

# NEBULA

— Neuro-Builder Learning Model™

The science based way to help children learn faster,  
stay focused longer and grow more confident through  
hands on robotics.



A proven way to develop your child's confidence, focus and thinking skills  
through fun and hands on robotics.

# Why Parents Choose Meta Robotics

Parents today want more than enrichment classes. They want a programme that builds thinking skills, confidence and a love for learning.

Meta Robotics gives children more than robotics knowledge. It helps them develop the way they think, solve problems and handle challenges in school and in life.

What makes Meta Robotics different is our NEBULA™ Model, which helps children learn how to think, not just how to build.



Build robots. Build the brain.

# What Parents Notice at Home

Many parents observe positive changes after their children join Meta Robotics. Common improvements include:

- Less frustration when facing challenges
- Finishes homework faster with fewer reminders
- Tries again after failure instead of giving up
- More interest in learning and curiosity about how things work
- Solves problems independently instead of waiting for adults

These are the skills children need to succeed in school, not only in robotics.





# Why Robotics Accelerates Learning



Robotics creates one of the strongest learning conditions for young children because it stimulates multiple brain systems at once:

- Motor skills
- Spatial reasoning
- Coding logic
- Creativity and imagination
- Decision making

When these systems activate together, learning becomes:

- Faster
- Easier to remember
- More enjoyable
- More meaningful



Robotics is not only fun. It builds a strong brain foundation for school and life.

# What is NEBULA™

NEBULA™ — the Neuro-Builder Learning Model™, is built on decades of research showing that the brain develops best when **thinking, building and problem-solving happen together**.

Every class is designed to **activate both hemispheres of the brain simultaneously** through a structured sequence of hands-on robotics, coding logic and computational analysis. This dual stimulation strengthens the neural pathways responsible for:



## Sharper Brain Connections

Strengthens core neural networks for reasoning and focus

## Hands-On Cognitive Activation

Engineering challenges stimulate real learning, not memorisation

## Long-Term Learning Advantage

Children develop habits of thinking that endure for life

Instead of passive learning or step-by-step copying, children repeatedly engage in engineering-based discovery: planning, constructing, testing, troubleshooting and refining. This process triggers strong, lasting neural development across **cognitive, emotional and motor systems** — the core of long-term learning capability.

That is why students trained under NEBULA™ show improvements that extend well beyond robotics. They **become sharper thinkers, more confident problem-solvers and more resilient learners**, inside and outside the classroom.

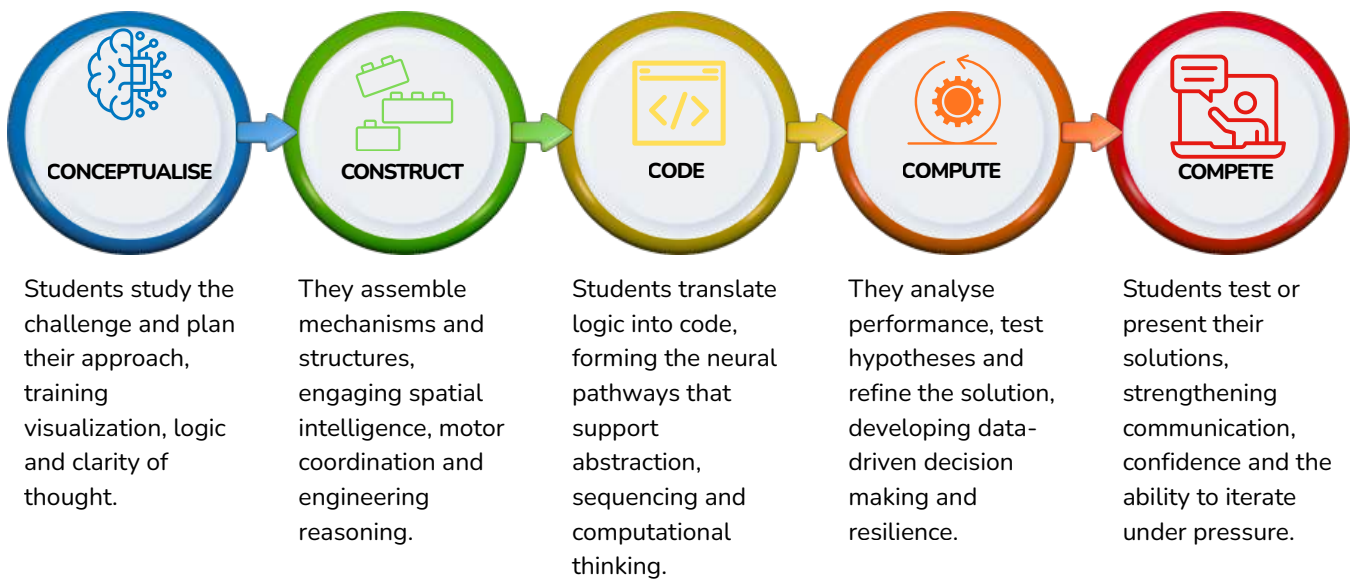
NEBULA™ is not just a robotics curriculum. It is a learning model designed to build the brain.



