

Solar SPELL Digital Library
Version 2: 2016
Bill Of Materials

Item	Specifics	Where purchased (with specific link to where we purchased items)	Approx. Cost (USD)
10-Watt Solar Panel	ECO-WORTHY 10 Watt 12 V Solar Panel Module Garden Fountain Pond Battery Charger	Amazon http://smile.amazon.com/ECO-WORTHY-Portable-Fountain-Battery-Charging/dp/B00FF1KEMI/ref=sr_1_3?ie=UTF8&qid=1431889055&sr=8-3&keywords=eco+worthy+10+watt+solar+panel	\$30
Waterproof Plastic Box	14" L x 8-7/8" W x 2-1/8" H OD Waterproof Tuff Tainer. POLYPROPYLENE Manufacturer Flambeau® Manufacturer Part # 6750TE WT5000	US Plastics http://www.usplastic.com/catalog/item.aspx?itemid=103181&catid=598	\$20 (with shipping)
Voltage Regulator	USB Car Adapter DC 8-22V 12V to 5V 3A Step Down	Ali Express or Amazon http://www.aliexpress.com/item/20-PCS-LOT-USB-Car-Adapter-DC-8-22V-12V-to-5V-3A-Step-Down-Synchronous/1628725203.html http://smile.amazon.com/gp/product/B00U2DGKOK?psc=1&redirect=true&ref=oh_aui_detailpage_o07_s02	\$11
Battery	RAVPower Element 10400mAh Portable Charger iSmart Technology (External Battery Pack, Power Bank, 3A Output, Dual USB)	Amazon http://smile.amazon.com/gp/product/B00DMXJITQ/ref=od_aui_detailpage_s00?ie=UTF8&psc=1	\$20
Raspberry	Raspberry Pi 3	Amazon	\$40

Pi 3 Computer	Model B Motherboard	https://www.amazon.com/gp/product/B01CD5VC92/ref=oh_aui_search_detailpage?ie=UTF8&psc=1	
Raspberry Pi 3 Case	We recommend to use clear plastic case so computer can be seen	Amazon https://www.amazon.com/gp/product/B01CDVSBPO/ref=oh_aui_search_detailpage?ie=UTF8&psc=1	\$10
64 GB Micro SD Card	SanDisk Ultra 64 GB microSDHC /microSDXC Micro SD UHS-I Card UP TO 48mb/s	Amazon https://www.amazon.com/gp/product/B010NE3QPS/ref=oh_aui_search_detailpage?ie=UTF8&psc=1	\$18
USB to Micro USB cable	One was included with the RAV Power batteries we ordered	Amazon	(included)
Heat Shrink Tubing (and use of heat gun)	Gardner	Home Depot (we used this to hide the wires when we soldered together the wires from the solar panel to the voltage regulator and make it waterproof/water resistant)	\$5
Solder/Solder Iron		Home Depot (We soldered together the wires from the solar panel to the voltage regulator)	
Velcro	VELCRO Brand - Industrial Strength - 2" Wide Tape, 15' -	Amazon (We used Velcro to fasten /hold down the battery and computer to the box) http://smile.amazon.com/VELCRO-Brand-Industrial-Strength-White/dp/B0006HWYJM/ref=lh_ni_t?ie=UTF8&psc=1&smid=ATVPDKIKX0DER	
Glue	3M glue + gun + plunger + nozzle 3M Scotch-Weld Structural Plastic Adhesive DP8005 Translucent, 1.25 fl oz/35 mL (Case of 12) 3M scotch weld;	PLEASE NOTE: THE BOX IS MADE OF POLYPROPYLENE. THIS IS A VERY CHALLENGING MATERIAL TO GLUE. WE PURCHASED A VERY SPECIALIZED GLUE FOR THIS PROJECT—YOU MAY FIND A DIFFERENT GLUE THAT WORKS. OURS WAS A VERY COMPLICATED, INVOLVED, EXPENSIVE SOLUTION, BUT IT WORKED VERY WELL. Amazon	\$350 (for 12 glue sticks) \$20 (plunger) \$65 (glue gun) \$30 (for 12 nozzles)

	<p>10:1 plunger</p> <p>3M Scotch-Weld EPX Plus II Applicator W 2:1 and 1:1 Plunger Model 91</p> <p>3M Scotch-Weld EPX Plus 35mL 9164 Nozzles 10:1 Ratio (3M 31382 12 35mL Nozzles)</p>	<p>http://www.amazon.com/gp/product/B009ZLESR6?psc=1&redirect=true&ref=oh_aui_detailpage_o05_s00</p> <p>and</p> <p>http://www.amazon.com/gp/product/B00PME7FN4?psc=1&redirect=true&ref=oh_aui_detailpage_o03_s00</p> <p>and</p> <p>http://www.amazon.com/gp/product/B001ANXYF4?psc=1&redirect=true&ref=oh_aui_detailpage_o05_s00</p> <p>and</p> <p>http://www.amazon.com/gp/product/B00XAJUDZA?psc=1&redirect=true&ref=oh_aui_detailpage_o06_s00</p>	
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