



Micro-brain Programming Robot

---MPBOT 609

>> An educational programming
robot specially tailored for kids
aged 5-8 worldwide <<



Background:

The global policy trend shows increasing demand for early programming education (ages 5-8), driven by national curriculum mandates (e.g., UK, Singapore, USA, European Union), interdisciplinary integration, and gamified learning tools supported by cognitive research.

Through physical manipulation, instant feedback and gamification design, educational robots transform abstract programming concepts into concrete interactions that young children can perceive, perfectly matching the learning characteristics of children aged 5-8 who are mainly based on action thinking.

Value:

The value of Micro-brain programming robot (Model: MPBOT609) is to solve the pain points and requirement of robotics and coding education for kids aged 5-8.

- ✓ Large Building Blocks -- Easy for kids to assemble.
- ✓ Integrated Micro-Brain Controller -- Program directly via onboard buttons, no extra device needed.
- ✓ Rich Expandability -- Grow creations with blocks, motors, and sensors.
- ✓ Comprehensive Curriculum -- Professionally designed teaching materials included.



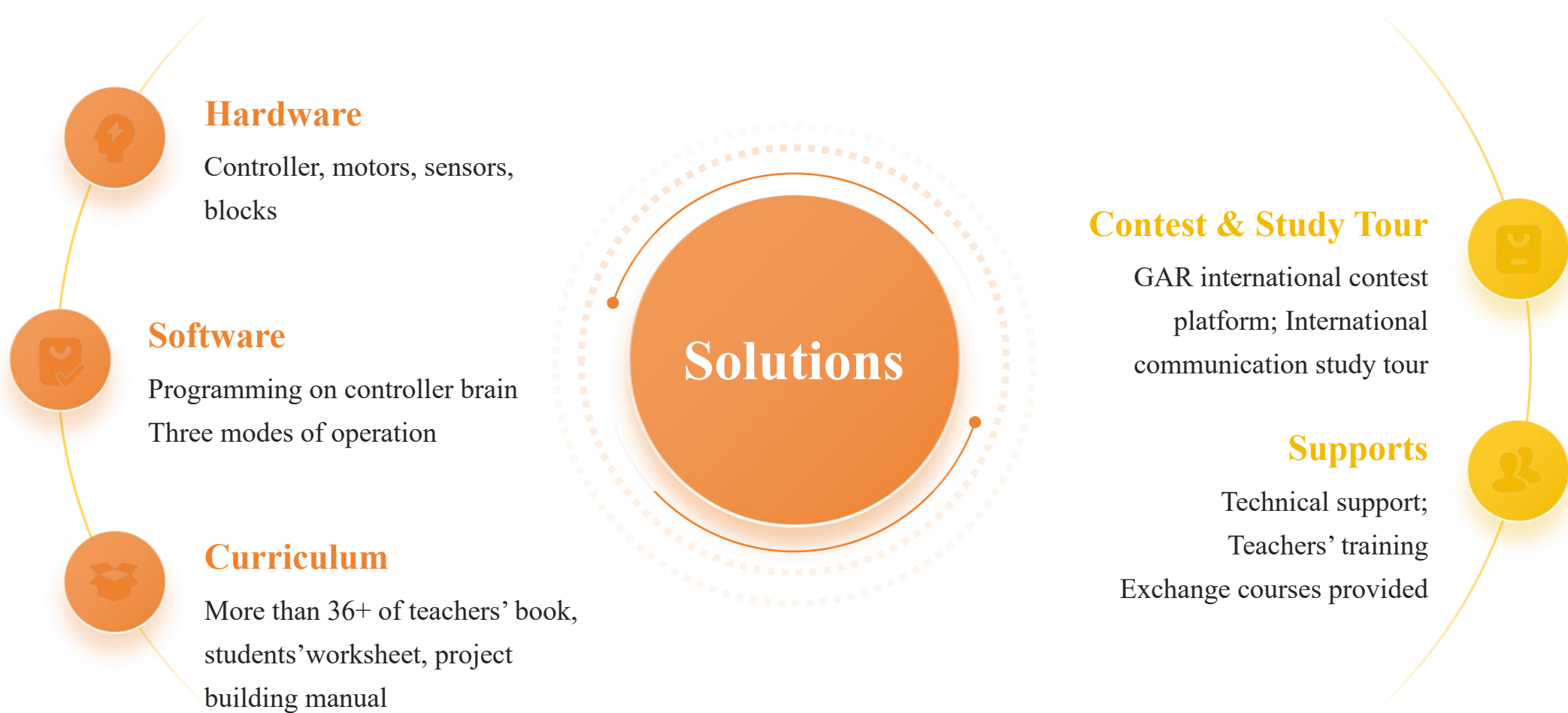
Introduction

Micro-Brain Programming Robot (Model: MPBOT609) was independently developed by Nashenbot, a cutting-edge AI educational robotics company. Designed specifically for teachers of kindergarten senior classes and primary school lower grades, this robotics kit allows students to experience the excitement of AI programming and grasp foundational concepts without requiring computers or tablets. Compatible with existing building block systems like Lego® Early Simple Machines Set 9656, the MPBOT609, supported by its comprehensive curriculum, enables young learners to progressively master programming concepts.

- **Product name:** Micro-brain programming robot
- **Model name:** MPBOT609
- **Main parts:** Micro-brain controller, closed-loop motor, red light, green light, infrared sensor, sound sensor, spindle box, large blocks
- **Suitable age:** 5-8 yrs



