KodeBee STEM Learning System

Purple Technologies · A Complete STEM & Robotics Learning Ecosystem for Grades 1–10

ELECTRONICS · ROBOTICS · AI/IOT · DRONES



The Problem with Traditional Learning

Passive Learning

Students sit, listen, and memorize —with little opportunity to explore, experiment, or create.

No Real-World Connection

Abstract concepts taught without practical application leave students disengaged and unmotivated.

Widening Skills Gap

The world demands engineers, coders, and innovators —but classrooms aren't preparing them.

> "Only **16%of students** say their school coursework prepares them well for the jobs of the future."

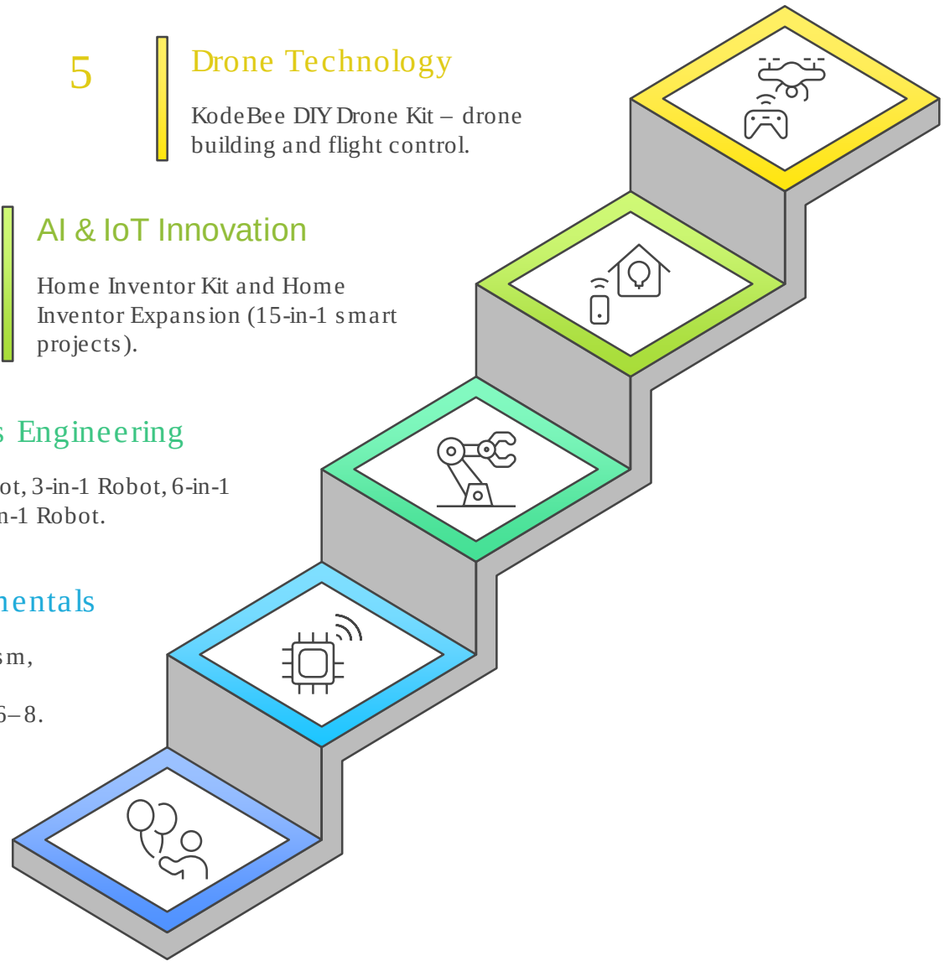
When students can't see the purpose of what they're learning, curiosity dies —and with it, potential. KodeBee was built to change that.



The KodeBee Learning Pyramid

A Systematic Approach That Grows With the Child

The Learning Pyramid is KodeBee's foundational philosophy. Each level builds on the last —ensuring students are never overwhelmed, always challenged, and constantly progressing.



5 **Drone Technology**

KodeBee DIY Drone Kit – drone building and flight control.

4 **AI & IoT Innovation**

Home Inventor Kit and Home Inventor Expansion (15-in-1 smart projects).

3 **Robotics Engineering**

KodeBee Bot, 3-in-1 Robot, 6-in-1 Robot, 12-in-1 Robot.

2 **Electronics Fundamentals**

Electric Circuits, Magnetism, Sensors, Energy, Motion experiments from Grade 6–8.

1 **Science Experiments**

Hands-on experiments from Grade 1–5 including Balloon Car, Mini Rocket, Magnetic Compass, Windmill, Lung Model.

