

# **Jump into Action! Plarn Jump Rope Project**

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## **Overview:**

In the spirit of Michelle Obama's - Let's Move! initiative and the American Heart Association's - Jump Rope for Heart campaign, we wanted to create an environmentally friendly activity which encouraged daily exercise through the creative use of easily accessible everyday materials. Students will be asked to make plarn (plastic yarn) out of grocery store bags and transform it using basic textile principles into a jump rope. This project integrates many content subject areas as students work on preparing materials, measuring, recording steps taken, creatively designing patterns and songs; and all the while taking a potentially dangerous product out of the environment.

## **Learning Objectives:**

### **Students will:**

- ✓ Learn about a new way to make textiles.
- ✓ Practice resourcefulness in using everyday materials to make a piece of equipment which will promote physical health and well being.
- ✓ Understand how the plarn jump rope incorporates the Three R's: Reduce, Reuse, and Recycle.
- ✓ Practice how to follow a given set of directions and then pass those directions to others in both written and verbal formats.
- ✓ Practice measuring and estimation as they prepare their plarn and make the jump rope the appropriate length.
- ✓ Use artistic creativity when developing patterns into their jump rope design.
- ✓ Use rhythm and rhyme to create environmentally friendly jump rope songs.
- ✓ Develop inquiry-based projects/explorations about this new textile

## **Vocabulary:**

**Plarn** - a "yarn" made from plastic bags.

**Textile** - a flexible woven material consisting of a network of natural or artificial fibers often referred to as thread or yarn.

**Reduce/Reduction** - to make something smaller or use less, resulting in a smaller amount of waste.

**Reuse** - use materials again in their original form instead of throwing them away, or pass those materials on to others who could use them too.

**Recycle** - items and materials (like cans, bottles, paper, and cardboard) can be remade into either the same kind of thing or new products. Making new items from recycled ones also takes less energy and fewer resources than making products from brand new materials.

**Cording/corded**- the act of tying plarn using a hexagonal loom, hand weaving or twisting technique to make cordage; these techniques were used by Japanese and Native Americans to make cordage with natural materials.

## Getting Started:

**NOTE:** The best jump rope length is one where when the student stand with their arms outstretched and holds a jump rope handle in each hand. The jump rope should curve in a natural U shape, with the base of the U touching the ground in front of the student's feet. Each student could use a length of yarn or string to figure out how long his/her personal jump rope will need to be. One typical sized grocery bag, if cut into 1.5" strips will make approximately 144 inches or 12 feet of plarn.

### **Materials used:**

- Plastic grocery bags turned into plarn (try to find some different colors) (could be used as math problem to figure out how many bags each student will need – depends on grade level)
- Scissors
- Old Used Up Glue Stick Containers with ¼" holes drilled in caps (use as handles for jump ropes)
- Colored Duct tape (to tape caps to glue stick and as a decorative finish)

### Step 1 - Making Plarn:



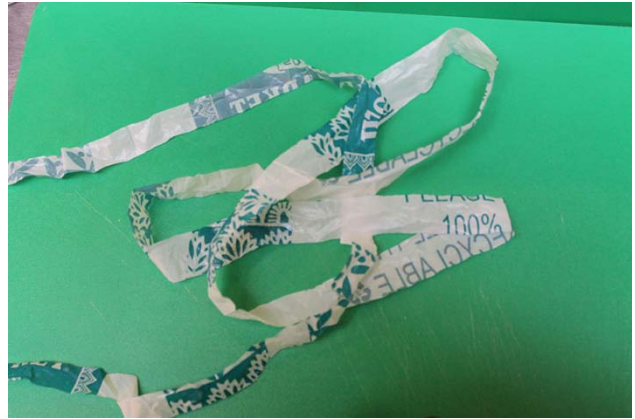
1. Lay bag flat and fold it in half lengthwise.
2. Fold bag in half again. – You can even fold it again if you have good reliable cutting tools.
3. Cut off the top section with the handles and the bottom section with the seam and discard.



4. Cut folded bag into strips that will become loops when the bag is unfolded.



5. Have students knot the loops together by laying one loop on top of another.



6. Take the top edge of the loop laying under the other loop and place it under the bottom edge of itself.



6. Slowly pull the loop edge until it forms a firm knot.
7. Students should repeat this process until the plarn is the desired length (it is advised that students add one loop at a time if they are braiding/cording so it doesn't get tangled as they work).

### Some ideas for inquiry-based projects:

- How many plastic bags will it take to give you a specified length of plarn?
- Which plastic bag makes the best (longer lasting) jump rope?
- Which is stronger? A braided plarn jump rope or a corded plarn jump rope?
- Which form of braiding makes a longer lasting jump rope?
- Is jump roping good exercise? (teacher hint: 10 minutes of jump roping = 30 minutes of running)
- Does physical exercise change the amount or rate of learning in the classroom?
- What other forms of braiding or weaving could be used to make a durable jump rope?



## Step 2: Completing Jump Rope (two different techniques) and Handle (two different styles)



### **Braided Jump rope technique:**

1. Take six strands of plarn and knot them together.
2. Tape the knotted end to a table or chair (or have a friend hold the knot).
3. Divide the six strands into three sets of two.
4. Braid the three sets of two strands to form one long strand to the desired length. Tie off in a knot.