NEBULA™ is the missing piece that helps their child connect learning with real understanding.

# The 5C Developmental Framework

The NEBULA™ Model is delivered through a structured learning cycle called the **5C Developmental Framework**, where every lesson activates planning, engineering, coding and analytical thinking.



This structure helps children stay motivated, build confidence step by step and develop strong thinking habits that last.



The 5C cycle helps children learn by doing and thinking at the same time.

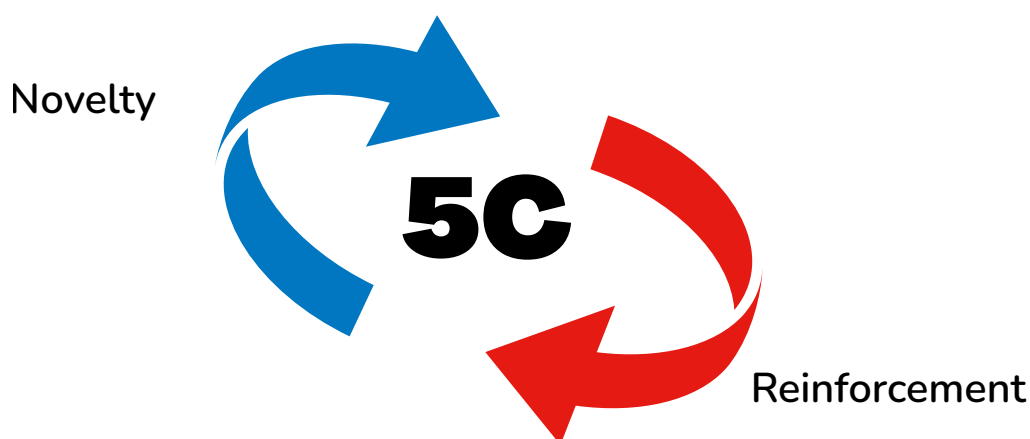
# Spiral Learning for Long Term Growth

The NEBULA™ curriculum is intentionally designed not for one-time exposure. Instead, students cycle repeatedly through different modules, such as robotics, coding, and STEM while revisiting familiar concepts with new challenges, new content and different complexity.

This **Spiral Learning Method** delivers two core forms of brain stimulation:

Learning Condition	What It Does to the Brain
New topics and unfamiliar modules	Push the brain beyond its comfort zone, triggering neural adaptation and growth
Familiar concepts applied in fresh contexts	Reinforce previously formed neural pathways, strengthening memory, proficiency and confidence

The result is a dual mechanism of **novelty + reinforcement**, which neuroscience identifies as one of the most effective patterns for long-term cognitive development.



This is why children who stay with us grow steadily from one level to the next.



Novelty builds the brain. Repetition strengthens the brain.

# How NEBULA™ Strengthens the Mind Beyond Robotics

The ultimate purpose of NEBULA™ is not simply to teach children how to build and code robots, it is to develop the core brain systems that drive **long-term learning success** in any subject.

As students progress through the NEBULA™ Model and cycle repeatedly through the 5Cs, they gain a powerful set of transferable skills that parents begin to notice at home, in school and in daily life.