→ Start with **curiosity-driven science** experiments

→ Build **electronics & engineering** fundamentals

→ Progress to **robotics, AI, and advanced tech**

KodeBee Learning Pathway

A structured, grade-aligned journey from foundational science to cutting-edge drone technology.

Science

Hands-on experiments that spark curiosity

Electronics

Circuits, sensors & real-world builds

Robotics

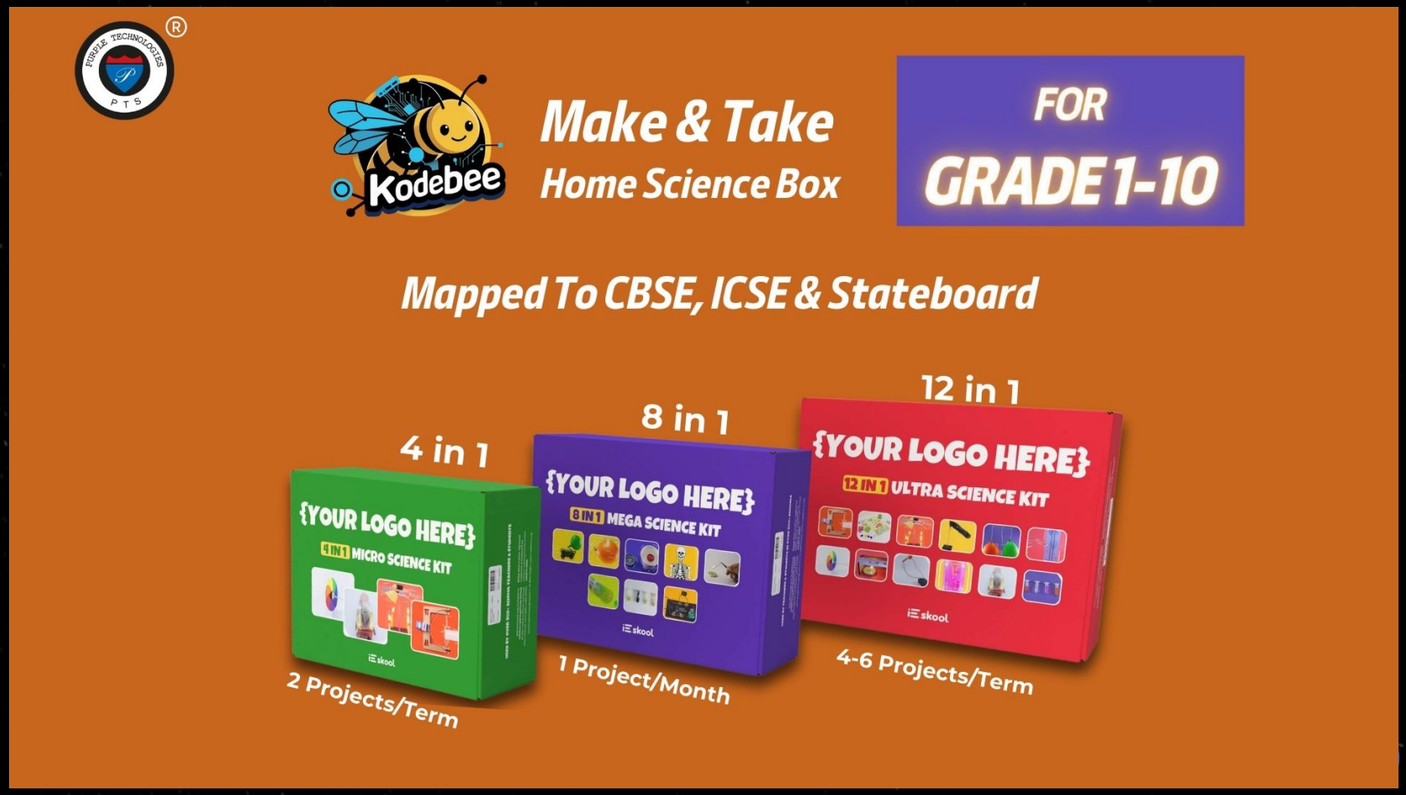
Mechanics, motors & programming

AI & IoT

Smart home, automation & IoT devices

Drones

Assembly, flight control & GPS





Hands-On Science: Early Grades

STEM Projects by Grade

Grade 1

Invisible Ink, Design Your House, Food Journal, Match the Season, Dry Plant Journal, Animal and Shelter, Rainbow Milk, Balloon Car, Balance Scale, Guitar, Day and Night, Mystery Box

Grade 2

Mini Rocket, Food-Energy, DIY Mini House, Wind Vane, Catapult, Flashlight, pH of Soil, Seasons Journal, Human Body, Bird Feeder, Plant Journal, Walking Water