### **Duct Tape handle**

1. Wrap the knotted ends with colorful duct tape to make the handles.

### **Glue stick handle**

1. Poke the small tight knot through a hole drilled into a large glue stick cap.
2. Tie a large knot to prevent the small knotting going back through the drilled hole.
3. Place the lid onto the main body of the glue stick. Close tightly.
4. Wrap the glue stick with duct tape to prevent the lid coming off and to make handles attractive.



**A finished, braided, duct tape handle plarn jump rope**

## Making the Kimihimo Loom

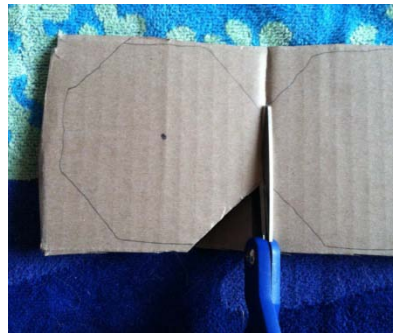
### Materials used:

- Cardboard box panels (has to be a strong corrugated type box – NOT a shoebox or thin cardboard)
- Scissors
- Sharp pencil

### Directions:



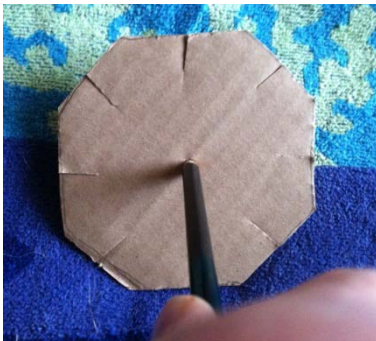
1. Trace an octagonal shape about the size of a large coffee cup opening onto the cardboard box panel.



2. Cut out loom.



3. Cut a small notch in the center of each side of the octagon



4. Use the pencil to poke a hole through the center of the loom. Push the pencil all the way through to make a relatively decent sized hole.



5. You now have a Kimihimo loom ready for braiding.



## Kimihimo Cordage Technique:



1. Poke seven (7) loop ends up through the center of the octagonal braiding device – Kimihimo loom (Our Kumihimo loom is made from a cardboard box panel – another example of reusing).



2. Tie the ends you just threaded through the hole, into a tight knot.



3. Pull each of the seven strands down into a notched side – there will be one notch left open.



4. Taking and holding the loom in one hand, use the other hand to lift the strand two strands away from the open notch. Place that strand in the open notch.



5. Turn the loom slightly and take the strand two strands away from the open notch. Place that strand in the open notch.



6. Keep repeating the process until the braided plarn cord reaches the desired length. Pull out of the loom and tie the exposed ends in a tight knot.
7. Make the desired handles using the above directions.

## **Resources:**

**American Heart Association: Learn and Live – Jump Rope for Heart**

School Page –

[http://www.heart.org/HEARTORG/Giving/ForSchools/For-Schools\\_UCM\\_313648\\_SubHomePage.jsp](http://www.heart.org/HEARTORG/Giving/ForSchools/For-Schools_UCM_313648_SubHomePage.jsp)

Student Page -

[http://www.heart.org/HEARTORG/General/For-Students-Jump-Rope-For-Heart\\_UCM\\_312511\\_Article.jsp](http://www.heart.org/HEARTORG/General/For-Students-Jump-Rope-For-Heart_UCM_312511_Article.jsp)

**Let's Move! America's Move to Raise a Healthier Generation of Kid's**

<http://www.letsmove.gov/>

**Kumihimo** – ancient Japanese art of braiding ropes, belts, ribbons and decorative sashes.

<http://www.mtnloom.com/Kumi.htm>

<http://en.wikipedia.org/wiki/Kumihimo>

<http://www.amazon.com/KumiLoom-TM-Handheld-Kumihimo-Braiding/dp/B001DKIQ3Y>

**Native American Cordage and Weaving Techniques**

<http://www.nativetech.org/cordage/> twisting cordage technique

<http://www.nativetech.org/finger/beltinstr.html> finger weaving technique

**Jump Rope Videos**

<http://www.youtube.com/watch?v=KZ1NEffR2Qg> Tori Boggs, Nine-time champion for Jump Roping

**Jump Rope Rhymes**

[http://www.gameskidsplay.net/jump\\_rope\\_rhymes/](http://www.gameskidsplay.net/jump_rope_rhymes/)

**Social Studies Sites**

<http://greatergreaterwashington.org/post/17606/montgomery-county-underestimated-plastic-bag-use/>



## Sample Jump Rope Rhymes

I like coffee, I like tea, I want \_\_\_\_\_ to jump with me! (jumper names another child to join in the jumping)

Cinderella, dressed in yellow went upstairs to kiss a fellow, by mistake she kissed a snake, how many doctors did it take? 1, 2, 3, 4, (jumpers count until they miss a jump)

Mabel, Mabel, set the table, do it as fast as you are able. Don't forget the salt, pepper, ketchup, mustard; salt, pepper, ketchup, mustard (saying it faster and turning the rope faster as you repeat)

Peel a banana upside down, see if you can touch the ground. B-A-N-A-N-A .

All in together, it's a fine day! When its your birthday please jump in. January, February, March, April, May, June , July, August, September, October, November, December.

Now its time to jump out: January OUT, February OUT, March OUT, April OUT, May OUT, June OUT , July OUT, August OUT, September OUT, October OUT, November OUT, December OUT.