Our solution



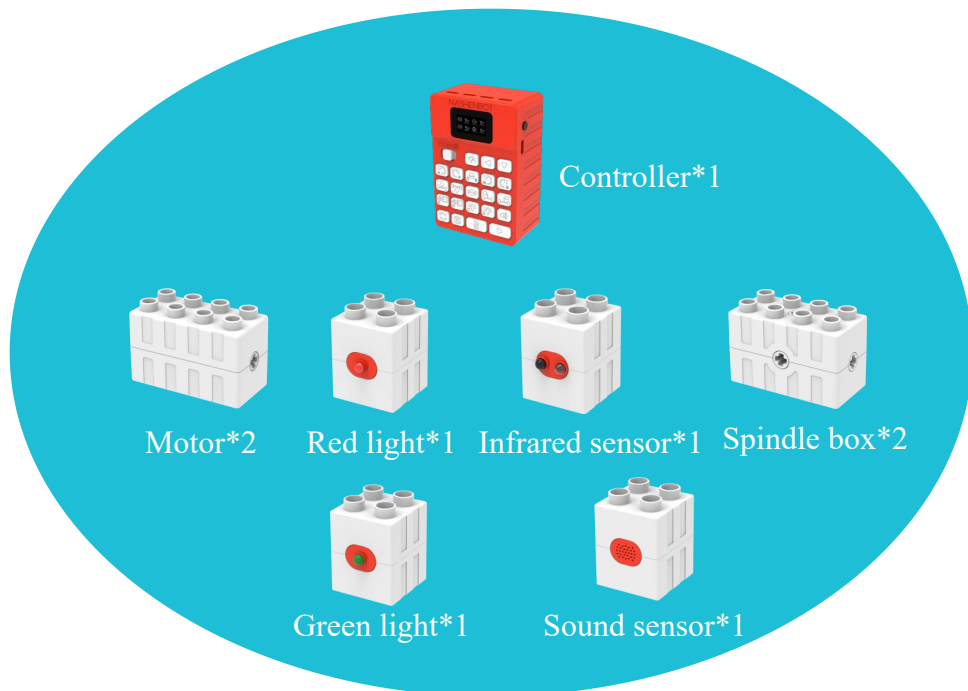
Unboxing Video



YouTube link: <https://youtu.be/0YZmaRb8l4s>

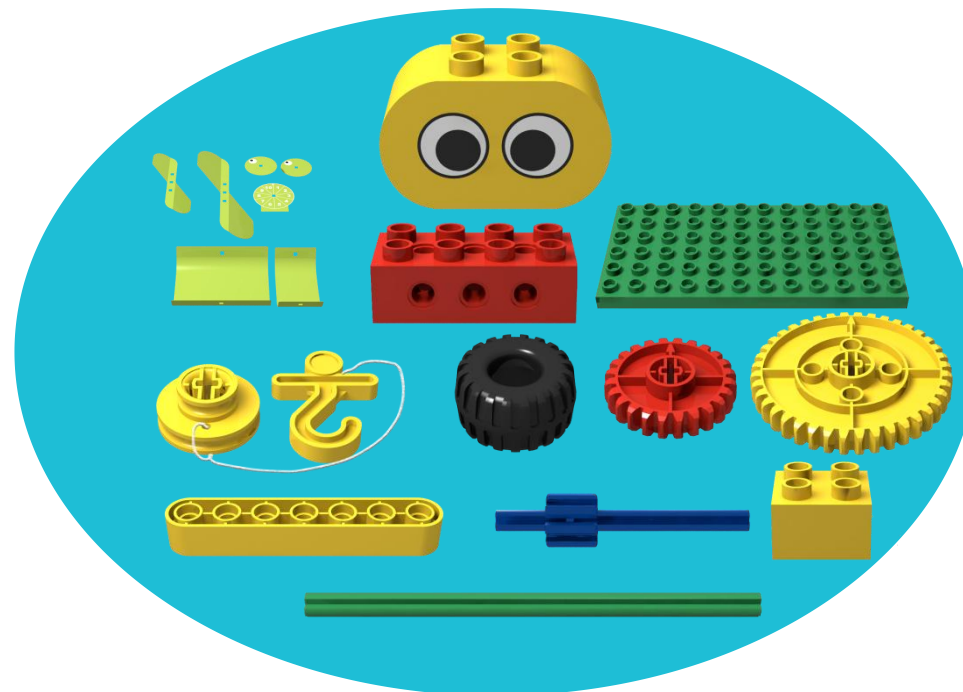


Hardware:



Electronic parts

7 types

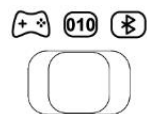


Blocks

109 pieces

Software:

- Mode 1: Real-time control
- Mode 2: Key screen programming
- Mode 3: Bluetooth connection

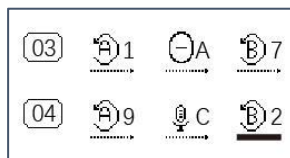
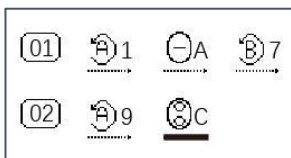


Display screen

Motor control

Sensor, light, voice control

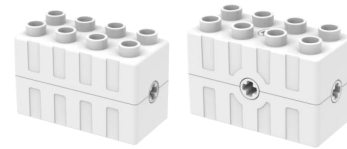
Loop, delete, run



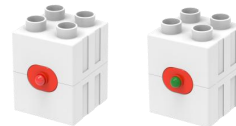
Curriculum structure



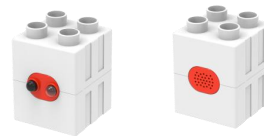
Controller



Motor & Spindle box



Lights

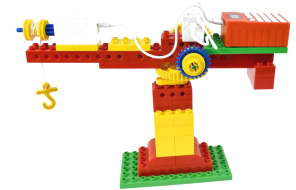


Sensors

Knowledge of robot



Knowledge of motors



Knowledge of programming



Knowledge of sensors



36+
curriculum

Highlights of Curriculum

Main science courses:

Scientific exploration entails studying how variables influence the properties of simple machines, predicting and estimating their characteristics, conducting meticulous observations, and accurately describing and presenting the findings.

Main design and technology courses:

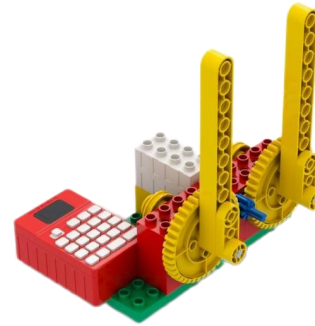
Develop expertise and comprehension through the utilization of diverse mechanical and structural components. Assess products based on technical standards and enhance design proficiency.

Programming courses:

Achieve varied effects by arranging and combining diverse program blocks to develop logical thinking abilities. Approach problems in a structured and analytical manner, seeking solutions through systematic reasoning.

