

A POSTERIORI

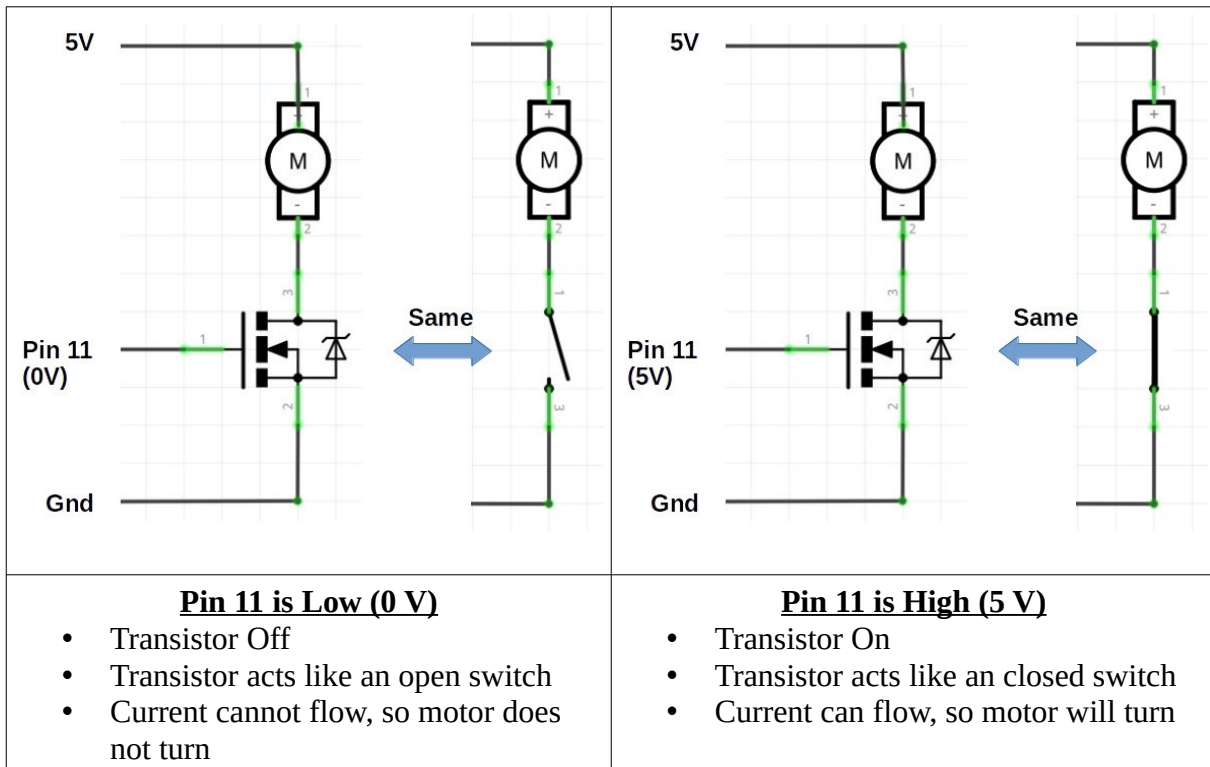
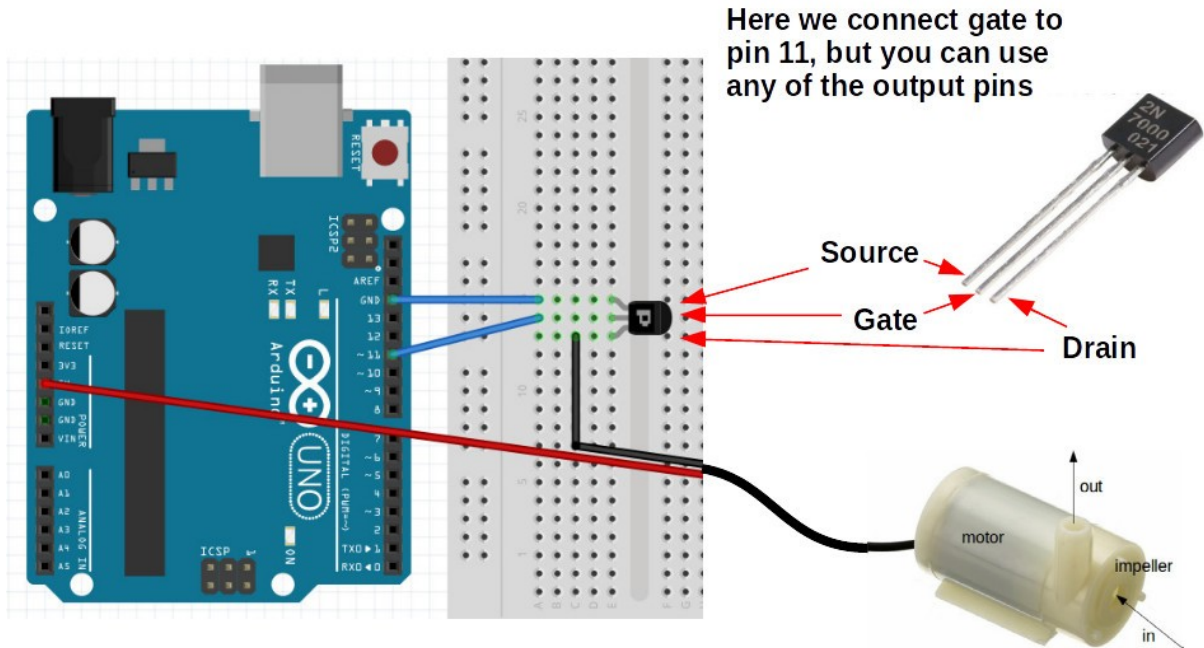
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Lesson 4 (High Power)

