Daily Activities Overview

Age Group ***7-11*** , Course Learn AI with Quarky

Day #1: Let the Fun Begin!!

Intro to Robotics & AI with Quarky

Concepts Covered

What is a robot? Introduction to Artificial Intelligence, block-based coding

Activities

Discover what robots are and what makes them smart

Explore how AI works in simple terms (senses, thinks, acts!)

Learn to use Quarky and the PictoBlox platform

Build your first code: Make Quarky move, light up, and react

Projects

Program Quarky to drive around a track and flash its lights based on button presses

Play a “Robot Says” game to understand sensors and logic

Daily Activities Overview

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Day #2: Making Decisions with AI

Concepts Covered

Conditional logic, decision-making, introduction to AI models

Activities

Use light and sound sensors to collect data from the environment

Learn about “if-then” logic - the basics of AI decision-making

Try hands-on AI decision trees with real-life examples (e.g., “Should I carry an umbrella?”)

Projects

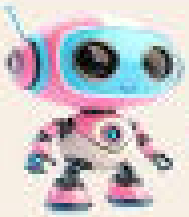
Program Quarky to act differently based on sensor input (e.g., turn on a light in the dark, make a sound when loud noise is detected)

Create a “Smart Safety Bot” that reacts to light or sound levels

Daily Activities Overview

Age Group **7-11** , Course Learn AI with Quarky

Day #3: Build & Train an AI Robot



Concepts Covered

Machine Learning, AI model training, image and sound classification

Activities

Train your own AI model using image or sound recognition

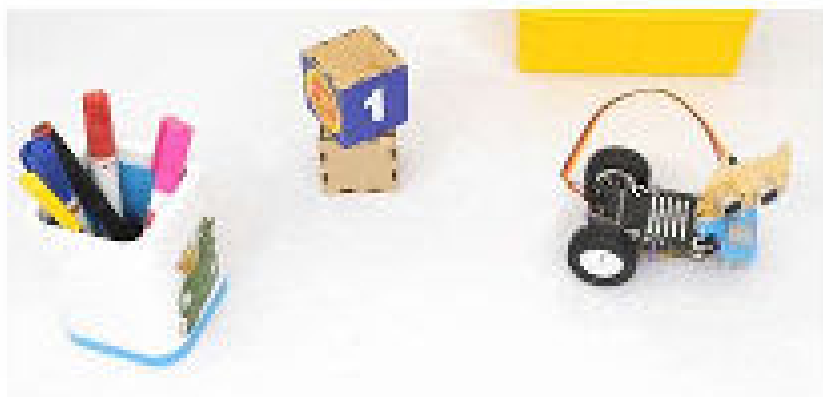
Use the laptop camera to teach your AI to recognize objects, hand gestures, or sounds

Link your trained model to Quarky and make it respond

Projects

Build a gesture-controlled robot (e.g., wave to move, clap to stop)

Explore how AI learns from examples using fun training sessions



Daily Activities Overview

Age Group **7-11** , Course Learn AI with Quarky

Day #4: AI for a Greener World

Concepts Covered

Smart classification, sensor integration, AI logic for eco-friendly tech

Activities

Understand how AI helps in waste management and weather prediction

Use sensors to collect real-time data (light, temperature)

Design an AI system that classifies different waste types

Projects

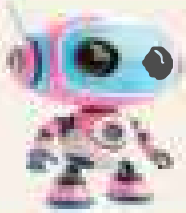
Create a waste sorting assistant that uses AI to light up different LEDs for organic, recyclable, or general waste

Build a simple weather monitor station with Quarky

Daily Activities Overview

Age Group **7-11** , Course Learn AI with Quarky

Day #5: AI Home Automation Challenge



Concepts Covered

Combine all learned concepts to build a self-driving car prototype

Activities

Discuss how AI powers devices in real smart homes

Explore motion detection, auto-lighting, sound detection

Design home automation features with simple “if this, then that” logic

Projects

Build and showcase your own AI-powered smart home prototype

Examples:

