

Bill of Materials

Team								
Part #	Part Name	Qty	Description	Functions	Material	Dimensions	Cost	Link to Cost estimate
1	Liquid Super Glue	1	Use to stick the material	Create strong bonding	Chemical	-	\$5.97	Hom Depot
2	Poplar Board	1	For the box	To put items in the box	Wood	0.25 x 3.5 x 48 in	\$5.98	Hom Depot
3	Black PVC Project Board	1	PVC board is strong to bend	For making the upper part	PVC	0.118 x 24 x 36 in	\$4.04	Hom Depot
4	Stop Set	1	to stop the running part	Put to stop the rotation	Aluminum	1/4 in	\$1.92	Hom Depot
5	Stop Set	1	to stop the running part	Stop the motion	Aluminum	1/16 in	\$1.24	Hom Depot
6	Strap Hinge	1	Provide open close option	To put on the door	Steel	2 in x 4 in	\$2.97	Hom Depot
7	Brazing Rods	1	For making connection	Hold the top system with the rod	Aluminum	36 x 4 x 4	\$4.21	Hom Depot
8	Flat Plate	1	A straight sheet to make anything	Make the fins	Aluminum	36 x 4 x 8	\$4.28	Hom Depot
9	Hinge	1	Hold for open close	To put the door with it	Steel	2 x 5 in	\$1.97	Hom Depot
10	Round Rod	1	A rod to attach things	Make the Central standing part	Steel	36 x 2 x 2	\$5.77	Hom Depot
11	Dowel	1	Cylindrical rod	Put in the system	Wood	1/4 x 48 in	\$4.98	Hom Depot
12	Dowel	1	Cylindrical rod	Put in the system	Wood	1/2 x 48 in	\$1.75	Hom Depot
13	Dowel	1	Cylindrical rod	Put in the system	Wood	1/8 x 48 in	\$4.48	Hom Depot
14	Round Rod	1	A rod to attach things	Make the Central standing part	Zinc	36 x 3 x 1/16 in	\$2.97	Hom Depot
15	Wood Glue	1	Sticky action	Create strong bonding	Chemical	-	\$3.97	Hom Depot
16	Shaft	1	An aluminum pipe	welded to be a shaft	Aluminum	D=1", L=48"	\$27.49	Amazon
17	Shaft	1	An aluminum pipe	welded to be a shaft	Aluminum	D=0.5", L=48"	\$19.99	Amazon
18	Blower pulley	1	A pulley made from steel	Pulley to help turn the V-belt	Steel	10 x 1"	\$13.78	Hom Depot
19	Motor Pulley	1	A pulley made from steel	Pulley to help turn the V-belt	Steel	3-1/4 x 1/2	\$9.88	Hom Depot
20	V-Belt	1	Made from rubber	Help transfer the energy or mechanism	rubber	69"	\$5.78	Hom Depot
21	Galv roll	1	A roll of steel	In order to create the spring inside the gear	Steel	8" x 10'	\$13.34	Hom Depot
22	F-150	1	Will be chopped down to meet needs	To help make the base	Wood	1" x 4' x 8'	\$23.00	Hom Depot
23	Melamine White Pannel	2	Helps fitting through cutting	Cut it down to create the base	wood	75" x 48"	\$33.84	Hom Depot
24	White PEX Pipe	1	Works as rods	They are going to help move the wings	Plastic	3/4" x 5'	\$3.26	Hom Depot
25	PEX Pipe	1	Works as rods	To connect to timing pulleys	iron	1/2" x 5'	\$1.86	Hom Depot
26	Aluminum Flashing	1	A roll of Aluminum	Help make a spring compared to the steel	Aluminum	6" x 25'	\$12.58	hom depot
27	Center snips	1	Tool for pipes	Cuts down the pipes to required sizing	Steel	No	\$9.97	Hom Depot
28	3-D Gears	2	Source of mechanism	rotates energy	PLA	D=6", L=2.25"	\$42	Makerlab
29	3-D Gears	2	Source of mechanism	rotates energy	PLA	D=3.5", L=2"	\$19.35	Makerlab
30	3-D Gears	1	Source of mechanism	Ratchet Gear needed for spring	PLA	D=7", L=3.5	\$66.21	Makerlab
31	3-D Gears	2	Source of mechanism	rotates energy	PLA	D=2", L=1.5"	\$9.38	Makerlab
32	3-D Gears	2	Source of mechanism	rotates energy	PLA	D=6", L=2.5"	\$51.63	Makerlab
33	Mounted ball bearing	2	Bearing to with mounts	Reduces the friction of the rod	iron	1-1/4"	\$16.45	Amazon
34	white melamine edging	1	use to paint tools		wood	2"x8'	\$5.07	Amazon
35	Oak Dowel	1	Cylindrical rod	Put in system	wood	1/4x36	\$8.98	Hom Depot
36	Oak Dowel	1	Cylindrical rod	Put in system	wood	1x1x36	\$5.98	Hom Depot
37	Pillow Block	2	Bearing	Reduces the friction of the rod	iron	1 in	\$13.96	Hom Depot
38	Deep Groove Ball Bearing	1	Bearing	Reduces the friction of the rod	steel	45mm	\$16.28	Amazon
39	Springs	3	a loop made spring	Initial Design as a source of principal	Steel		\$138.94	Vulcan Spring Manufacturing CO.

