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| **TITLE: Arduino** |

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

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|  Essential Question: |  |

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| Topics: |
| * Arduino Programing Card and Block coding (Mblock)
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| Aims: |
| * They make the basic Led circuit by using 5V pin
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| Outcomes: |
| * They will understand the basic electronic circuit
* They will use 5V pin and GND
* They will use LED, Resistor, breadboard, Jumper Cable
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| Work forms:* Work in pairs

Methods: |
| Presentation and Project based Learning |

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| **ARTICULATION** |
| Course of action (duration, minutes) |
| **INTRODUCTION** |
| What are the elements of the basic Electronic circuit?devre elemanları nedir |
| **MAIN PART** |
| **Let’s set up this circuit with Arduino and other equipment.*** **Introduce LED, Resistant, breadboard and Jumper cable**

**LED:** LEDs are small, powerful lights that are used in many different applications.**Resistor**: When building your Arduino projects, you use resistors to limit the amount of current going to certain components in the circuit, such as LEDs and integrated circuits. To calculate the resistance, you should use a modified version of Ohm’s Law.**Breadboard:** The breadboard is the bread-and-butter of DIY electronics. Breadboards allow beginners to get acquainted with circuits without the need for soldering, and even seasoned tinkerers use breadboards as starting points for large-scale projects.https://twinspace.etwinning.net/files/collabspace/9/49/449/95449/images/b910a4da6_opt.jpghttps://twinspace.etwinning.net/files/collabspace/9/49/449/95449/images/b4b04446_opt.jpg**-Make this circuit**https://twinspace.etwinning.net/files/collabspace/9/49/449/95449/images/b2b292ae_opt.jpg**Video:**[**https://youtu.be/lglww2hl8jE**](https://youtu.be/lglww2hl8jE)**Topics for discussion**How can we control The LED?**Scenarios for discussion**Can we control this LED with 5V pin?What should we do If we want to control this led (for example, turn on 1 minute, turn off 1 minute)? |
| **CONCLUSION** |
| We use the 5V pin for power supply, we cannot control it by coding. We have to use digital pins to control the leds or other elements of circuits by coding.  |

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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
* Led
* BreadBoard
* Resistor
* Jumper Cable
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| Literature |

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