Grade 3

Weaving, Body System, Constellation, Animal Types, Tent Making, Seed Science, Magnetic Compass, Water Cycle in a Bag, Food Chain, Solar Trio, Phases of Moon

Grade 4

Eclipse, Map Your Food, Design Your Home, Farm Without Soil, Animal Behavior, Windmill, Green Guardians, Bio-Filter, Cement Crafting, Lava Lamp, Lever, Map Making

Grade 5

Lung Model, Glow in Dark Slime, Burglar Alarm, Seismograph, Turbine Sprinkler, Magnetic Levitation, Wheels & Axles, Leaf Pattern, Senses Journal, Newspaper Tent Challenge

Grade 6

Balloon Car, Types of Motion, Magnetism, Body Movements, Parachute, Fibre Test, Automata, Pinhole Camera, Nutrient Test, Electric Circuit, Separation Techniques, Weaving

Grade 7

Sundial, Newton's Disc, Breathing Machine, Convection, Acids and Bases, Conduction, Magnetic Effect of Electric Current, Heating Effect of Electric Current, Barometer, Wind Sock, Rain Gauge

Grade 8

Combustion, Music & Sound, How Sound Travels, Electroplating, Liquid Conductivity, Static Electricity, Eye Model, Friction, Mirror & Reflection, Kaleidoscope

Grade 9

Submarine, Chromatography, Atom Model, Osmosis, Rotational Force, Rotational Lift, Archimedes Principle, Roller Coaster, Doppler Effect, Solution-Suspension-Colloid

Grade 10

Chemical Reaction, Defects of Vision, Life Process, Metal Properties, Electric Motor, pH Metry, Potentiometer, Refraction, Resistors, Tropism, Microscope

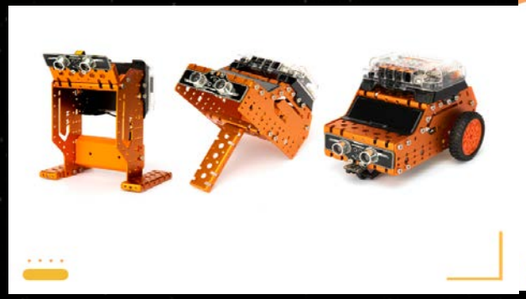
ROBOTICS PROGRAM

KodeBee Robotics Learning System



A Progressive Robotics Journey

Students don't just build robots —they **understand** them. Each kit introduces new complexity in mechanics, electronics, and code.









01

KodeBee Bot

Starter robotics —chassis, motors, basic programming

02

3-in-1Robot

Multiple configurations, sensor integration

03

6-in-1Robot

Advanced mechanics, motor control, obstacle detection

04

12-in-1Robot

Full programming, autonomous navigation, competitions

AI & IoT Innovation Learning

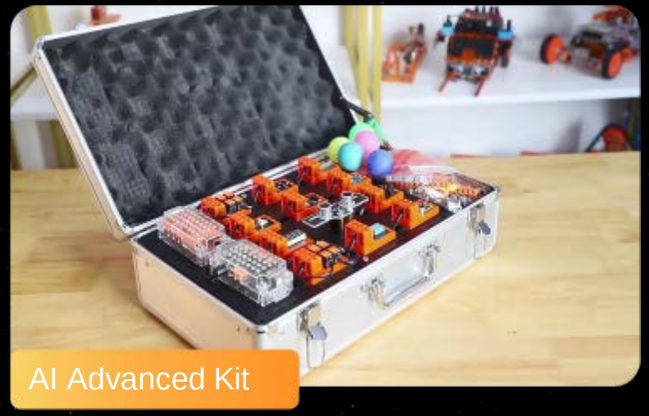
Home Inventor Kit

Students build and program smart devices that mirror real-world IoT systems —from automated lighting to sensor-driven alarms.

Home Inventor + Expansion (15-in-1) unlocks advanced projects including voice control, environmental sensing, and machine learning basics.



AI Machine Learning Starter Kit


AI Advanced Kit


AI Starter Kit

Smart Home

IoT Devices

AI Automation

ADVANCED ADD-ON · GRADES 9–10

Drone Technology Program

Drone Assembly

Students build the KodeBee DIY Drone from components —learning frame construction, motor mounting, and wiring from scratch.

Flight Control

Program autonomous flight paths and manual control logic. Students master throttle, pitch, yaw, and roll dynamics.

Sensors & GPS

Integrate ultrasonic sensors, gyroscopes, and GPS modules to build drones capable of real-world navigation tasks.

