



E-Textiles Handout

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How to Program Using: mBlock and Arduino LilyPad

STEP 1: Under the "edit" tab you need to select "Arduino mode".

STEP 2: While using the LilyPad Arduino board you will need to go to the "boards" tab and select Arduino Nano (mega 328).

STEP 3: Under the teal Robots palette you will find an assortment of Arduino programming options. To begin any code, you will need to bring the "Arduino Program" start tab to the coding field.

STEP 4: At this point you will need to determine what you want your e-textile to do. For this example, we will program for the LED light to stay on for 3 seconds and then blink for 1 second continually.

STEP 5: Bring in the "set digital pin ___ output as HIGH" and snap it under the Arduino Program tab. You will need to look at your design to determine where your LED light is attached to fill in the blank with your pin number. For this example, we will use pin 13.

STEP 6: Since we want the LED light to stay on for 3 seconds we need to tell it this by using the "wait ___ secs" block under the control palette. Since we need to wait 3 seconds fill in the blank to be 3.

STEP 7: After waiting 3 seconds the LED light will need to be told to turn off. To complete this, go back to the Robots palette and bring

another "set digital pin ___ output as HIGH". Fill in the blank to be 13 for our LED light. You will need to change HIGH to LOW at this point. In mBlock and Arduino, LOW means off.

STEP 8: The second half of the program desired needed the LED light to blink for 1 second forever. For this command to proceed we need to go back to the Control palette and bring in the "forever" loop.

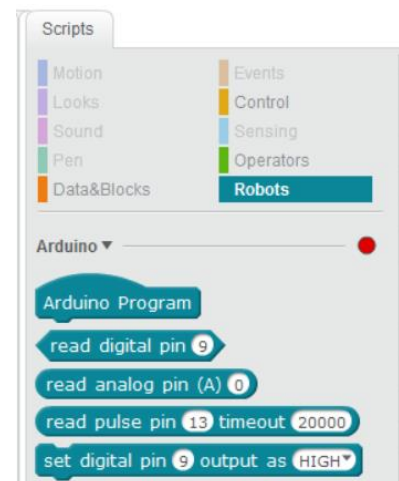
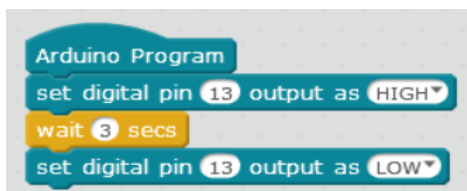
STEP 9: Within the forever loop you need to add "set digital pin ___ output as HIGH", again filling in the pin number to be 13.

STEP 10: To have the LED light on for only 1 second, a "wait ___ secs" block needs to be brought in. Fill in the blank with 1.

STEP 11: Finally, after the 1 second is up you need to tell the LED light to turn off by bringing in "set digital pin ___ output as HIGH". Again, HIGH needs to be changed to LOW.

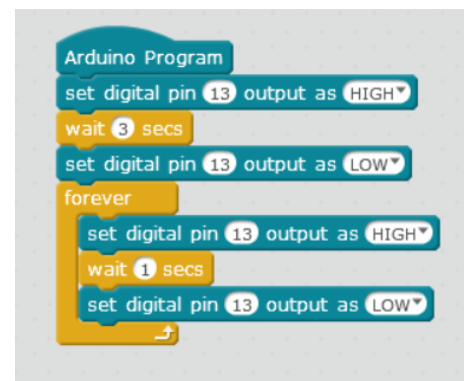
→Moving forward: Find additional resources and help at:

<https://www.arduino.cc/en/Guide/LilyPadWindows>



Set up

This is a clip from mBlock after being set up from steps



1-3.

Code

To the left is a snip of the code completed up to step 7. Above is the final code after following along this procedure.