

# PROJECT – CHAIN BALL

## Medieval Hackey Sack

In this activity you will build an awesome Chain ball.



The Preparation...

**READ THESE INSTRUCTIONS  
THOROUGHLY  
BEFORE YOU BEGIN!**



*"HOW TO" Video*

For this activity you will need the following:

MATERIAL	TOOLS	PATTERNS!
<ul style="list-style-type: none"><li>• 15' 16ga Steel Wire/Rod<ul style="list-style-type: none"><li>◦ Galvanized Fencing Wire</li><li>◦ Copper-Coating welding rod</li><li>◦ Welding rod cooked black</li><li>◦ Brass Wire</li><li>◦ ???</li></ul></li></ul>	<ul style="list-style-type: none"><li>• Medieval Chain Maker</li><li>• Hand Drill</li><li>• Mini Bolt-Cutters</li><li>• Bent-Nose pliers</li><li>• Gloves</li><li>• Safety Glasses</li></ul>	<p><b>A:</b> 3 colours</p> <p><b>B:</b> 2 colours</p> <p><b>C+:</b> 1 colour</p>

## FORMING THE LOOPS

Place the Medieval Chain Maker snug in a vice.

Place the spool of wire on a metal rod in a vice opposite the Chain Maker.

Bend the end of the wire into the Disco-Boogey Move:

**STRAIGHT → LEFT → DOWN**

Put the "down" end of the wire into the hole in the chain maker, and bend the stickie-outie part so it doesn't come out.

**PLACE** the pin of the bar **OVER** the wire, angle the handle of the bar to the left, and hold **GENTLY** with a **gloved hand**.

With **EYE PROTECTION**, run the drill **CLOCKWISE slowly** until you have about a hand-span of loops formed.

**CUT** the "TO THE LEFT" section of the Disco-Boogey Move wire, **HANGING ON TO THE CUT END SO IT DOESN'T "WHIP WHIP!"**

**SAFETY FIRST!**



## FORMING THE LINKS

Use MINI BOLT CUTTERS to cut links as closed as possible



GOOD



BAD



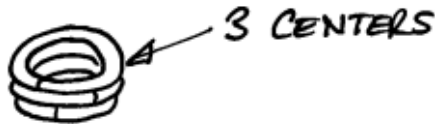
## MAGIC COMES IN THREES

USE a **PAIR** of Bent-Nose Pliers to open the links by **TWISTING**

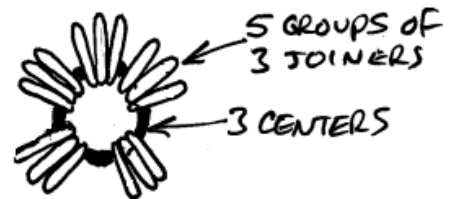


**START** with **3 CENTERS**

Everything will be in 3's

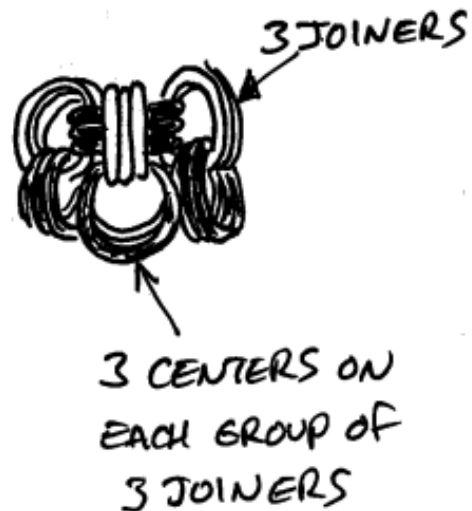


Place 5 groups of 3 JOINERS on the CENTERS (15 in total, because *Math*)



**5 GROUPS of 3      5 GROUPS of 3**

Now add 3 CENTERS to the ends of 3 JOINERS



## THE NOSE OF A BULL

JOIN each of the hanging down CENTERS together with 3 JOINERS

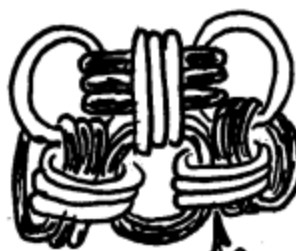
Much like putting a nose ring in the nose of a bull

Look at it, try to picture a bull's nostrils.

Maybe do a couple links, and get me to check it



LIKE A  
RING IN  
A BULL'S  
NOSE!



3 JOINERS  
JOINING THE  
3 HANGING CENTERS

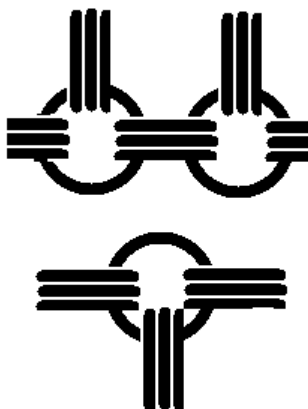
## RINSE AND REPEAT

Now go back and make ANOTHER one exactly like that one

We will knit them together next

## OLD-SCHOOL GAS MASK

PLACE the two halves against each other, but offset, so 2 CENTERS of one half look like eyes of a gas mask, and 1 CENTER of the other half looks like the mouth



## ZIG ZAGS

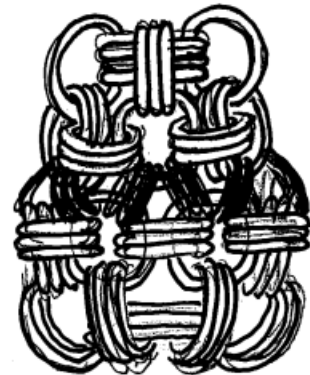
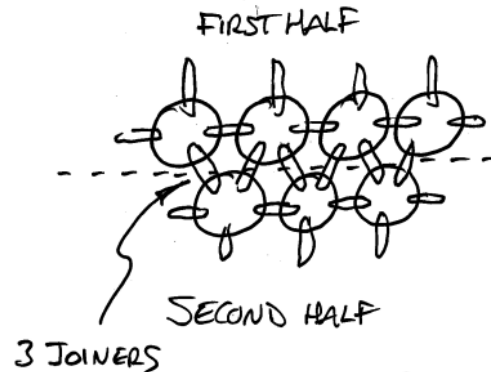
Remember that everything is going to be in  
5 GROUPS OF 3?

NOTICE that as you're looking at the GAS  
MASK arrangement, each CENTER has 3  
GROUPS. 2 more GROUPS will be added,  
ZIG-ZAGGING themselves together.

**LOOK FOR THE PATTERN**

**MAKE SURE** you are joining **CENTERS**!

Should look sort of like this (note the DARK links):



**PATTERNS!**

**A:** 3 colours

**B:** 2 colours

**C+:** 1 colour

*Adapted from material by Dan Hurd*