

Making Jump Ropes!

Upcycling with Plastic Bags
Eco-friendly
Modeling Project

M2C3 Project (2018)

What do you know about plastic bags?



What do you notice? What do you wonder?





What do
you
notice?

What do
you
wonder?

Facts about Plastic Bags and Recycling

Every year, people in the United States use over 100 billion plastic bags.

Every year, the average family brings home 1,500 plastic bags.

A small percentage of plastic bags are recycled (1%-5%, or 1 to 5 out of every 100 bags). The rest end up in landfills. Some blow away and end up in water sources.

It can take up to 500 years for plastic to decompose in a landfill.

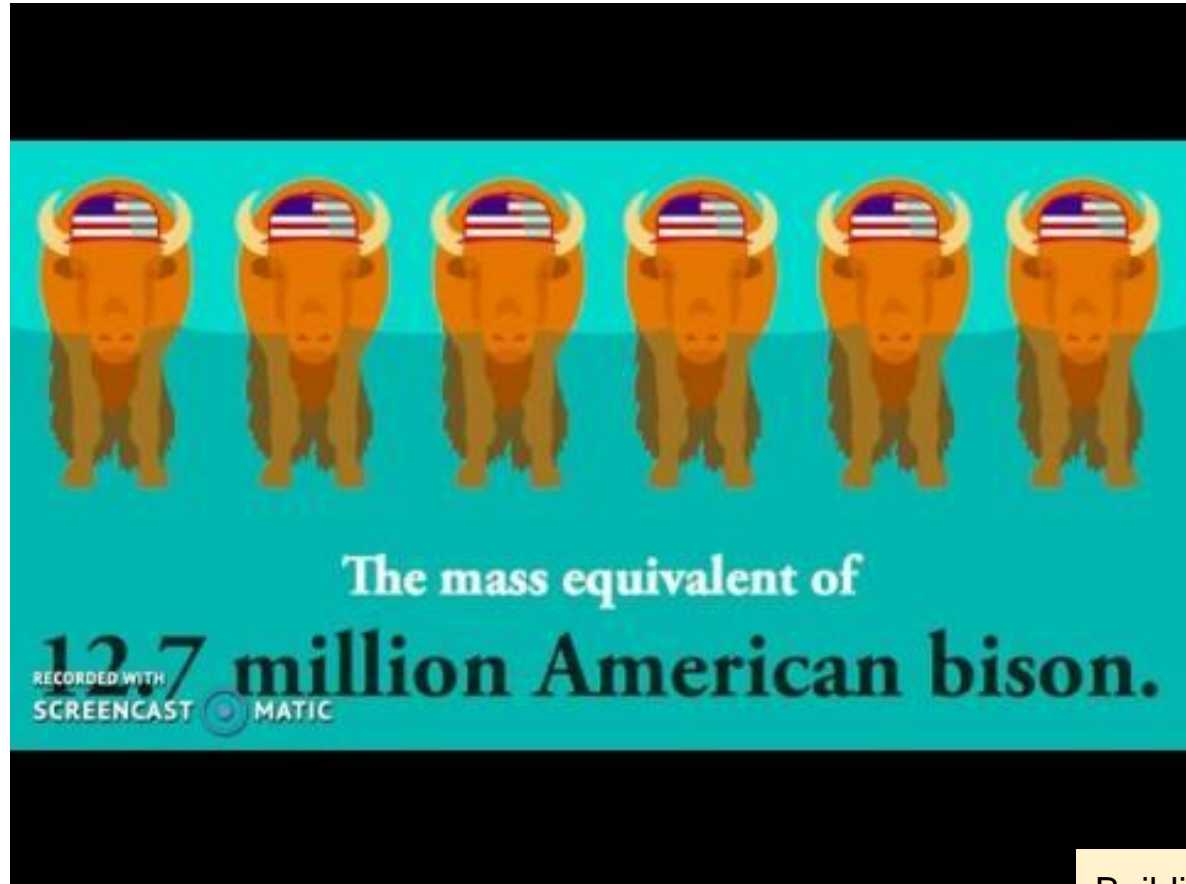


Video: Environmental impact of plastic bags

[What happens when we use plastic bags?](#)

Link on You Tube:

- <https://youtu.be/ix-rpCxLym4>



How do we keep plastic bags out of landfills?



