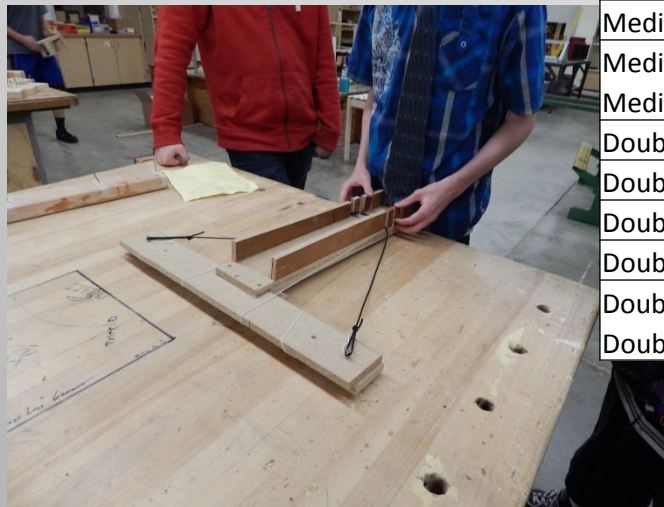


Caramel Candy Launcher

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Project Description: Our project was an elastic-band launcher that was supposed to toss caramels into a hula hoop.

Operation: The candy was placed into a pouch attached to an elastic band. We pulled the band back with a force sensor (that was enclosed in a wooden box). Our adjustments were three different elastic bands that had different strengths.



Analysis: The stronger the elastic band, the more work was done. This makes sense, since work is equal to force times displacement. The elastic bands moved the same distance in all three cases – so since the forces were stronger (due to the stronger elastic bands), more work was done. This gave more energy to the candy – so stronger bands launched the candy longer distances.

Trial	Force (N)	Displacement (in.)	Displacement (m)	Work (Joules)
Stretchy Elastic Trial 1	0.24	5.3	0.135	0.032
Stretchy Elastic Trial 2	0.26	5.2	0.132	0.034
Stretchy Elastic Trial 3	0.34	5.4	0.138	0.047
Stretchy Elastic Trial 4	0.31	5.3	0.135	0.042
Stretchy Elastic Trial 5	0.44	5.2	0.132	0.058
Stretchy Elastic -- Average	0.32	5.28	0.135	0.043
Medium Elastic Trial 1	0.64	5.3	0.135	0.086
Medium Elastic Trial 2	0.61	5.2	0.132	0.081
Medium Elastic Trial 3	0.52	5.4	0.138	0.072
Medium Elastic Trial 4	0.47	5.3	0.135	0.063
Medium Elastic Trial 5	0.68	5.2	0.132	0.090
Medium Elastic -- Average	0.58	5.28	0.135	0.078
Double Elastic Trial 1	1.2	5.3	0.135	0.162
Double Elastic Trial 2	2.31	5.2	0.132	0.306
Double Elastic Trial 3	1.78	5.4	0.138	0.245
Double Elastic Trial 4	1.41	5.3	0.135	0.190
Double Elastic Trial 5	1.3	5.2	0.132	0.172
Double Elastic -- Average	1.60	5.28	0.135	0.215