	Main science courses	Main design and technology courses	Programming courses
1. Movable long nose	<ul style="list-style-type: none"> ◆ Research perspective ◆ Interlocking structure 	<ul style="list-style-type: none"> ◆ Material properties ◆ Design 	<ul style="list-style-type: none"> ◆ Real-time control ◆ Motor direction
2. Wipers	<ul style="list-style-type: none"> ◆ Turbine structure ◆ Graphics 	<ul style="list-style-type: none"> ◆ Mechanism: turbine 	<ul style="list-style-type: none"> ◆ Obstacle avoidance module ◆ Motor direction
3. Drilling machine	<ul style="list-style-type: none"> ◆ Gear transmission ◆ Luminous flux 	<ul style="list-style-type: none"> ◆ Design mechanical toys ◆ Structure and stability 	<ul style="list-style-type: none"> ◆ Real-time control ◆ Speed module
4. Night expert	<ul style="list-style-type: none"> ◆ Rotation around an axis ◆ Circular motion 	<ul style="list-style-type: none"> ◆ Rotation around an axis ◆ Design mechanical toys 	<ul style="list-style-type: none"> ◆ Speed module ◆ Loop module
5. Gate	<ul style="list-style-type: none"> ◆ Crank structure 	<ul style="list-style-type: none"> ◆ Mechanism: crank structure 	<ul style="list-style-type: none"> ◆ Motor direction ◆ Obstacle avoidance module
6. Elevator	<ul style="list-style-type: none"> ◆ Crank connecting rod 	<ul style="list-style-type: none"> ◆ Mechanism: crank connecting rod 	<ul style="list-style-type: none"> ◆ Motor direction ◆ Motor speed
7. Juicer	<ul style="list-style-type: none"> ◆ Read scale to measure water level ◆ Application of pulley 	<ul style="list-style-type: none"> ◆ Mechanism: pulley 	<ul style="list-style-type: none"> ◆ Stop module ◆ Obstacle avoidance module
8. Sluice	<ul style="list-style-type: none"> ◆ Gear reduction ◆ Study of connecting rod 	<ul style="list-style-type: none"> ◆ Mechanism: connecting rod 	<ul style="list-style-type: none"> ◆ Loop module ◆ Speed module
9. Beneficial Insects and Pests	<ul style="list-style-type: none"> ◆ Reciprocating motion ◆ Circular motion 	<ul style="list-style-type: none"> ◆ Mechanism: crank connecting rod 	<ul style="list-style-type: none"> ◆ Obstacle avoidance module ◆ Motion module
10. Dutch windmill	<ul style="list-style-type: none"> ◆ Wind generation ◆ Two-point fixation 	<ul style="list-style-type: none"> ◆ Gear drive 	<ul style="list-style-type: none"> ◆ Lighting module ◆ Real-time control
11. Longevity Star	<ul style="list-style-type: none"> ◆ Follow-up programming ◆ Gear rotation 	<ul style="list-style-type: none"> ◆ Mechanism: crank connecting rod 	<ul style="list-style-type: none"> ◆ Real-time control ◆ Obstacle avoidance module
12. Rotating Flying Chair	<ul style="list-style-type: none"> ◆ Centrifugal force ◆ Motion trajectory 	<ul style="list-style-type: none"> ◆ Mechanism: central axis drive 	<ul style="list-style-type: none"> ◆ Lighting module ◆ Obstacle avoidance module

Projects of Expansion Curriculum




Demo example of Expansion Curriculum

Construction

Follow the step-by-step building instructions to construct the elephant:

- **Ensure Consistent Angle:** Maintain an equal angle between the nose and the ground for a balanced look.
- **Movable Trunk:** The trunk should be designed to raise and lower smoothly.
- **Adjust Trunk Height:** If the trunk can only be lifted but not lowered, it indicates that it is positioned too close to the ground. To rectify this, try increasing the clearance between the trunk and the ground.

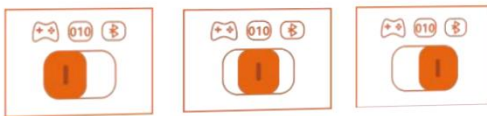


Warn!

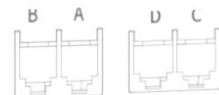
Motors can pose risks, so it's crucial to ensure that children exercise caution when programming with them.

Programming









The choice of three modes



Observe the English letters displayed on the motor interface.



Let's explore what happens when the mode is switched to key screen programming mode.

