



STEAMing Up Mill Swan!

WPI Team : Mike, Will, Marco, & Madison

The Mission of Our Team

To assist Mill Swan Head Start in promoting STEAM learning in their outdoor play spaces by designing and implementing features



Findings from our Methods

**How invested
the Mill Swan
community is**

**We came up
with our top
24 designs**

**STEAM is
possible even
with a limited
budget**

**Curious
children
challenge
design
integrity**

What Do You Think Were The Children's Top Five?

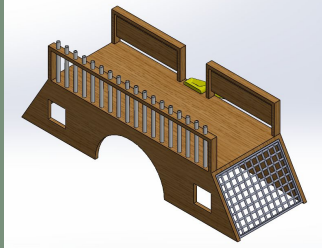


Their Top 5

1.



2.



3.



4.



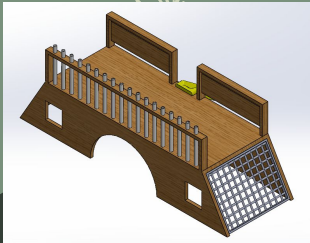
5.



VS

Your Top 5

1.



2.



3.



4.



5.



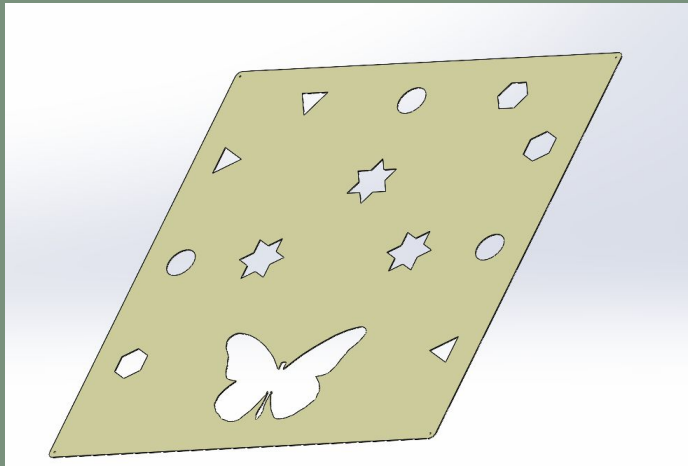
Value Analysis

	Options	Ease of Construction	Popularity among Students	Popularity among Teachers	Weatherproof	Durability	Maintenance	Risk Factor	STEAM benefits	Cost		
Rank	Weight	80	90	70	70	65	50	80	90	70	Raw Score	Weighted Score
2	Climbing Structure	2	4	5	5	4	4	2	5	1	32	2360
1	Bike Pump	2	2	4	5	5	5	4	5	4	36	2595
12	Music wall	4	1	4	3	3	3	5	4	5	32	2355
10	Raised Sensory Table	3	4	2	4	5	1	5	4	3	31	2365
11	Pulley system	4	2	3	4	4	3	4	4	4	32	2360
	Simple circuit cubes	2	5	1	1	5	4	3	4	4	29	2155
4	simple Machine sandbox	2	5	4	4	5	4	3	5	2	34	2525
	Raised garden bed	3	2	2	4	5	1	5	3	3	28	2095
6	Magnetic ball wall	4	2	2	4	5	4	5	4	4	34	2485

Cost	Rank	Ease of Construction	Rank	STEAM Benefits	Rank	Maintenance	Rank	Risk Factor	Rank
\$200+	1	20+ hours	1	None	1	Everyday care	1	High chance of injury	1
\$150-199.99	2	15-19.99 hours	2	Little	2	Weekly care	2	Chance of injury	2
\$100-\$149.99	3	10-14.99 hours	3	Moderate	3	Monthly care	3	Some chance of injury	3
\$50-\$99.99	4	5-9.99 hours	4	High	4	Seasonal care	4	Little chance of injury	4
\$0-\$49.99	5	0-4.99 hours	5	Very High	5	Doesnt need to be attended too	5	No Risk	5

Weatherproof	Rank	Durability	Rank	Popularity among Teachers (Number of votes)	Rank	Popularity among Students (Percent of votes in each classroom)	Rank
Can't withstand outdoor use	1	less than 1 year	1	0	1	0-5.9%	1
Can withstand small amounts of inclement weather	2	2 years	2	1 - 2	2	6-8.9%	2
Moderate deterioration over a year long period	3	3 years	3	3 - 4	3	9-11.9%	3
Slight deterioration over a year long period	4	4 years	4	5-6	4	12-14.9%	4
Stable in all conditions	5	5+ years	5	7 +	5	15%+	5

