TECH ZONE

Kids Coding Track

A hands-on track that turns children from technology users into technology makers, through games, stories and real electronic parts.

Ages
6 to 10

What they learn
Ten skills, from logical thinking to animation

What they make
Six projects they finish and present

Parts
Real Arduino parts, all low voltage








What they learn

Ten core skills in order, from how to think to building complete games and stories.

1 **Logical thinking and problem solving**
Breaking any problem into small, easy steps.

2 **Programming basics, made simple**
They meet coding through colourful blocks in Scratch.

3 **Commands and sequence**
Every command has a job, and the order changes the result.

4 **Conditions and decisions**
Programs choose for themselves: “if this happens, do that.”

5 **Loops**
Repeated steps shrink into one command that saves time.

6 **Variables and storing data**
They keep scores, names and numbers and use them in their games.

7 **Designing characters and backgrounds**
They draw their own world, with characters and scenes they design.

8 **Sounds and effects**
Music and sound effects bring each project to life.

9 **Interactive games**
Games that players control and that react in real time.

10 **Stories and animation**
They tell their own story and animate the characters on screen.

How the track runs

We start with Scratch, the most widely used platform for teaching children to code by drag and drop. Once the logic clicks, they move on to the electronics: their code starts lighting LEDs, turning servos and reading sensors on a real Arduino.

What they make

Six real projects that every child finishes and presents.

1 **Points collector game**
Players race to collect the most points before time runs out, learning variables and counters.
Parts: push buttons, LEDs, buzzer

2 **Maze game**
Guide a character out of a maze the child designed, practising commands and conditions.
Parts: LEDs, buzzer, ultrasonic sensor, potentiometer

3 **Treasure game**
A treasure hunt with maps and puzzles that builds logical thinking.
Parts: LEDs, buzzer, servo motor, light sensor (LDR)

4 **Quiz game**
A knowledge contest with questions, automatic scoring and a final result.
Parts: push buttons, LEDs, buzzer

5 **Interactive story with animated characters**
Kids write a story with dialogue and motion, and readers choose what happens next.
Parts: push buttons, buzzer, potentiometer

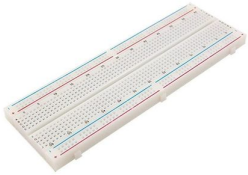
6 **Virtual city**
A whole city with buildings, cars and lights that switch on by themselves.
Parts: LEDs, servo motor, ultrasonic sensor, light sensor (LDR)

The parts they use

Safe, simple, low-voltage parts that children handle themselves, turning their ideas into projects that work in the real world.



Arduino Uno
The brain of every project. It takes the commands and drives the other parts.



Breadboard
Circuits go together here with no soldering.



LEDs
Lights for results, scores and signals.



Resistors
Protect the LEDs, and teach how current is controlled.



Push buttons
The player's controller for triggering actions in a game.



Buzzer
Sounds, effects, and win or lose tones.



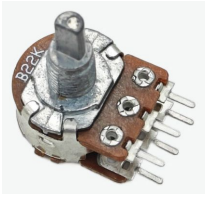
Servo motor
Moves arms, doors and the treasure chest to exact angles.



Ultrasonic sensor
Measures distance and spots obstacles in the maze.



Light sensor (LDR)
Tells light from dark, to switch the city lights on.



Potentiometer
A knob for speed, movement and choices.



Jumper wires
Connect the parts to complete a circuit.



USB cable
Links the Arduino to the computer to upload code and power it.

Every project uses the same base: the Arduino, the breadboard, jumper wires and the USB cable. Every part here is sold in the TECH ZONE shop, if your child wants to keep going at home.

Which parts each project uses

Project	Button	LED	Buzzer	Servo	Distance	Light	Knob
1. Points collector game	●	●	●				
2. Maze game		●	●		●		●
3. Treasure game		●	●	●		●	
4. Quiz game	●	●	●				
5. Interactive story with animated characters	●		●				●
6. Virtual city		●		●	●	●	

What your child gains

Organised thinking

Used to analysing a problem and building the solution step by step.

Learning through play

Every new skill turns into a game or a story they can see come alive.

From screen to real world

Their code does not stay on screen. It lights up, moves and makes sound.

Confidence

They finish with projects of their own design to show family and friends.

Safe learning: the track uses low-voltage parts suited to young children, with an instructor supervising every step.

Join the next group

Message us on WhatsApp at **0101 098 4875** to book a place or ask about dates. Details are also at **techzoneegypt.com/learn/kids**.

- Small groups, so every child gets time
- Hands-on projects from the first session
- Regular progress feedback
- A certificate for each level completed