, collaboration, and innovation, preparing young learners to engage confidently with technology.

Skills and Competencies

- **Competency:** Analyzing data, solving problems, collaborating effectively, and creating innovative solutions with logic, adaptability, integrity, and inclusivity.
- **Future Skills:** Digital Literacy; Innovation; AI Understanding; Ethical Technology Use
- **Judgment Skills:** Decision Making; Risk Awareness; Online Safety
- **Technical Skills:** Programming; Robotics; Digital Security; Computational Design

Levels' Distribution				
Fields	Level 1	Level 2	Level 3	Level 4
Computer Sciences	✓ Using Loops and Conditions	✓ Hard VS Software	✓ Basic Decision Making Using If/Else Conditions	✓ Event Triggers
Robotics	✓ Why use Gears?	✓ Tilt Sensor and Sender/Receiver Systems	✓ Differential Steering	✓ Stepper Motor VS Servo Motor
AI	✓ Introduction to AI (How machines learn)	✓ AI and Pattern Recognition	✓ Machine Learning Basics (Training a simple AI model)	✓ Ethics in AI (Bias, fairness, and responsible AI use)
Design	✓ Natural Shapes		✓ Machine Learning Basics (Training a simple AI model)	✓ Animating Building Models
Sciences & Math		✓ Coordinates	✓ Random Values	✓ Primary Colors and Speed units
Network & Security	✓ Cyberbullying	✓ Passwords and Online Safety	✓ What is a network?	✓ How to Use the Internet Safely?

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