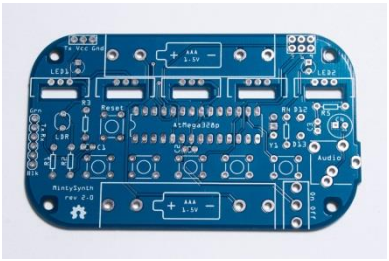
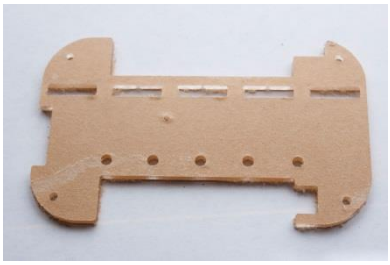
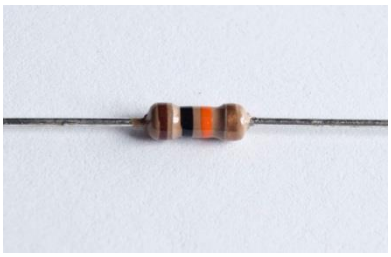
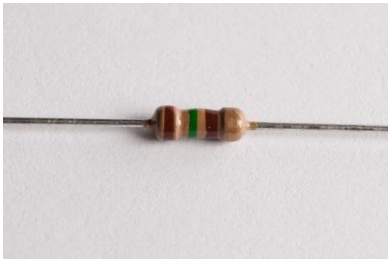
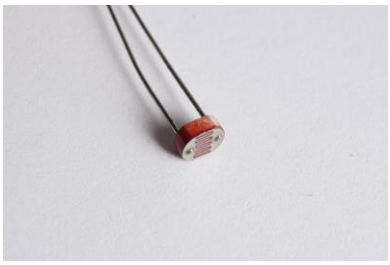
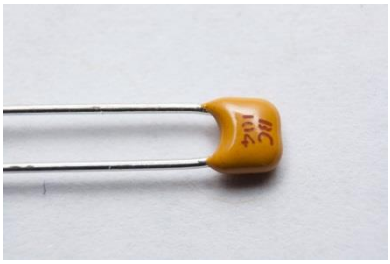
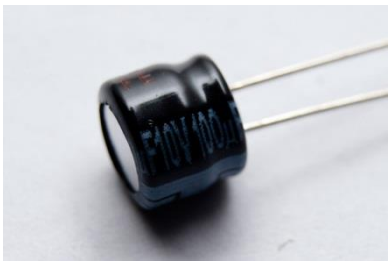
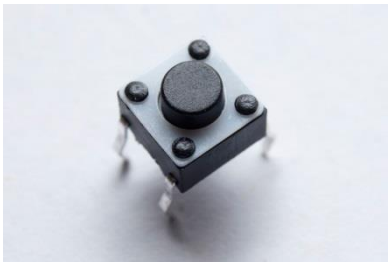
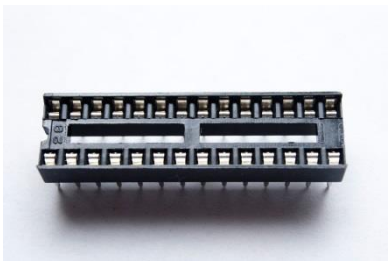
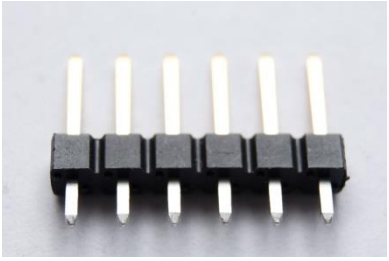
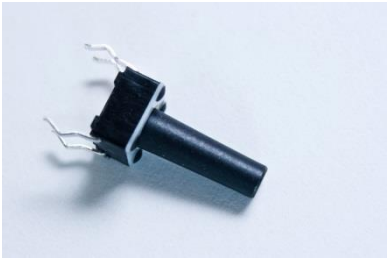
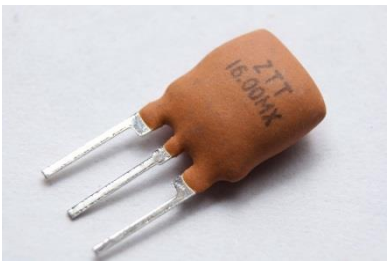
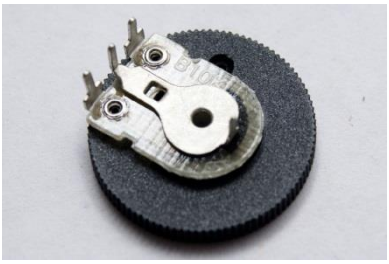
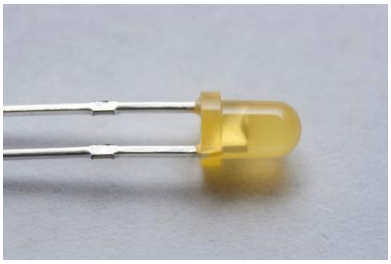
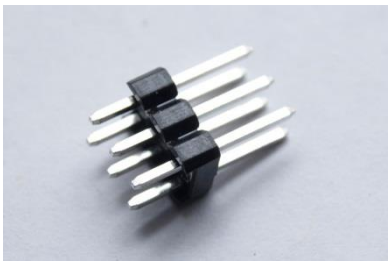
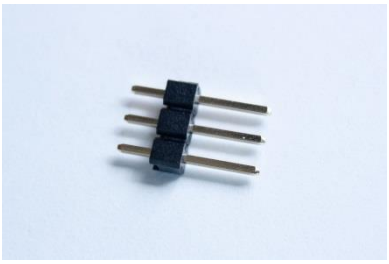
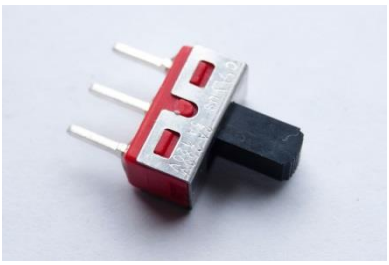
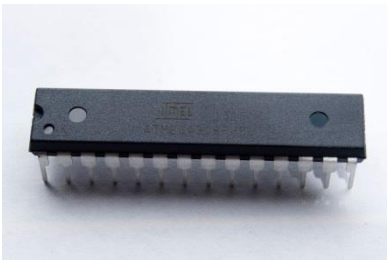
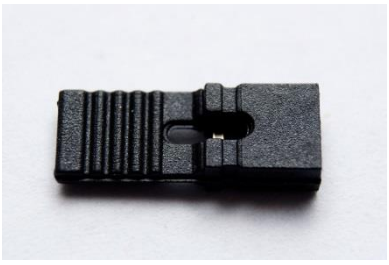
MintySynth rev. 2.0 parts list