 X1 → 	 X1 → 
 X1 → 	 X1 → 

Elephant

Science

- Lift
- Force
- Interlocking structure
- Rotation

Design and Technology

- Parts check
- Assembling the model
- Test

Vocabulary

- Nose
- Angle
- Lay Down
- Length

Programming

- Main controller
- Real-time control
- Direction module

Other Materials Required

- Pipe bending
- Paper
- Ruler
- Scissors

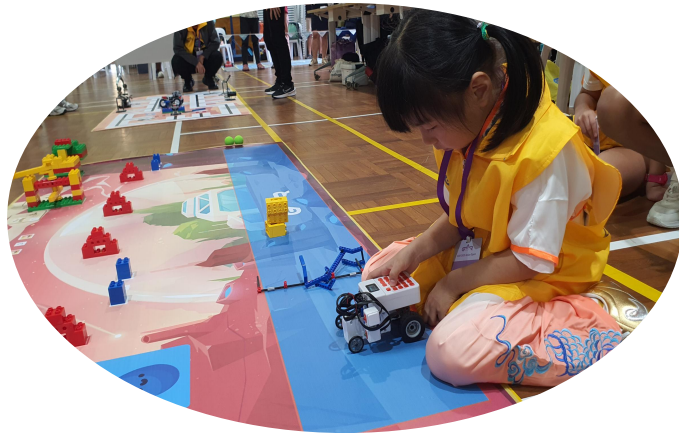
Teacher's guide

Demo example of Expansion Curriculum



Student worksheet

The Global Artificial Intelligence Robot Contest (GAR) is founded and organized by Global Artificial Intelligence Robot Society (GARS). GAR is an innovative practice activity in the field of artificial intelligence robotics tailored for global youth. The primary objective of GAR is to establish a platform that caters to enthusiasts of artificial intelligence and robot programming worldwide, offering opportunities for showcasing talents, exchanging ideas, gaining practical experience, and engaging in competitive activities. Over time, GAR has evolved into a grand event within the domain of artificial intelligence robotics and is celebrated as a dedicated science and technology carnival exclusively for teenagers across the globe.



GAR International Open Contest



GAR International Study Tour



GAR International Exchange Course

Expansion pack:



MPBOT Expansion Pack S

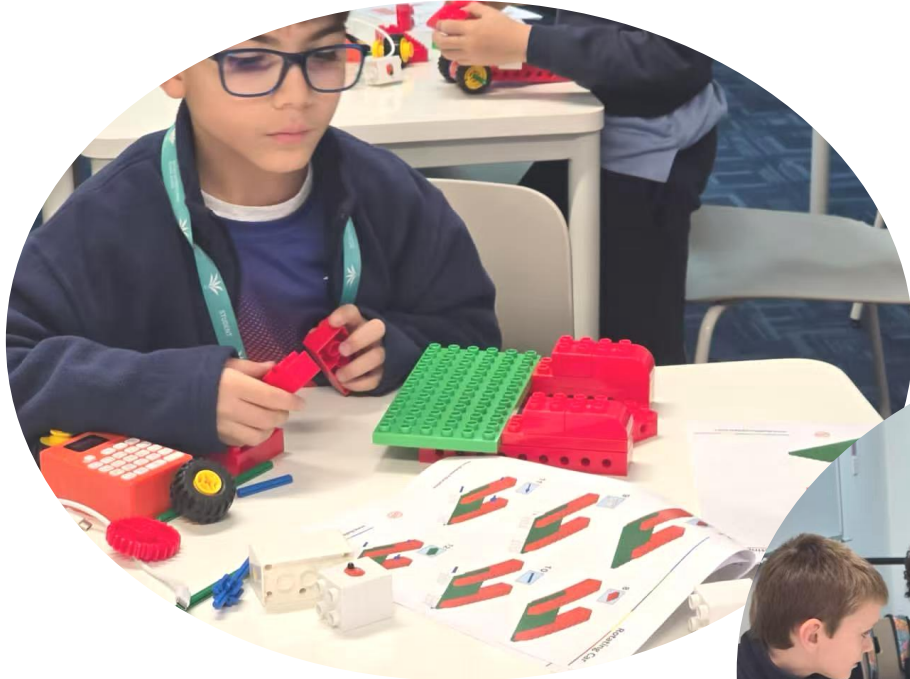


MPBOT Expansion Pack D

Compatible with Lego® Early Simple Machines Set 96565

Case study

We are in Middle East



THANK YOU



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