Upcycling Bags → Jump Ropes

There are many ways to **upcycle** plastic bags!



Upcycling Bags → Jump Ropes

We're going to upcycle plastic bags to make ...JUMP ROPES!

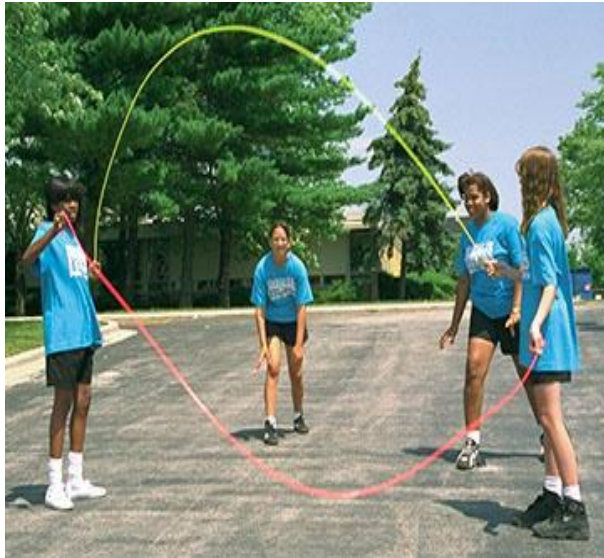
What do you know about jump ropes?