Item	part #	
PCB		
Acrylic cover plate (shown with protective paper)		
10kΩ resistor (brown, black, orange, gold) R1 is used along with the photocell to form a voltage divider, so that when the resistance of the photocell changes with light level, the circuit will produce a varying voltage that we can measure. R2 is used as a pull-up resistor for the reset button.	R1, R2	
150Ω resistor (brown, green, brown, gold) These limit the current to the LEDs.	R3, R4	
1.5 kΩ resistor (brown, green, red, gold) This is part of the low-pass RC filter for the audio output.	R5	

Photocell (light-dependent resistor) Can be used for all sorts of cool stuff!	LDR	
100 nF (0.1 uF) ceramic capacitors C1 is used to allow the FTDI cable to send a reset pulse to the microcontroller when programming. C2 is used as a bypass capacitor to smooth the input voltage. C3 is part of the low-pass filter on the audio output.	C1,C2,C3	
100 uF electrolytic capacitor This removes the DC component of the audio output and acts as a high-pass filter.	C4	
Reset button For resetting the AtMega 328. You'll probably never need it ;)	Reset	
28-pin DIP socket For the AtMega328.		
1/8" audio jack (the nut is located in the small hardware bag).	Audio	

6-pin FTDI header For programming the Atmega328 using a USB to FTDI adapter or cable.		
Buttons (5)	S1-S5	
16 mhz ceramic resonator The timer for the AtMega328. We use this instead of a crystal oscillator because it's more compact and more durable.	Y1	
10 kΩ thumbwheel potentiometers (5)	P1-P5	
Red LED	LED1	
Yellow LED	LED2	

6-pin jumper header Used to select which pin is used for the audio output.		
3-pin MIDI header Used to access Tx, Gnd, and Vcc for sending MIDI signals to other devices. Can also be used for other communications or for powering small external devices.		
Power switch Selects battery power when in the on position or power from the FTDI header when in the off position.		
AAA battery clip (4)		
ATmega328P-PU The brains!		
Jumper Used with the six-pin header to select which pin is used for the audio output.		

Hex standoffs (4) (located in the small hardware bag)		
M2.5 Phillips-head screws (8) (located in the small hardware bag)		
plastic washers, 1.5 mm thick (2) (located in the small hardware bag) Used underneath the PCB on the left side to hold it off of the bottom of the tin.