


Marker March




Mrs. Rutan
5th grade

Ask

The problem I am trying to solve is to make a jump rope out of used materials.

Criteria

My criteria is that the rope must be able to turn around me at least 30 times in one minute. The jump rope also must have handles. It has to be long lasting and not single use.

Constraints

My constraints are time and money/materials. One of the constraints is time because it has to be created by January 17th. The other one is money/materials because at least 50% of the materials have to be used. At least 90% of the jump rope must be made out of used materials.

Ask continued

Fact/Idea

People have made plastic bags into a jump rope. They also have made a jump rope out of marker caps. For the plastic bags, they got a lot of grocery bags and braided them together to make it long and tight. For the marker caps, they got a rope then they put marker caps through the rope. They had to make a hole in the cap with a nail to get it through the rope.

Source

The source I found it on was <https://pinterest.com>. Sign in and search up recycled jump rope ideas. Isatou Ceesay made plarn too. Plarn is yarn made out of plastic. The website to find out information about her and the things she made out of recycled materials is oneplasticbag.com.

Imagine

Idea 1

My first idea is to make a jump rope out of plastic bags. To make this I will need to get some plastic bags and braid them together tight and long enough for me to use. When i'm done with that, i'll tape a water bottle to the end of the braided plastic bag rope and secure them so they don't fall. I'll do that to the other end as well. Then i'll put some colorful tape around the water bottles to make it less ugly (no offense).

Materials

- ★ Plastic bags (u need enough to make a long rope)
- ★ 2 Plastic water bottles (empty of course)
- ★ Tape (6 inches)
- ★ Good looking tape (u don't need this one, I just want it, so that the jump rope looks good)

Idea 2

My second idea is to make a jump rope out of markers. To make this I will need to get a rope long enough to jump but skinny enough to put markers through it. I will need to make a hole in the markers with a drill or something. When I have put holes in all of the markers, I can slide them in the rope tightly. To make the handles I will get a plastic bag and make it thick by folding it and in a shape of a handle. Then i'll tape it on the ends of the jump rope.

Materials

- ★ Rope (it depends how tall you are for how long it has to be)
- ★ Markers (u will need enough markers to fill the rope tightly)
- ★ 2 plastic bags
- ★ Tape (6 inches)
- ★ Something sharp to make the hole in the markers

Plan

I am going to make a jump rope out of markers. First, I will need a wire. That wire has to be long enough for me to jump rope. Second, I will need markers. I will make holes in each marker then put them through the wire. When I put them through the wire, they have to be put tightly and secured. I will need a lot of markers to do this. When i'm done with that, i'll get a PVC pipe and wrap it with red tape to make it more "decorated". Then i'll put one end of the wire in the PVC pipe and tape it in there so i could use it as a handle. Then I'd do that to the other end of the wire as well. I would make sure that the "handles" and markers are on tight and secured so that they don't fall off. The best part about making this is that u get to choose what color markers u want. Overall it's still kinda boring to make, but when I finish, I feel relieved.

Materials

- ★ 2 Short PVC pipes
- ★ Wire (long enough for u)
- ★ Enough markers to fill the wire tightly
- ★ Tape (6 inches)
- ★ A sharp object to make the hole through the markers

Create



There!

(even though it didn't come out like I thought it would)

Extra Things I Should Mention

For some reason I have more dry erase markers at home than regular markers you use on paper, so I just used them. I was gonna make the jump rope super colorful but it's harder than you think. I only found red, blue, and black dry erase markers. My dad found the PVC pipes to give to me for the project, so I used them.

Test

My goal or problem was to make a jump rope out of reused materials. To measure the success I made, I will see how much times the jump rope turns around me in one minute.

I will perform 3 trials and record the results in chart form.

Variable I am measuring:	Trial 1	Trial 2	Trial 3
How much times I jump rope with it in one minute	35 times	49 times	38 times
What affected this?	The handles kept coming off.	That's when I decided to do it without the handles.	Then I just got tired.

Improve

I will perform 3 trials again, and record the results in chart form. I will do this with my Jump rope that I improved. I will see how much times I can jump rope with it in one minute.

Variable I am measuring:	Trial 1	Trial 2	Trial 3
How much times I jump rope with it in one minute	48 times	45 times	50 times
What affected this?	The handles were back on and i felt good about it.	Got tired so I took a donut break.	Got out of the break super hyper and energetic.

Improve Continued

- ★ What steps did I take to improve the solution?

The steps I took to improve my solution is that I secured the handles on more so that they don't fall off anymore.

- ★ How did I use my test results to make changes?

The test results helped me realise that by securing the handles, the results are better than when the handles were loose. The highest number of times I jumped my jump rope when it wasn't improved was 49 times. When I improved it, the highest was 50 jumps.

- ★ How well did my solution solve the problem, based on the original criteria?

My solution solved the problem pretty well, considering that it had handles that didn't fall off anymore. It also went around me for more than 30 times, which was my criteria. Though, it was hard to jump rope with it because my jump rope was so stiff.

- ★ What other ideas do I have for improvement, if I were to attempt this design again?

I would make this jump rope more loose. It is so stiff and stable. I can't jump rope with a non-flexible rope!

Thank you for listening!

(even though you didn't have a choice)