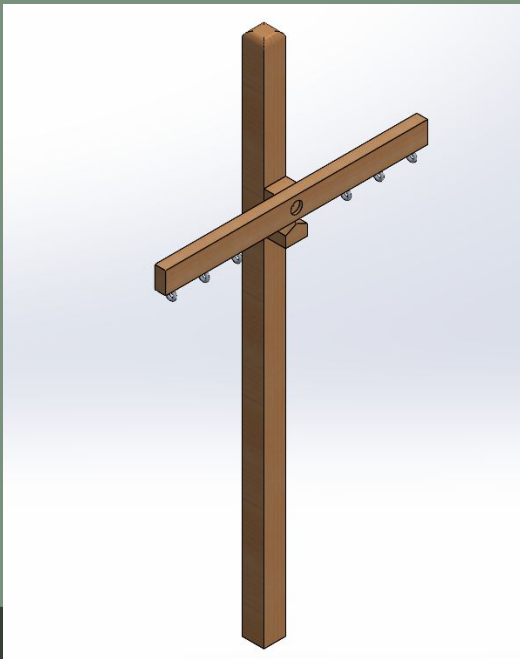
5. Shadow Tarp



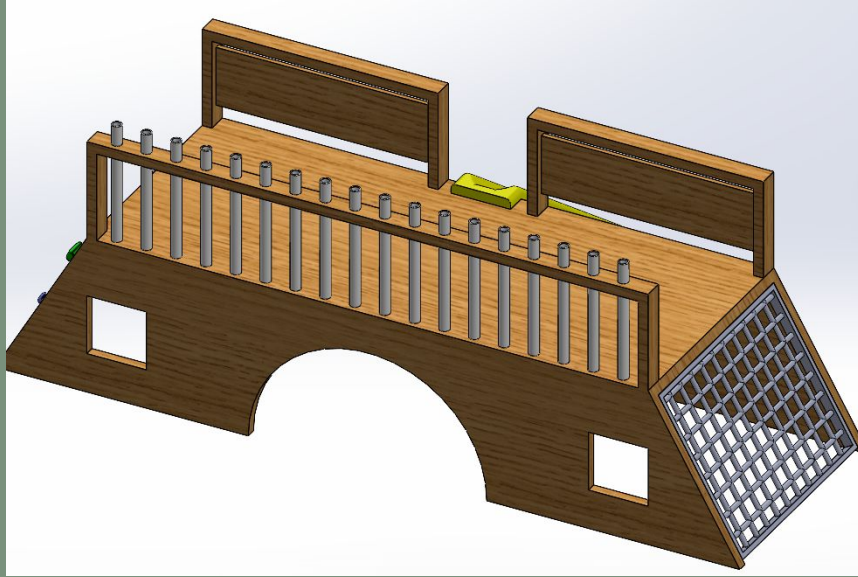
4. Simple Machine Sand Tool



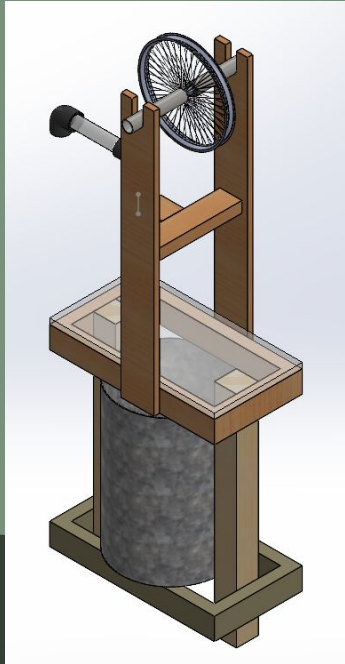
3. Balance Scale



2. Climbing Structure



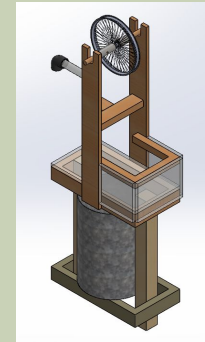
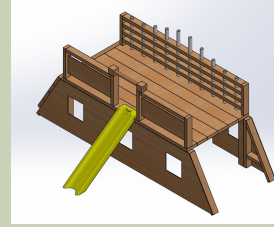
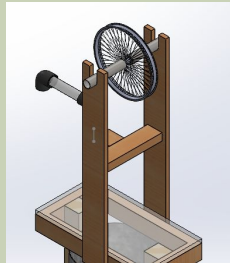
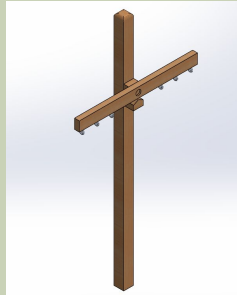
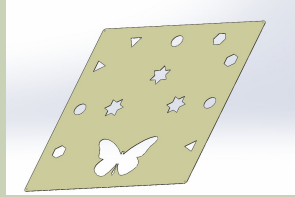
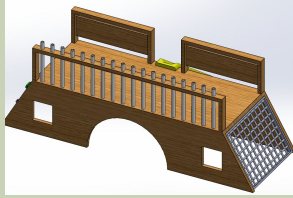
1. Bike Pump and Lego Water Flow



**And then we brought
it to you guys.....**



We Heard Your Feedback!



Implementation



Worcester Cohort Work Day



Potential Ideas That Did Not Make The Cut...

STEAM PLAY SPACE FEATURE CATALOG →

ADDITIONAL IDEAS

←



Rubber Band Wall
Use your creativity to make designs out of rubber bands!

←



Towers of Hanoi
A large scale version of a classic puzzle

←




Magnetic Gear Wall
A metal wall with arrangeable gears

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STEAM PLAY SPACE FEATURE CATALOG →


ADDITIONAL IDEAS

←




Sand Pendulum
A hanging funnel for sand to flow through, and create designs on a surface below

←



Plinko
Drop a ball through a series of pegs and evaluate what happens!

←



Raised Sensory Table
A table with different sections of sensory based materials

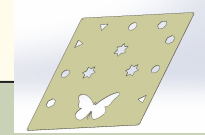
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The Next Steps for Mill Swan

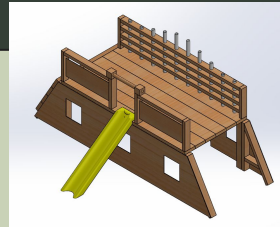


Establishing a connection with local industries!

Installing the shadow tarp!



Installing the climbing structure!



Spread the designs to other members of the Head Start community!



The Elephant in the playground...



**Thank You For
Your Kindness
& Support!**