Slides – <https://a9i.sg/huayi>

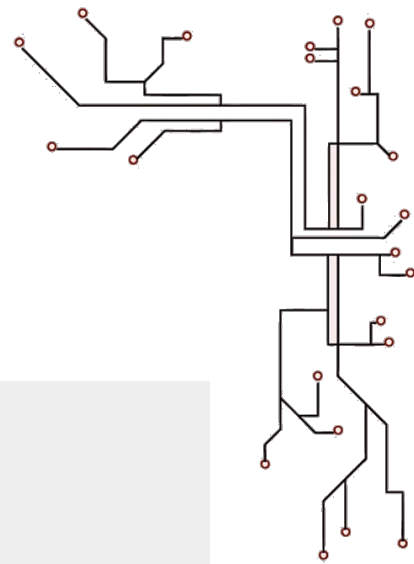
mBlock – <https://ide.mblock.cc> (start mLink too!)

Exercise 4 (Connecting Motors)



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PWM

- Motor speed can be controlled using PWM
- However, motor may not turn at all if PWM power is too low

Try Out!

What is the lowest power setting you can set and still have the motor turn?
(Note: This will not be the same for every motor)

Ans: _____

Adjustable Power Program

Add the following two scripts to a sprite.

```
when this sprite clicked
ask What's the power? and wait
set power to answer
broadcast message1
say join Setting pump power to power for 1 seconds
```

```
when up arrow key pressed
change power by 1
broadcast message1
say join Setting pump power to power for 1 seconds
```

Challenge!

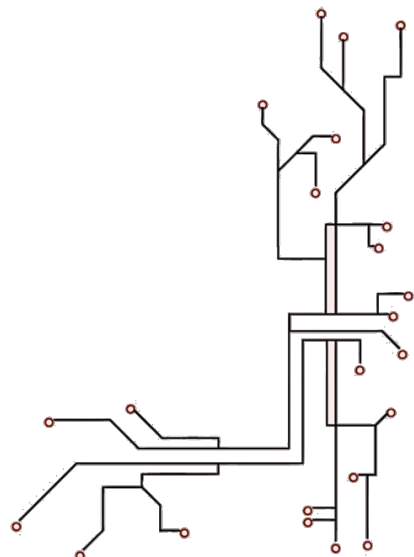
- 1) Add a script for reducing power when the down key is pressed.
- 2) Part of these code are the same. Convert them into a “My Block”*.

Do this on your computer and inform the instructor when done.

* Using My Blocks make your code neater and easier to change.

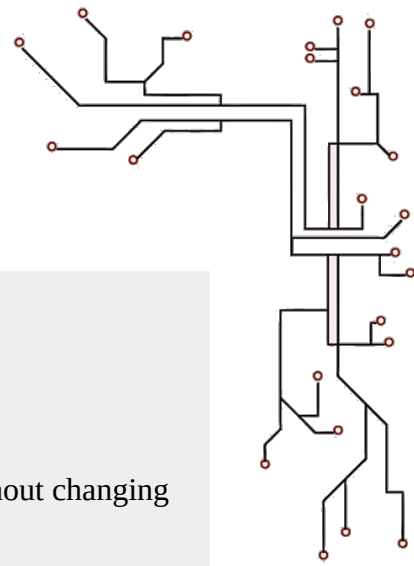
Add the following script to your Arduino device.

```
when I receive message1
set PWM 11 output as power
```



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Challenge!

Create a program that allows you to set...

- How often to turn on the motor (eg. once every 60 seconds)
- How long to turn on the motor each time (eg. on for 4 seconds)
- The settings should be changeable using keyboard or mouse, but without changing the program code.

Do this on your computer and inform the instructor when done.