Upcycling Bags → Jump Ropes

What do you notice about the different jump ropes in these pictures?

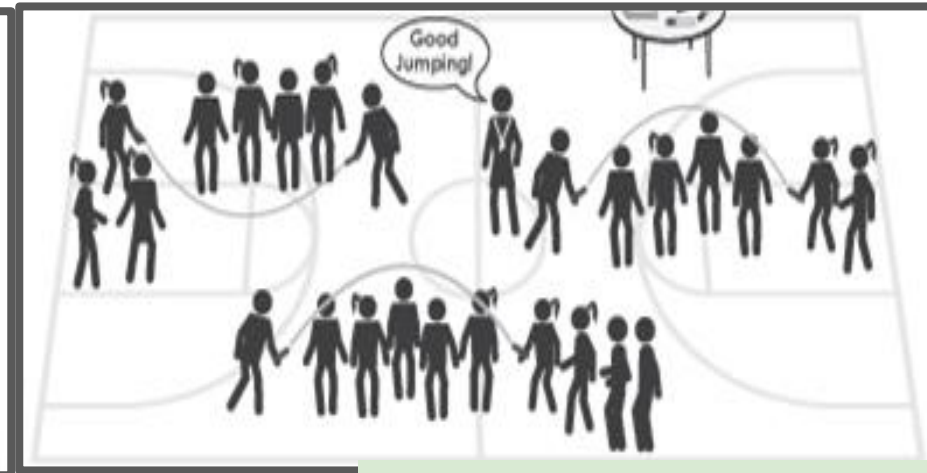
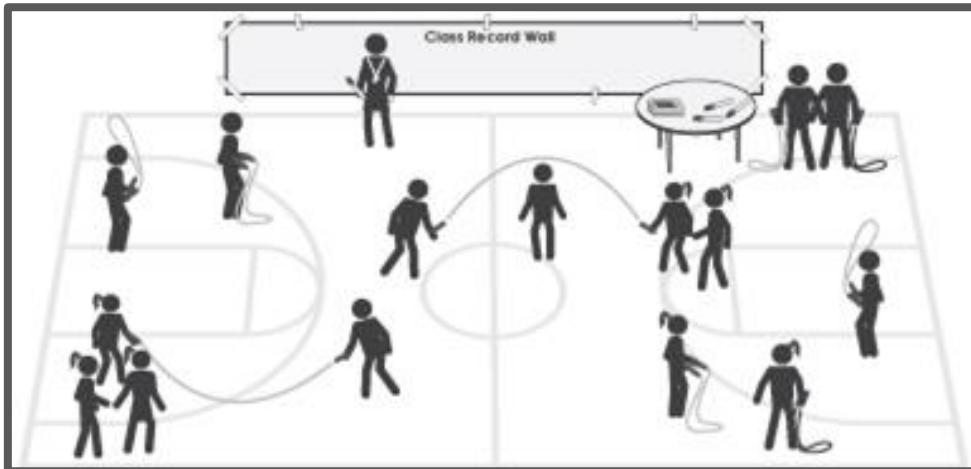
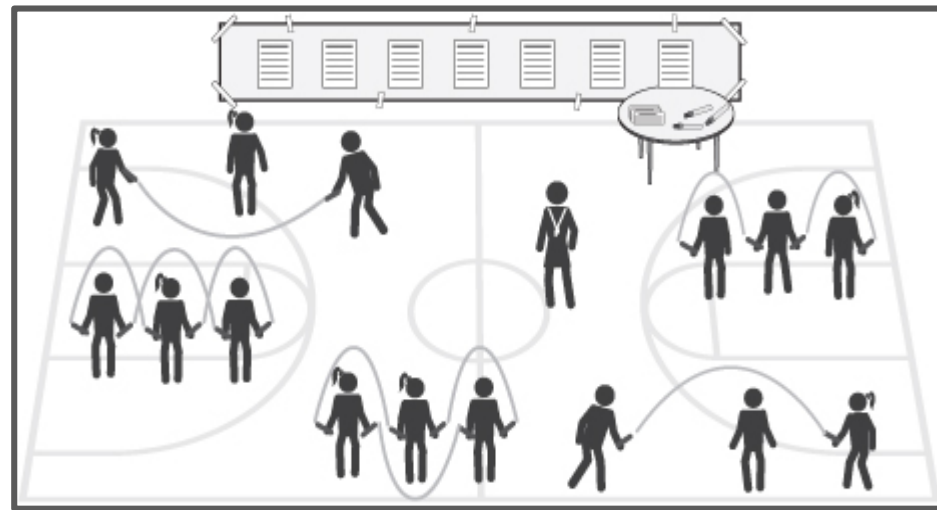
What do you wonder?



