

Engineering Design Process

Recursive Water Balloon Drop Project - HS Physics



"The Winners"

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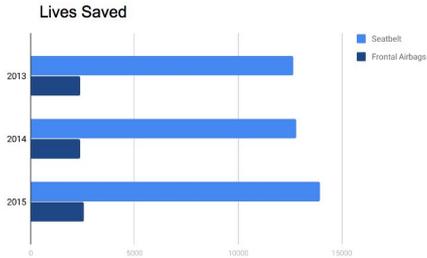
Pugh Chart
Time Constraint

Systematic way to choose the best designs to prototype

	easy build	breaks	hold balloon securely
"Diamond"	0	+	+
"Illuminati"	0	0	0
"Toothpick ninja"	-	+	+
"Basket tower"	+	-	+
"Spiky Ball Cage"	-	-	0
"Toothpick Wheel"	0	-	0
"Flexiball"	-	+	-
*"Boxes"	+	0	+

Seatbelts and Airbags

When people are using safety precautions they are more likely to survive a fatal crash.

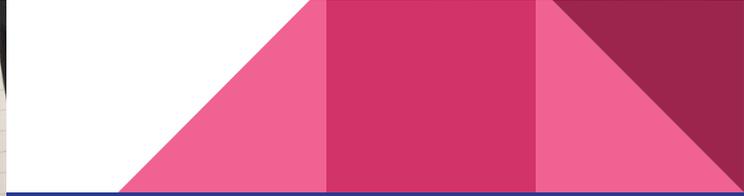


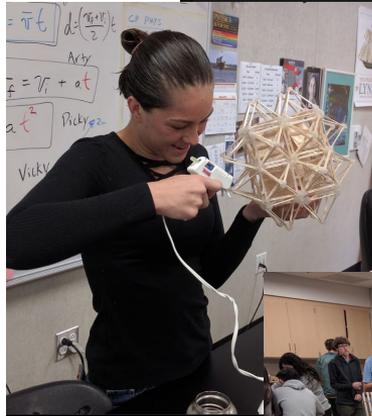
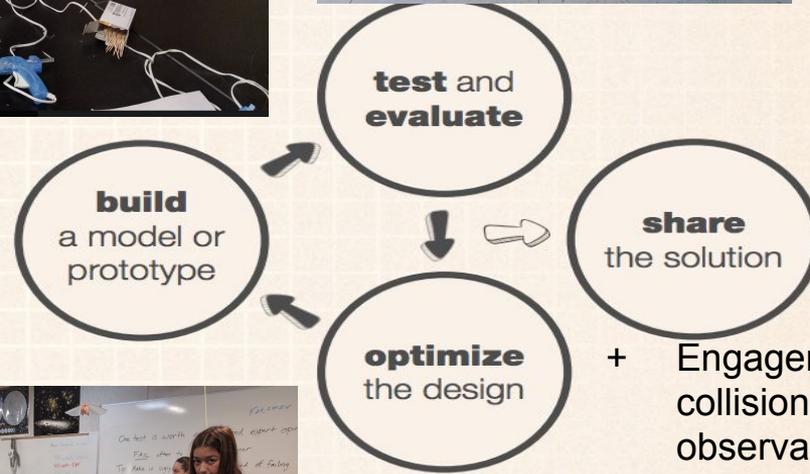
Water Balloon Drop Design Ideas

- Need to use hot glue to cushion balloon

1. Flexiball
 Flexible with glue over sharp bits inside larger structure to keep balloon secure
 Requires a lot of glue ← Hard to make
 Pro: might work maybe
 Large structure could be more spiky? Have toothpick sticking out so they absorb some of the impact first
 like that kinda

2. Boxes
 Cover the balloon in glue and then put it in a small box, build extra structures coming off each face of the box to spread out the force of impact.
 * Maybe connect those so it's basically a big rhombus w/ a flat top?





- + Engagement, culture, NOS, NOM, collisions content from iterations and observations, mostly high quality work
- Neighbor complaints, student management, sketches need improvement