



St. Kabeer Academy(CBSE)

ATL Syllabus For Class 9th

1. ATL SPACE MODULE

- Introduction
- Walkie – Talkie
- Telescope
- Convex & Concave Lenses
- Pinhole Camera
- Glove Specimen Box
- Rover
- Weather Vane & Anemometer/Wind Speedometer
- Mini - Satellites
- Suggested Sensors for your Satellite
- Mission Control
- About Space Challenge

2. BREADBOARD PROJECTS

- Built Seven Segment Circuit On Breadboard.
- Two Finger Touch Lamp Using Transistor
- Water Level Indicator
- Smart Fan Using IR Sensor

3. 555 TIMER BASED ACTIVITIES

- Introduction of 555 Timer IC and its Application
- Led Flashing Using 555 Timer
- Alternate Led Blinking
- Touch switch using 555 timer
- Street light control using LDR and 555 Timer IC.
- Rain alarm system

4. GET STARTED WITH CONSTRUCT AND BUILD GAMES

- Basics of game development and how games are being created
- Get started with construct.
- Find out how to experiment with Construct to enhance 2D game creation experience
- Be able to publish your own game.
- Know about Construct game development like professional

5. AUTODESK FUSION 360

- Introduction of fusion 360.
- Application of fusion 360
- Machine Extension
- Create your own electronics parts with fusion 360
- Furniture design and manufacturing
- Pencil sharpen project

4. SOLDERING IRON TOOL

- How to use Soldering Iron.
- Application of Soldering Iron.

5. ROBOTICS

- Interfacing Multiple Sensors with Arduino
 - Introduction to Logic Gates in Block Coding
 - Designing a Circuit for Home Security system
- Fifth Simple Machine - Inclined Planes
 - Design and Applications
 - Concept of angle in inclined planes
 - Construction of a bridge.
- Sixth Simple Machine - Screw
 - Designing Screws and Importance of Screw
- Designing Tool kit
 - Designing of Nuts and Bolts
 - Designing Multipurpose Tools
- Interfacing Tilt Sensor with Arduino
- Circuit Designing
 - Concept of Gesture Controlled Robot
- Gears
 - Importance and Application
 - Designing of a Gear.
- Compound Gears Movement
 - Combination of Odd and Even Number of Gears
 - Ratio of Speed and Power in Gears
 - Role of Vehicles in Gears
 - Designing of a Gear Box
- Designing of Tank Motion Belt
 - Why Tanks are called Multi Terrain Vehicle?
 - Role of Geared Wheel and Belt Concept.
 - Construction of the Base of the tank.

6. APP DEVELOPMENT

- Introduction of AI
- Introduction to Machine Learning and Artificial Intelligence in MIT App Inventor
- Learn about Image and Audio Classification
- Make App – Image Classifier
- Make App – Audio Classifie

7. PROJECTS

- Robot Chassis Interface
- Robot Assembling And Programming
- Smart Home Automation
- Smart Dustbin
- Obstacle Avoider/Follower Robot Using IR Sensor And Bluetooth
- Print Geometrical Shapes-3D Printer