37	Pillow Block	2	Bearing	Reduces the friction of the rod	iron	1 in	\$13.96	Homedepot
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39	Springs	3	a loop made spring	Initial Design as a source of principal	Steel		\$138.94	Vulcan Spring Manufacturing CO.
40	LAG Screw	4	use to hold things	attach it with things	metal	1/2"x3	\$3.48	Homedepot
41	Washer Galve	4	use to hold the screw	attach it with screws	metal		\$1.44	Homedepot
42	Painter Caulk	1	use to paint tools	Create strong bonding	chemical	10.1 OZ	\$1.78	Homedepot
43	Foil Tape	1	use to tape things	to cover things	Aluminum	1.89"x50	\$7.88	Homedepot
44	Spray Paint	1	use to paint tools	to paint things	chemical	1x3	\$4.18	Homedepot
45	Foamular Panel	1	use to	type of insulation		2x2	\$5.98	Homedepot
46	White Board	1	a board	To put items in the box	wood	24x36	\$7.99	Homedepot
47	Acry Sheet	1	a cover sheet	to cover the materials	glass	7/8x23	\$29.78	Homedepot
48	Clr Acrylic GRN Edge	1	use to cover mateerials	cover sheet	glass	24"x36"	\$37.95	Homedepot
49	OSC BRT White	3	Used for the device	BRT		11/16x8	\$11.70	Homedepot
50	Plastic & Polycarbonate silicon	1	Some what a glue	Used to stick parts of the device	silicon		\$8.58	Homedepot
51	PVC Coupling SXS	4	use to hold the wings	attach it with the wings	pvc	3/4"	\$1.84	Homedepot
52	PVC Bushing SPGXS	2	A circular piece of plastic	Used to attach the rods to the wings	pvc	3/4"x1/2"	\$1.14	Homedepot
53	PVC Pipe	1	Works as rods	to connect the mechanism	pvc	1/2"x2'	\$1.31	Homedepot
54	PVC40 PE Pipe	1	Works as rods	to connect the mechanism	pvc	3/4"x10'	\$2.71	Homedepot
55	V-notch trowel	1	to cut things	hand tool	wood	3/16x5/32	\$3.96	Homedepot
56	Acry Sheet	1	a cover sheet	to cover the materials	glass	7/8x47	\$73.98	Homedepot
57	Felt	3	A roll of felt material	Used for aesthetics for the styrofoam	Felt	6 ft x 6 ft x 6ft	\$0.69	Walmart
58	GE CLRW	3	Sticky action	Create strong bonding	chemical		\$13.41	Walmart
59	Wiggly Eyes	1	use to have the eyes for the bird	accessories			\$1.97	Walmart
60	Duck Carpet	1	Sticky action	Create strong bonding			\$5.47	Walmart
61	Doublside Tape	1	Sticky action	Create strong bonding			\$5.22	walmart
62	Minuteweld	1	Sticky action	Create strong bonding	Chemical		\$5.97	Homedepot
63	Quick Connect elbow	1	to connect things	to connect the PEX pipe	metal	3/8x3/8	\$4.93	Homedepot
64	Lexan	1	a cover sheet	to cover the items	glass	7/8x9	\$4.98	Homedepot
65	Dowel	1	Cylindrical rod	Put in systems	wood	3/16"x48"	\$0.70	Homedepot
66	PEX Pipe	1	Works as rods	To connect to timing pulleys	iron	1/4in x 5ft	\$1.76	Homedepot
67	ROD Round	1	A rod to attach things	Make the Central standing part	steel	36x3/8x3/8	\$5.97	Homedepot
TOTAL VALUE							\$882.25	
TOTAL COST with Taxes							=	\$ 958.12