1.

Now we're starting to work with some more complicated sensors. The flex sensor has tons of real world applications. List three and explain why you can't use a regular potentiometer instead of a flex sensor. Example: use the sensor to measure the flex on a fishing pole and cut the line if the pole ever comes close to breaking. You could not use a potentiometer because it would be difficult to attach it.

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Got your flex sensor and servo working? Great, but what if you want to measure flex in both directions? Add the necessary components to the schematic below (add components on right) and describe (in plain English) what you would need to add to the code to keep the single servo as your output with your new schematic.

2.

Unplug the flex sensor completely and look at your Serial Communication window. You should still be getting some values even though there is no sensor plugged in. This is due to something called "float" which occurs when an RedBoard pin is expecting input but there is no sensor attached to it. What is the highest value you receive and why is it important to know about float?

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3.

What if you wanted your flex sensor to measure a smaller range of flexing (because what you are measuring is less flexible), but you want the same range of motion for your servo, how could you make it do that?
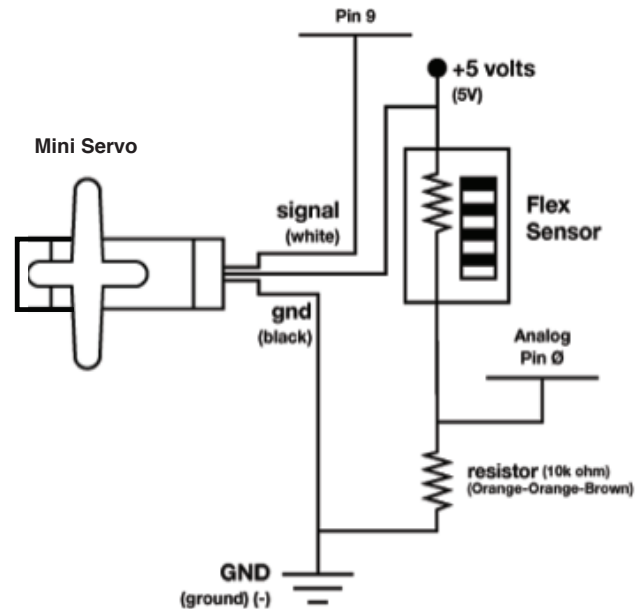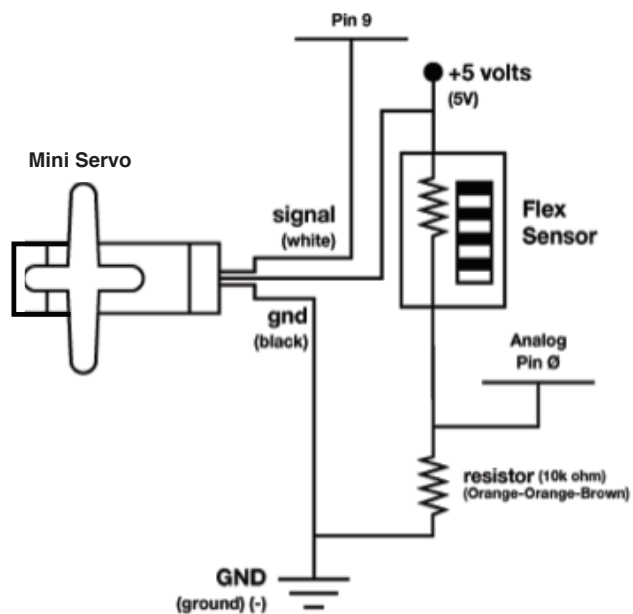
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4.

Add an On/Off switch to your schematic.

5.

Circle any Arduino pins that take input on your modified schematic.

Circuit:

Circuit:

Pin 9

+5 volts
(5V)

Mini Servo

signal
(white)

Flex
Sensor

gnd
(black)

Analog
Pin Ø

resistor (10k ohm)
(Orange-Orange-Brown)

GND
(ground) (-)

7.

Imagine your flex sensor is thirty feet long. List at least three things you could do with it.

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8.

Draw one example of how this circuit could be used in everyday life. Label all components and give it a title.

6.

Draw a logic flow chart of the circuit here: