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

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

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

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 Advanced Build
- Build a rescue robot (grabbing objects)
- Program with loops and conditions (repeat actions, respond to touch sensor)

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)

www.asmed.com\WOW