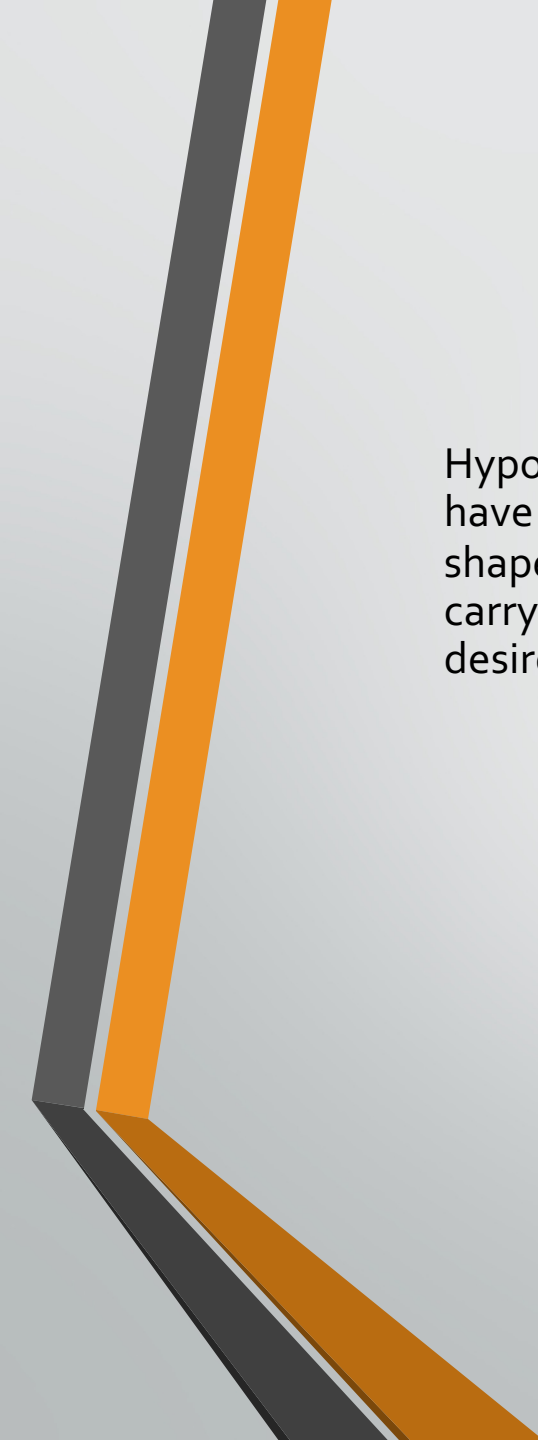


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Motion Origami



Research Question - Can origami be turned into a working machine?

Hypothesis - I believe it is possible to have paper, turn and folded into a unique shape to create a working machine and carry out duties or anything we humans desire.

This question is important to answer because in the future when we want to recycle, we can use paper as our machines. Also this can fix a global issue of global warming because if we recycle paper in can be turned into something greater, in this case a machine.

Background information I wanted to do this project because I got interested on how much pollution there is in our world, so I thought the project can fix this problem in any way. I know that our world is getting warmer and warmer and hurt our home, Earth. So with recycling paper we can use it to make new machines or anything else which can make our Earth a lot more cleaner. In [jstor.org](https://www.jstor.org) it says that our world is getting warmer and can affect our climate and how we live on our planet.

Procedures and Materials

With this project there was no need to excel the need of money, saying it is a low budget cost which can already save money.

Materials

- 1 Origami paper
- 2 3 volt motor
- 3 wires
- 4 String
- 5 Servo motor
- 6 Adrino Uno
- 6 Bottle cap
- 7 Cardboard box

Procedures Step 1 make an origami crane

Step 2 get your cardboard box and turn it into a smaller box, about the width of the crane