Upcycling Bags → Jump Ropes

Here are diagrams of groups of students jumping rope.

What do you notice?



Upcycling Bags → Jump Ropes

How long should a jump rope be? (Chart with Height)

Jump Rope Length	Height of Jumper
7 feet	Up to 4 ' 6" tall
8 feet	4 ' 6" to 5 ' 5" tall
9 feet	5 ' 5" to 6 ' 2" tall
10 feet	6 ' 2" to 6 ' 7" tall
14 feet	Double Dutch, 2 people swing the rope

How long should a jump rope be? (Chart with Age/Grade Levels)

Jump Rope Length	Good jump rope for:
7 feet	Kinder, 1st, and some 2nd graders
8 feet	Some 2nd, 3rd, 4th, and some 5th graders
9 feet	Some 5th graders to Adults
14 feet	2 people swing the rope

How to Make Your Own Plastic Jump Rope

Out of plastic shopping bags

bags for a
greener society

A SILVER AWARD PROJECT BY TROOP 1702
GIRL SCOUTS OF SOUTHERN ARIZONA



How to Make a Jump Rope

Materials



Plastic shopping bags, a pair of scissors, and duct tape

How to make a jump rope out of plastic bags

What did you notice
in the video?
What did you
wonder?

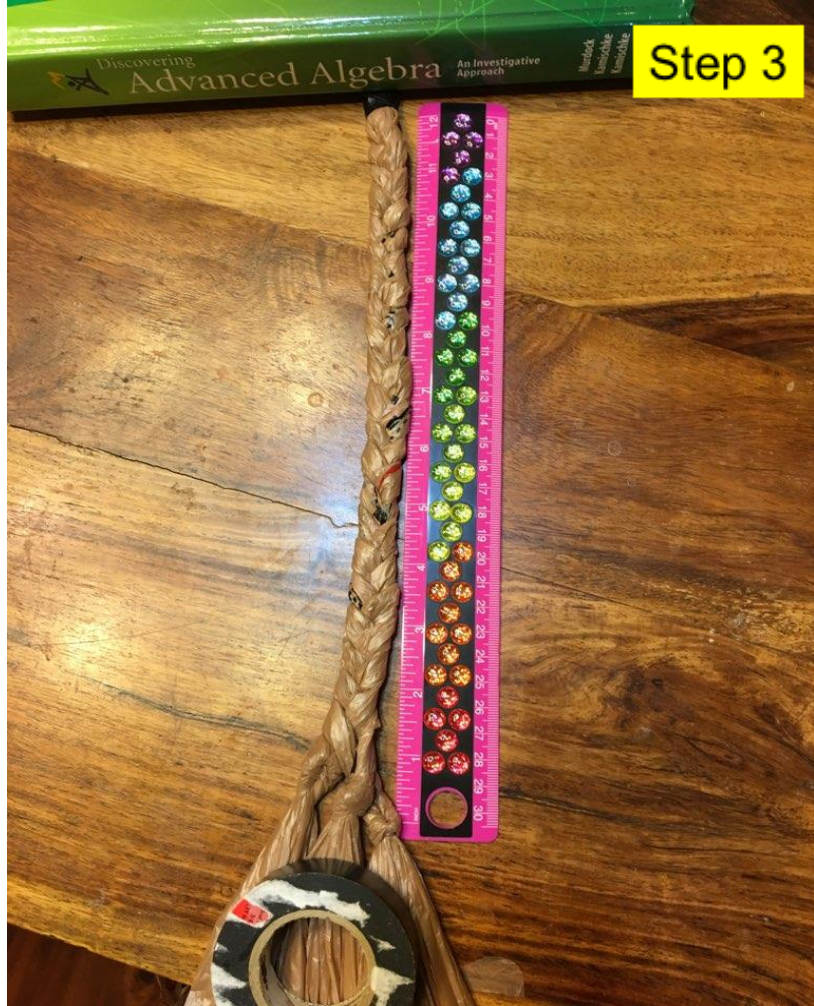




3 plastic bags will braid into about 12 inches long



How to Make a Jump Rope



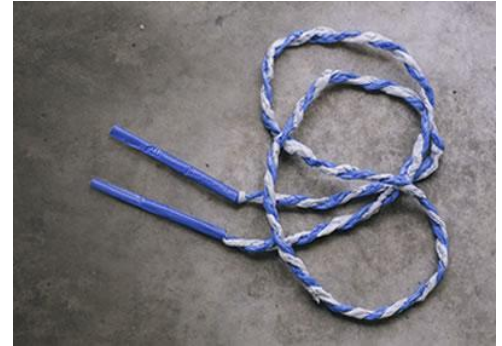
Warm Up Task: One Jump Rope

**You want to make one jump rope.
How many plastic bags do you need?**

What do you *know* that can help you figure this out?

Draw a model of your jump rope.

Use words, numbers and equations to show:
how many plastic bags you will need to make your rope



Warm Up Task: One Jump Rope *with* Handles

**You want to make one jump rope.
How many plastic bags do you need?
How much duct tape do you need?**

What do you ***know*** that can help you figure this out?

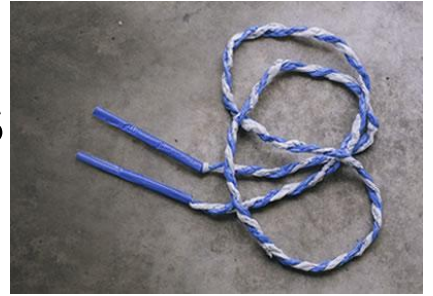
Draw a model of your jump rope.

Use words, numbers and equations to show:

- how many plastic bags you will need to make your rope
- how much duct tape you will need to make the handles



Version A: Jump Rope Set for Our Class



**We want to make a jump rope set for our class.
A set contains jump ropes of different lengths.**

How many plastic bags will we need?

