

STEM ACTIVITY: MARSHMALLOW CATAPULT

NAME(S):

Challenge:

Can you create a catapult that will launch a mini-marshmallow? Can you launch your marshmallow further than other groups? Your challenge is to create a catapult from popsicle sticks and rubber bands that will give your group the best launch possible.

Construction:

1. Take 2 popsicle sticks and lay them on top of each other.
2. On one end attach a rubber band (you may need to twist it over on itself several times).
3. Take 3 popsicle sticks and lay them on top of each other.
4. Twist a rubber band around each end (one rubber band around each end)
5. Slide these 3 sticks into the 2 stick set.

Make predictions:

You now have a basic catapult. You will be making modifications to it to improve your launching ability. After making changes, you will test them and evaluate if they helped.

1. Do you think the catapult arm is a good length right now, or should you attach another stick and make it longer? Why?

2. Do you think the 3-popsicle-stick wedge is a good sized wedge, or do think it should have more, or less sticks? Why?

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Practice time:

Start launching some mini-marshmallows and make some changes to your catapult. Remember, only change one variable at a time. When you find something that works, keep it. If you find something that hurts, get rid of it.

3. Based on your practice launches, what changes / modifications did you choose for your catapult?

Let the competition begin!

4. How did your catapult do? Approximately how far did your marshmallow go? If you could change something or perform more trials, what would you change about your catapult and why?

Further research:

There is a TV show called "Punkin Chunkin". The whole point of the show is to launch a pumpkin as far as possible. With your parent permission, search the internet to find the record for the farthest a pumpkin has been launched with a catapult. Note: There are different devices that will launch a pumpkin (like an air cannon) this research question is only about the catapult category!