



TITLE: Arduino

LEARNING SCENARIO

School:	Duration (minutes):	40
Teacher:	Students age:	12 -13

Essential Question:

Topics:

- Arduino Programming Card and Block coding (Mblock)

Aims:

- They make the basic Led circuit by using 5V pin

Outcomes:

- They will understand the basic electronic circuit
- They will use 5V pin and GND
- They will use LED, Resistor, breadboard, Jumper Cable

Work forms:

- Work in pairs

Methods:

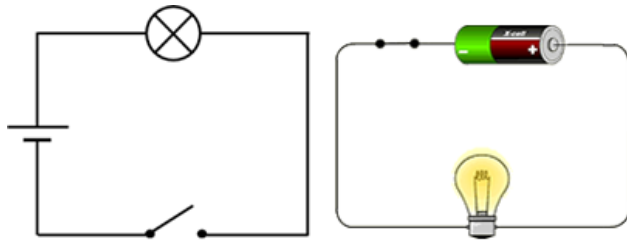
Presentation and Project based Learning

ARTICULATION

Course of action (duration, minutes)

INTRODUCTION

What are the elements of the basic Electronic circuit?



MAIN PART

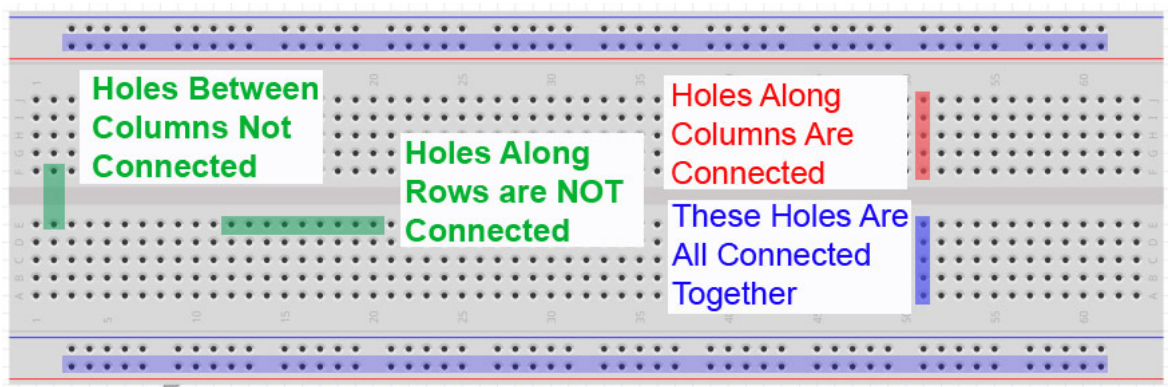
Let's set up this circuit with Arduino and other equipment.

- Introduce LED, Resistor, breadboard and Jumper cable

LED: LEDs are small, powerful lights that are used in many different applications.

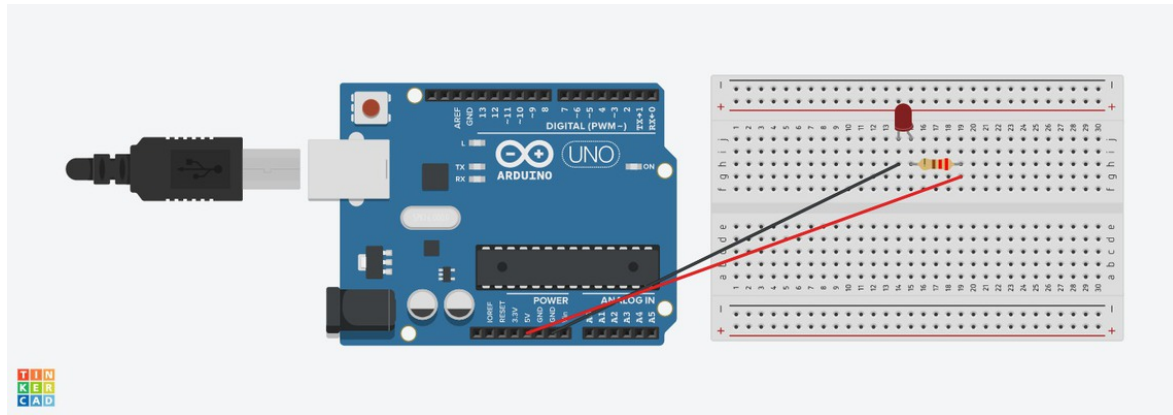
Resistor: When building your Arduino projects, you use resistors to limit the amount of current going to certain components in the circuit, such as LEDs and integrated circuits. To calculate the resistance, you should use a modified version of Ohm's Law.

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.





-Make this circuit



Video:

<https://youtu.be/lglww2h18jE>

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.

Methods

presentation
 talk
 work on the text
 graphic work
 interactive exercise /simulation on the computer

interview
 demonstration
 role playing

Work forms

individual work
 work in pairs
 group work
 frontal work

Material

- Arduino and USB connection Cable
- Computer
- Led
- BreadBoard
- Resistor
- Jumper Cable

Literature

PERSONAL OBSERVATIONS, COMMENTS AND NOTES