Questions to think about:

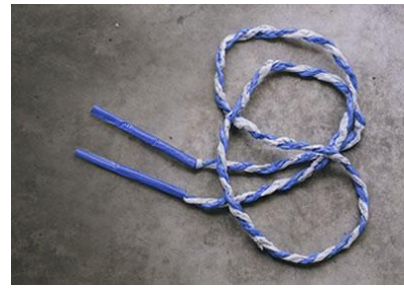
- What do you **know** that can help you figure this out?
- What do you need to **find out**?
- What **assumptions** do you have to make?

Your plan for making the jump ropes must show:

- How you know that you will have enough jump ropes for your class, without a lot of extra
- How many plastic bags you will need
- How others could use your plan to make jump ropes for students in their school.

Use pictures, numbers and words to show that your plan will work.

Version B: Jump Rope Set for P.E. Class



**We want to make a jump rope set to be used in P.E. (Gym Class).
A set contains jump ropes of different lengths.**

How many plastic bags will we need?

Questions to think about:

- What do you **know** that can help you figure this out?
- What do you need to **find out**?
- What **assumptions** do you have to make?

Your plan for making the jump ropes must show:

- How you know that you will have enough jump ropes for PE class, without a lot of extra
- How many plastic bags you will need
- How others could use your plan to make jump rope sets for PE classes at their school.

Use pictures, numbers and words to show that your plan will work.

Version C: Jump Ropes for a Community Center



**We want to make a jump rope set for the [insert name] community center.
A set contains jump ropes of different lengths.**

How many plastic bags will we need?

Questions to think about:

- What do you **know** that can help you figure this out?
- What do you need to **find out**?
- What **assumptions** do you have to make?

Your plan for making the jump ropes must show:

- How you know that you will have enough jump ropes for the community center, without a lot of extra
- How many plastic bags you will need
- How others could use your plan to make jump ropes for other community groups or organizations.

Use pictures, numbers and words to show that your plan will work

Version D: Making Jump Ropes for a School-Wide Jump Rope Event



We want to make enough jump ropes so that all students at your school can participate in the school-wide jump rope event.

How many plastic bags will we need?

Questions to think about:

- What do you **know** that can help you figure this out?
- What do you need to **find out**?
- What **assumptions** do you have to make?

Your plan for making the jump ropes must show:

- How you know that you will have enough jump ropes for the school-wide jump rope event, without a lot of extra
- How many plastic bags you will need
- How others could use your plan to make jump ropes for students in their school.

Use pictures, numbers and words to show that your plan will work.

Extension Task A: Handles



You will use duct tape to make the jump rope handles.

How much duct tape will you need for all the jump ropes in your plan?

Questions to think about:

- What do you **know** that can help you figure this out?
- What do you need to **find out**?
- What **assumptions** do you have to make?

Your plan for making the jump rope **handles** must show:

- How much duct tape you will need (i.e., how many inches or feet)
- How you know that you will have enough duct tape, without a lot of extra
- How others could use your plan to make handles for jump ropes

Use pictures, numbers and words to show that your plan will work.

Extension Task B: How many ropes can we make with _____ plastic bags?



Let's say we can collect _____ plastic bags.

Come up with a plan to use these jump ropes to make jump ropes of different lengths for your school. How many jump ropes can we make?

Questions to think about:

- What do you **know** that can help you figure this out?
- What do you need to **find out**?
- What **assumptions** do you have to make?

Your plan for using the plastic bags to make jump ropes must show:

- How many jump ropes (of various lengths) you will make
- How you know that you will have enough plastic bags for those ropes
- An explanation of how many plastic bags will be leftover

Use pictures, numbers and words to show that your plan will work.

Extension Task C: Time to Collect Bags



How long will it take us to collect the plastic bags we need to implement our plan?

Questions to think about:

- What do you **know** that can help you figure this out?
- What do you need to **find out**?
- What **assumptions** do you have to make?

Things to consider:

- The average family uses about 15 plastic bags each time they go to the grocery store. How does this compare to your family?
- If you asked everyone in your class to bring in plastic bags that they have at home, how many bags do you think you could collect?
- If you asked all students in the school to bring in plastic bags that they have at home, how many bags do you think you could collect?
- How else might you collect plastic bags?