ROBOTHINK
Build, Code and Play with Robots

Thorncliffe Association
Curriculum
Age 9 - 11

RoboThink is an international leader in STEM education, offering fun and engaging programs in **robotics, coding, and engineering** for children of all ages. Our hands-on curriculum is designed to spark curiosity, foster creativity, and build critical problem-solving skills.

Through guided activities, students learn to **design, build, and program robots** while developing teamwork, logical thinking, and confidence. Each session is structured to balance **learning and play**, ensuring that children not only gain valuable technical knowledge but also have fun throughout the process.

RoboThink programs are trusted by schools and learning centers worldwide and are carefully tailored to meet the needs of different age groups, ensuring that every student is challenged at the right level.

Our mission is simple: to inspire the next generation of **engineers, innovators, and problem solvers** through exciting, hands-on STEM experiences.

Program Description

Our **Engineer Planes STEM Program** is an exciting, hands-on experience where students learn real engineering and aviation concepts while building unique aircraft models each week. Through guided lessons and creative challenges, students strengthen problem-solving skills, teamwork, and confidence—all while having fun designing and building their own robotic plane structures.

Throughout the 6-week program, children will explore how different aircraft work, experiment with aerodynamics, and apply engineering skills to design, test, and refine their builds. Each week focuses on a new aircraft model, progressing from basic concepts to advanced builds.

Weekly Breakdown for Parents

Week 1 – Wright Brothers Flyer

Students learn about the history of flight and build a model inspired by the first successful airplane. They explore lift, stability, and the foundations of aviation.

Week 2 – No Fly Drone

Students build a drone-inspired model and learn about multi-rotor aircraft, balance, propellers, and how drones stay stable in the air.

Week 3 – D.O.G. Fighter (Advanced)

Students dive into military jet engineering concepts and build an advanced fighter aircraft model, developing stronger mechanical and design skills.

Week 4 – Dual Turboprop

Students engineer a twin-engine aircraft and learn about fuel efficiency, power output, speed, and how multiple engines affect performance.

Week 5 – A-IR Plane

Students build a modern airplane model and explore how commercial aircraft are designed to travel long distances safely and efficiently.

Week 6 – Build Your Own Plane

Students apply everything learned to design and build a custom aircraft model of their own. They present their creations and test how well they fly or move.

What Students Gain

- Hands-on engineering and aviation knowledge
- Critical thinking and problem-solving abilities
- Confidence working through challenges and improving designs
- Creativity and innovation through open-ended building
- Teamwork, communication, and collaboration skills

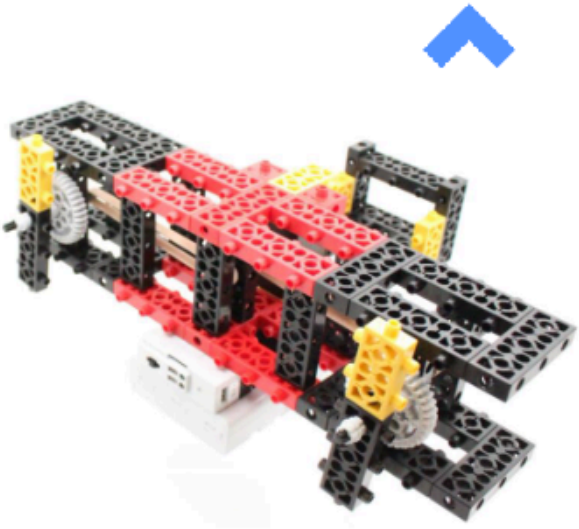
Robothink Schedule

Week	Activity
Week 1	Wright Brothers Flyer
Week 2	No Fly Drone
Week 3	D.O.G. Fighter Advance
Week 4	Dual Turboprop
Week 5	A-IR Plane
Week 6	Build Your Own Plane

ENGINEER PLANES

LESSON 1: WRIGHT BROTHERS' FLYER

This model is based off the first plane, created by Orville and Wilbur Wright in 1903!



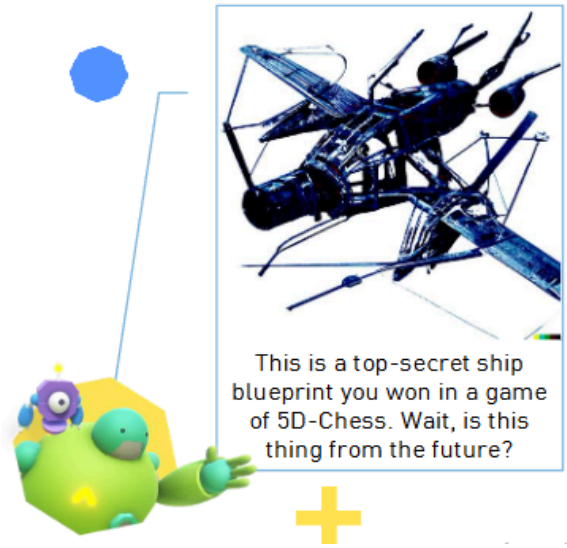
ENGINEER PLANES

LESSON 2: NO FLY DRONE

Drones are all the rage nowadays! They all have at least one propeller, but they could have an infinite number of propellers!

ENGINEER PLANES

LESSON 3: D.O.G. FIGHTER (ADVANCED)



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LESSON 4: DUAL TURBOPROP

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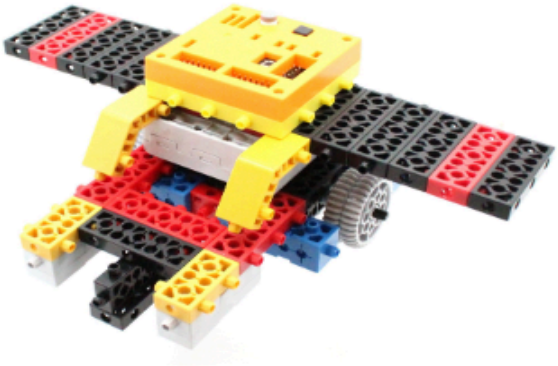
LESSON 5: A- IR PLANE

The first autopilot plane invented in 1912, just 9 years after the Wright Brothers invent the first plane!



ENGINEER PLANES

LESSON 6: BUILD YOUR OWN PLANE