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| **TITLE: LCD Monitorand Ic2 Module** |

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| **LEARNING SCENARIO** | | | |
| ***School:*** | | Duration (minutes): | 40 |
| Teacher: |  | Students  age: | **12 -13** |

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| Essential Question: |  |

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| Topics: |
| * Arduino Programing Card and Block coding (Mblock) |
| Aims: |
| * They will learnhow to use LCD monitor as display |
| Outcomes: |
| * They will code Arduino with Mblock. * They will use LCD |
| Work forms:   * Work in pairs   Methods: |
| Presentation and Project based Learning |

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| **ARTICULATION** |
| Course of action (duration, minutes) |
| **INTRODUCTION** |
| **Talk about the final project:**  **We will write text via arduino and use LCD monitor to display this text** |
| **MAIN PART**   * **Give information about LCD Monitors and I2c Module**   **LCDs like these are very popular and broadly used in electronics projects as they are good for displaying information like sensors data from your project.**  **The 16x2 LCD has a total of 16 pins. As shown, eight of the pins are data lines (pins 7-14), two are for power and ground (pins 1 and 16), three are used to control the operation of LCD (pins 4-6), and one is used to adjust the LCD screen brightness (pin 3). The remaining two pins (15 and 16) power the backlight.**  **As seen in the Picture, If you use LCD with 16 pins, you have to make at least 12 connections. But IC2 module make it more easer.**  **https://www.allaboutcircuits.com/uploads/projects/lcd2.png**  **Wiring an I2C LCD is a lot easier than connecting a standard LCD. You only need to connect 4 pins instead of 12.**  **Karakter LCD I2C/IIC Dönüştürücü Kartı Satın Al | Robotistan.com**   * Let’s make Park Sensor * Set up this circuit with Arduino and LCD monitor with I2C module   C:\Users\user\Desktop\arduino lessons\LCD\I2C-LCD-with-Arduino-Wiring-Diagram-Schematic-Pinout.jpg |
| * **Open Mblock and connect the Arduino** * **Write this code:**   C:\Users\user\Desktop\arduino lessons\LCD\CODE.JPG  Video:  [**https://youtu.be/BvS7k-wlWaM**](https://youtu.be/BvS7k-wlWaM)  Scenarios for discussion  **In which projects can we use LCD Monitors ?** |
| **CONCLUSION**  **We read the data come from analog pins and we used these data as conditions for another equipment’s working.** |
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| Methods | Work forms |
| *presentation interview*  *talk demonstration*  *work on the text role playing*  *graphic work*  *interactive exercise /simulation on the computer* | *individual work*  *work in pairs*  *group work*  *frontal work* |

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| Material |
| * Arduino and USB connection Cable * Computer * LCD Monitor with I2c module * jumper Cables |

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| Literature |

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| **PERSONAL OBSERVATIONS, COMMENTS AND NOTES** |
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