STEM Online Foundation Course

Course Schedule:

Week 1: Introduction to STEM & Scientific Thinking

document	What is STEM?
document	Curiosity and Asking Questions
document	Introduction to the Scientific Method
document	Fun Experiment: Making a Volcano

Week 2: Basics of Coding & Logical Thinking

document	What is a Computer Program?
document	Algorithms and Flowcharts
document	Introduction to Scratch / Blockly (Visual Programming)
document	Activity: Animate Your Name / Create a Simple Game

Week 3: Simple Machines & Engineering Design

document	Levers, Pulleys, Wheels – Real-life Examples
document	Engineering Design Process (Plan – Build – Test – Improve)
document	Hands-On: Build a Mini Catapult

Week 4: Math in Real Life

document	Math Games & Patterns
document	Measurement, Time, Shapes
document	Fun With Numbers: Puzzles and Riddles
document	DIY: Create a Board Game with Math Problems

Week 5: Robotics & Automation

document	What is a Robot?
document	Sensors and Motors (Basic)
document	Virtual Robotics (using simulators)
document	Challenge: Make a Robot Move in a Maze

Week 6: Environmental Science & Sustainability

document	Introduction to Ecosystems
document	Renewable vs Non-renewable Resources
document	DIY: Make a Water Filter or Solar Oven
document	Fun Quiz: My Green Footprint

Week 7: Space & Astronomy

document	Our Solar System
document	Rockets and Satellites
document	DIY: Make a Balloon Rocket
document	Stargazing App / Virtual Tour of Planets

Week 8: Final STEM Challenge + Showcase

document	Group Project: Solve a Real-World Problem using STEM
document	Present Your Prototype/Project
document	Certificate Distribution
document	Parent-Student Showcase / Exhibition