

## ASM Summer Camp Syllabus (Ages 7-9) Focus: Scratch Programming + LEGO Spike Essentials

### Day 1: Introduction to Scratch and LEGO Spike Essentials

9:00 – 10:15 AM: Scratch Basics

- What is coding?
- Intro to Scratch: Exploring the interface (sprites, stage, blocks)
- Create your first simple animation ("Make a cat dance")

10:15 – 10:30 AM: Break

10:30 – 12:00 PM: LEGO Spike Essentials Basics

- Introduction to LEGO Spike Essentials Kit
- Hands-on: Build a simple LEGO robot
- Understand motors, sensors, and basic connections

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### Day 2: Scratch Storytelling & Basic Robotics

9:00 – 10:15 AM: Scratch Storytelling

- Create a short animated story
- Focus on using backgrounds, sounds, and simple sequences

10:15 – 10:30 AM: Break

10:30 – 12:00 PM: LEGO Simple Machine Build

- Build a spinning fan or merry-go-round
- Program using Spike App: Start/Stop Motion

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### Day 3: Scratch Games & Smart Machines

9:00 – 10:15 AM: Scratch Game Creation

- Design your first mini-game (Catch the Apple, or Maze Game)
- Learn about "If-Then" logic and scorekeeping

10:15 – 10:30 AM: Break

10:30 – 12:00 PM: LEGO Smart Robot Build

- Build a simple robot car
- Use sensors: Make it move, stop, and turn based on input

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## Day 4: Scratch Interactive Projects & Advanced LEGO Robotics

9:00 – 10:15 AM: Scratch Interactive Projects

- Create a project with buttons and keyboard controls
- Add sounds and effects for user interaction

10:15 – 10:30 AM: Break

10:30 – 12:00 PM: LEGO Bowling Fun

- Build a Bowling Fun
- Program with loops and conditions (repeat actions, respond to touch sensor)

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## Day 5: Showcase Day! Final Projects

9:00 – 10:15 AM: Scratch Final Project

- Design and complete a Scratch project (game, animation, or interactive story)
- Practice presenting it to others

10:15 – 10:30 AM: Break

10:30 – 12:00 PM: LEGO Final Project

- Build your own LEGO robot invention
- Program and demonstrate what it can do
- Group presentations and mini-awards (Participation Certificate)



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