## Skills Strengthened Through NEBULA™

### Focus & Attention Control

Better concentration during homework and lessons, reduced distractions

### Logical Problem-Solving

Ability to approach challenges step-by-step instead of guessing

### Confidence & Resilience

Willingness to try again after failure, less fear of “getting things wrong”

### Spatial & Motor Coordination

Improved precision, planning and visualization for building and writing tasks

### Computational Thinking

Clear sequencing, pattern recognition and structured reasoning applied across learning

### Decision-Making & Initiative

Greater independence — children start solving problems without relying on adults



NEBULA™ doesn't just prepare children for robotics and technology, it prepares them for life.



# Why Starting Early Matters

Children form learning habits most powerfully during the early stages of development. When robotics becomes part of this period, confidence and curiosity grow naturally.

Starting robotics early helps children:

- Build confidence before schoolwork becomes demanding
- Develop resilience and problem solving habits naturally
- See learning as something enjoyable instead of stressful



Children who begin early build a positive relationship with learning, which makes future challenges easier to handle.

# Common Questions from Parents

## **Is robotics difficult?**

Every child starts with content that is suitable for their stage of learning and then advances to increasingly complex modules at the right pace. Our programme offers a well planned progression pathway. Feel free to speak with our consultant to explore how your child can grow through each stage.

## **Does my child need coding experience?**

Not required. Coding is introduced gradually through hands on activities.

## **What if my child is shy or afraid of mistakes?**

NEBULA™ builds resilience gently. Children learn that mistakes are part of learning.

## **How is this different from school CCA robotics?**

Every child builds and codes individually instead of passively watching or taking turns.

## **Is there too much screen time?**

School CCAs offer valuable exposure and teamwork. Our programme complements that experience by giving each child their own robot to build and code, supported by a low teacher to student ratio for focused guidance. The 5C and Spiral Learning Frameworks help children advance through a structured developmental pathway that strengthens their thinking skills over time.



The earlier children start, the easier they grow.

# Experience the NEBULA™ Model in Person

Give your child the advantage of a sharper mind, stronger confidence and joyful learning.

## Join our Robotics Trial Class

Step 1. Select your preferred centre

Step 2. Book a trial slot

Step 3. Watch how your child responds in just one lesson

Scan to sign up now:



<https://www.metarobotics.sg/#getstarted>



The best way to understand NEBULA™ is to see your child experience it.



## References & Citations

**Emily K. Farran, et al. (2025). Teacher Delivered Block Construction Training Improves Children's Mathematics Performance. *Mind Brain and Education*.**

A 6-week classroom LEGO programme involving 409 primary-school children showed significant gains in mental rotation (spatial skill) and mathematics performance. The study demonstrates that teacher-led LEGO building sessions can improve spatial cognition and math — clear, large-scale evidence for block-based learning as a cognitive tool. [Link](#)

**Liu, Y., et al. (2023). Effects of robotics education on young children's cognitive abilities and cognitive processes. *Journal of Educational Psychology (pilot study)*.**

In a six-month robotics programme for 6–8-year-olds, researchers tracked changes in cognitive skills. They found significant improvements in working memory and logical/abstract reasoning among participants. Eye-tracking data also showed that as children progressed through the programme, they became more focused and processed information faster. [Link](#).

**Zemzami, M., & Zbat, M. (2025). The impact of educational robotics on the executive functions of preschool children. *Journal of Hunan University Natural Sciences*, 52(4), 1727–1732.**

This quasi-experimental study examined 84 preschool children participating in an educational robotics programme. The results indicated significant correlations between robotics activities and improvements in planning, working memory, cognitive flexibility and problem-solving. [Link](#).

**Corinne Bower, et al. (2020). Associations of 3-year-olds' Block-building Complexity with Later Spatial and Mathematical Skills. *Journal of Cognition and Development*.**

In a longitudinal study of preschoolers, children's block-building complexity and behaviours at age 3 predicted their spatial skills at ages 4 and 5, and early mathematics skills. This supports that early block/LEGO-style play can influence long-term cognitive development. [Link](#).