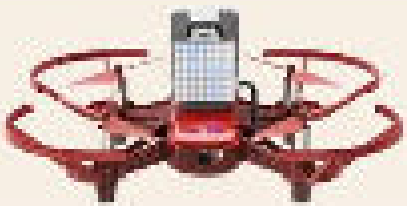
Automatic light system, smart alarm, AI fan control based on temperature

Pixelia

Daily Activities Overview

Tello Drone Programming Course

Day #1



Concepts Covered

Introduction to Drones & Tello

Learning Objectives

- Understand the basic principles of drone flight
- Learn about Tello drones and their features
- Setup and prepare the Tello drone for flight

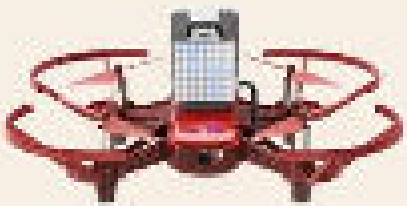
Activities

- Overview of drones
- key components
- Explore Tello's features
- Flying Fundamentals Learn to take off, land, hover, and steer using the Tello app
- Understand flight safety rules, no-fly zones, and responsible usage. Drone Safety

Daily Activities Overview

Tello Drone Programming Course

Day #2



Concepts Covered

Basic Drone Programming with Scratch

Learning Objectives

- Learn how to program the Tello drone using Scratch
- Understand basic commands for controlling the drone's movements

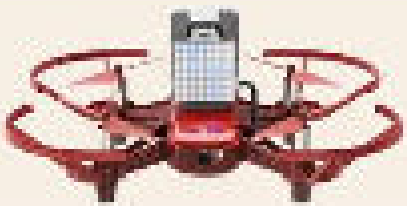
Activities

- Introduction to the Scratch interface and using it to code Tello drones via the Tello SDK
- Build Your First Flight Program
- Code & Fly
  Students design and test their own flight programs, then watch their code come to life in real-time

Daily Activities Overview

Tello Drone Programming Course

Day #3



Concepts Covered

Advanced Flight Maneuvers and Loops

Learning Objectives

- Learn more complex drone movements using loops and conditional logic
- Program the drone to perform a series of commands in sequence

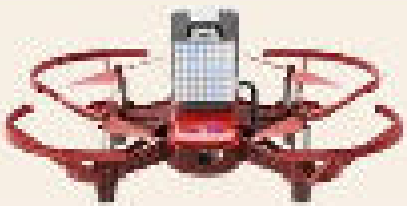
Activities

- Quick Recap
  Review Day 2 basics and troubleshoot common coding errors
- Next-Level Coding
  Learn loops and conditionals to create smarter flight patterns (e.g., flying in a square)
- Creative Flight Practice
  Students tweak their code to fly in custom patterns using loops and timing for smoother moves

Daily Activities Overview

Tello Drone Programming Course

Day #4



Concepts Covered

Aerial Photography and Video

Learning Objectives

- Learn how to use the Tello drone's camera for aerial photography and video capture
- Program the drone to capture photos and videos while flying

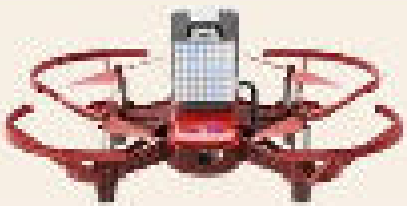
Activities

- Explore how drones are used for capturing stunning photos and videos
- Learn about the Tello's 720p HD camera and video capabilities
- Use Scratch to program the drone to take photos or videos mid-flight
- Students code flight paths with timed shots and experiment with capturing aerial footage

Daily Activities Overview

Tello Drone Programming Course

Day #5



Concepts Covered

Drone Obstacle Course

Learning Objectives

- Apply everything learned in the course to complete a fun, interactive challenge
- Enhance problem-solving and creative thinking with drone programming

Activities

- Introduce the idea of navigating drones through hoops, cones, and turns indoors
- Students design and code a flight path using learned commands to complete the course
- Test the programs in the obstacle course, refine them, and celebrate the final flight achievements