Step 3 get bottle cap and attach to motor

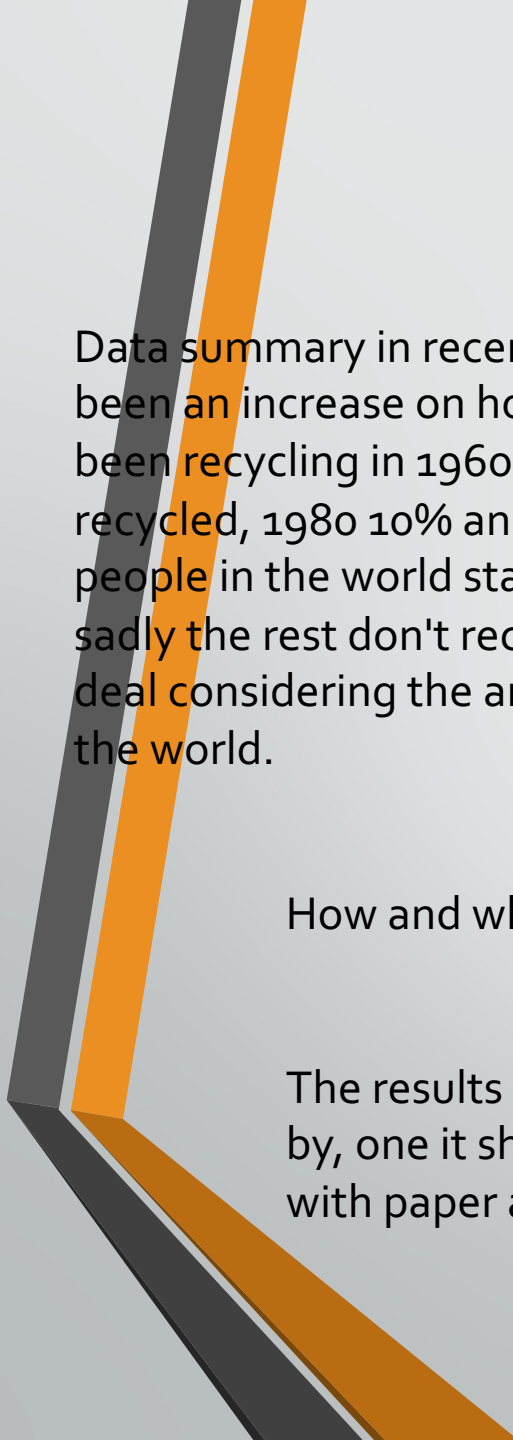
Step 4 attach wires to motor and battery, don't turn it on

Step 5 glue string on top of bottle cap

Step 6 glue motor and battery down inside the box

Step 7 cover it up but have two hole to put string through

Step 8 attach same string to each wing of the



Data summary in recent studies there has been an increase on how much people been recycling in 1960 6% of people recycled, 1980 10% and in 2017 35% of people in the world starts recycling, but sadly the rest don't recycle which is a big deal considering the amount of people in the world.

How and why the results helps answer our research question?

The results of my experiments helped us answer our question by, one it shows how it is possible to make a working machine with paper and how useful and easy it is to use.

Data
Trials - For this project it took me two trials to complete because the first trial there was something wrong In the second trail was the trail where I made my working model work by.

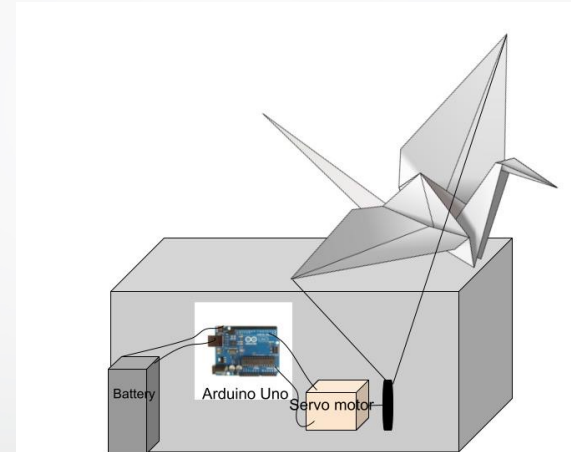
Our research question was Can origami be turned into a working machine? Now I can answer that. It is possible to use origami into a working machine based on my research paper is strong enough to be used as simple machines, because my design shows that a birds wings is flapping with code and a servo motor. So if engineered better, origami can be turned into a machine and this proves my hypothesis to be right so far.

Data Methods

Most of the data I have with me is mostly background data, because since I was 10 I have been making things because it is what I like to do and have become better over the years. Since this wasn't explored enough I was able to get only a few websites or YouTube videos and some that weren't reliable because some part of the website were wrong about some specific part and ex. Wikipedia, going back only a few websites helped me accomplish my final design in this project. Most of the websites I saw were about how paper can be folded in different ways so it can be stronger and the overall strength, but this YouTube video with only a few views helped be a lot because this video shows a working model similar to this. So these are the methods I used to accomplish my project.

More Data

Images





Conclusion and Discussion Links

So to clarify my hypothesis, it is possible to use paper for other causes like in this case an easy moving machine. Also this can be our future as well because one it is a low budget cost which can help companies like NASA or even people by helping kids see a visual model, plus it can be 100% recycled materials. I did research by doing experiments to test out how strong paper is and many observational trials to test and upgrade my previous design. To conclude the project, I made so it can benefit our Earth in a better and cleaner way.

<https://spacenews.com/senate-pandemic-relief-bill-offers-1-5-billion-for-nasa/>

<https://www.science-sparks.com/strong-shapes-how-strong-is-a-piece-of-paper/>

http://www-tc.pbskids.org/fetch/parentsteachers/activities/pdf/FETCH_UnderPressure.pdf

<https://www.youtube.com/watch?v=61vkCXN9F4U>

<http://www.scienceprojectideas.co.uk/testing-paper-for-strength.html>