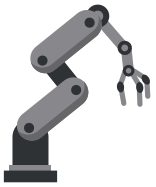
CUBOT Moodle Year Course

LESSON PLAN



TITLE:	**Lesson 3**
LESSON:	**3 / 32**
DURATION:	1h
TOPICS INTRODUCED:	Intro to Electronic Components

INTRODUCTION:

By the end of this lesson, students will have a basic understanding of various electronic components, their functions, and how they can be categorized into input and output devices. Students will also learn about the real-world applications of these components.

Note: This lesson requires an active internet connection for Arduino firmware updates.

RESOURCES REQUIRED:

1. Visual aids (images or diagrams of electronic components)
2. Printed handouts with key information (optional)
3. Access to a computer or tablet for research (optional)

LESSON STRUCTURE:

1. Introduction – Electronics Components
2. Demonstrate a simple circuit.
3. Students build their own circuit

LESSON 3

1. Introduction (5 minutes)
    - Begin the lesson by discussing the importance of electronic components in our daily lives and how they are used in various devices.

2. Input and Output Devices (5 minutes)
    - Explain the concept of input devices (connected components that are read from) and output devices (connected components that are controlled).
    - Provide examples of common input devices and output devices used with computers.

3. Examples of Input Devices (10 minutes)
    - List and describe various input devices, including scanners, mice, cameras, microphones, and keyboards.
    - Discuss their functions and how they interact with computers or other devices.

4. Examples of Output Devices (10 minutes)
    - List and describe various output devices, such as printers, screens, USB lights, and speakers.
    - Explain how these devices produce output, such as visual or audio information.

5. Introduction to Electronic Components (5 minutes)
    - Transition to the discussion of electronic components, emphasizing that they are also categorized into input and output devices.

6. Exploring Electronic Components (10 minutes)
    - Introduce specific electronic components and their functions:
    - LED (Light-Emitting Diode)
    - Resistors
    - Push-Button
    - RGB LED
    - Reed Switch
    - Speaker
    - Variable Resistor (Photoresistor and Potentiometer)
    - Temperature Sensor
    - Show images or diagrams of these components and briefly explain their roles.

7. Real-World Applications (5 minutes)
    - Discuss where these electronic components can be found in the real world based on the descriptions provided.
    - Mention specific devices or systems that use these components, such as traffic lights, laptops, weather stations, and more.

8. Conclusion (5 minutes)
    - Summarize the key points of the lesson, including the distinction between input and output devices and the real-world applications of electronic components.

- Encourage students to explore the field of electronics and technology further.

Homework/Extension Activity:

- Assign a simple electronics project or scavenger hunt where students identify electronic components in their homes and document their functions.

Assessment:

- Assess students' understanding through their participation in class discussions and their completion of the homework or extension activity.