

	The Overcomer Engineering Requirements	Cesar	Cesar	Kalie	Karn	Michael	Rachel
Parameters		Bowling Ramp & Pusher	Last catching MSD	Last throwing MSD	California Polytechnic State University - Throwing Frame	Aqua Leisure Epic Snowblaster Snowball Launcher	Addition onto wheelchair
Cost	< \$500	\$129.99 (~\$100 w/o Pusher)	~\$333.52	~\$333.52	\$1,153.85	\$16.99	\$1,795
Weight	< 8 lbs	~8 lbs (Ramp only)	3.5 lbs	3.5 lbs	30 lbs	1.1 lbs	34 lbs
Ability to Attach	Can attach to most walkers/ standers/ wheel chairs	Easy to attach. Ramp can stand alone and slid in front of the walker, stander and wheelchair.	Attaches and meets medical device standards. No stand alone capabilities.	Attaches and meets medical device standards. No stand alone capabilities.	Easy-to-Attach	No attachment ability, handheld with grip	Easy to attach, attaches in 4 places on a wheelchair
Distance thrown	20 feet	60 ft (length of a bowling lane)	-	6 ft	32.84 ft for 16 lb shotput	Up to 50ft	-
Adjustability (for difficulty level)	Available option	Bowl with Ramp or Pusher	No ability to change difficulty level	No ability to change difficulty level	2 different levels of adjustments	Manually drawn back, no adjustable levels	Manual hand bike, no adjustable levels
Performance	-	Medium	Medium	Medium	Medium		Medium
Comments	-	The bowling ball Pusher can be used by a child with more mobility to increase the difficulty level	Inner diameter of catching net is 8.75in	Device is difficult to pull back on, requires use of 2 hands and a significant amount of force	-	Amazon comments suggest difficulty pulling cord back, lack of accuracy, and poor distance	-
		https://www.discounttramps.com/silver-spring-bowling-ball-pusher-with-ramp/p/BWLKIT/	https://edge.rit.edu/edge/P17047/public/Customer%20Handoff%20and%20Final%20Project/Final%20Poster.pdf	https://edge.rit.edu/edge/P17047/public/Customer%20Handoff%20and%20Final%20Project/Final%20Poster.pdf	https://digitalcommons.calpoly.edu/cgi/viewcontent.cgi?referer=https://www.google.com/&httpsredir=1&article=1135&context=mesp	Amazon : Aqua Leisure Epic Snowblaster Or Sno-Striker Snowball Shooter	https://www.amazon.com/Dragonfly-Attachable-Handcycle-for-Wheelchair/dp/B004WLM01G