FUN PALACE 2018 Largest DNA

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Knitting is a simple way to make complex things concrete - like one dimensional bottles and coral reefs, but what about DNA?

Activity Details

Type

Drop in facilitated

Duration

All day drop in

 # Deliveries

Using circular weaving/knitting loom collaboratively make The Largest DNA

Learning Outcomes & Facilitator notes

- **Fun fact** – DNA stands for deoxyribonucleic acid, a self-replicating material which is present in nearly all living organisms as the main constituent of chromosomes. It is the carrier of genetic information.

- **Interesting fact for a child/teenager** – 1. There is enough DNA in the average person's body to stretch from the sun to Pluto and back — 17 times

- **Interesting fact for an Adult** - One of the greatest scientific breakthroughs ever for law enforcement agencies was the discovery of DNA analysis. This relatively new science allows police to catch a criminal from evidence as small as a human hair. Informative text gives readers a basic understanding of DNA and how forensic analysts can examine criminal evidence and create a genetic chain that leads to the perpetrator : EBook – SLQ http://onesearch.slq.qld.gov.au/primo-explore/fulldisplay?docid=slq_alma21226775080002061&context=L&vid=SLQ&search_scope=SLQ_PCI_EBSCO&lang=en_US

- Image - http://onesearch.slq.qld.gov.au/primo-explore/fulldisplay?docid=slq_digitool1019353&context=L&vid=SLQ&search_scope=SLQ_PCI_EBSCO&tab=all&lang=en_US

this is a picture of a sculpture made for Expo 88 - Paradigm was constructed in stainless steel and towered over the Expo 88 site at 30 metres high. It was based on the double helix of the DNA molecule. During Expo 88, Paradigm housed 66 aeroplane landing lights that created a mesmerising night-time display. Paradigm was the world's first sculpture to be designed with the aid of a computer, and the world's first to have a computerised lighting system installed. You can NOW find a small piece

of this sculpture at the entrance to SLQ, very close to the book shop.

Session Plan

You can download it here:

dna_weaving.docx

DNA Weaving

Step 1

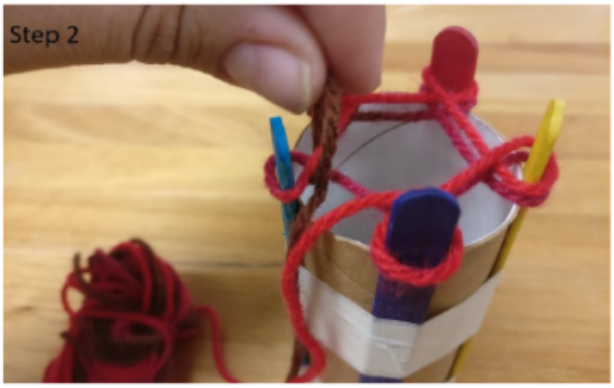
Start with a cylindrical object and add spokes. Here we used a toilet roll and paddle-pop sticks. You can use any size object with any number of spokes.

Step 2

Make a loop around one of the sticks. Repeat until you have made loops around all the sticks.

Step 4

Repeat for a second time on top of the first layer of loops. Try not to over tighten the loops, it will cause problems later.



Step 5

Pull the lower loops (1) loose and flip it over the upper loop (2).

Step 6

Repeat for all sticks.

Step 7

Make another layer of loops around the sticks.

Step 8

Repeat steps 5 to 7 until you have used up all the wool or it's sufficiently long enough.

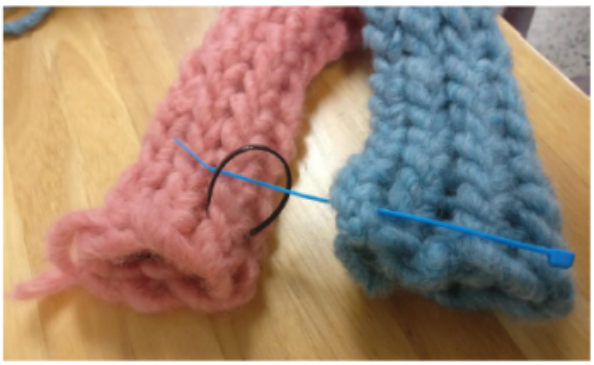
How to Join DNA

Step 1

Once you have a sufficient amount of DNA knitted you can start joining it. You'll need zip ties.

Step 2

Pick one strand that will be the central post. Place zip ties at quarter intervals around the post. Either trim the tails of the zip ties or tuck them into the center of the post.



Step 3

Join the second post to the central using anther zip tie. Try to pick a colour that the opposite to the original tie.

Step 4

Wrap the secondary post (pink) around the main (blue), zip tying as you go.

Materials Req

Lots of thick wool

2 circular cardboard loom structures (Jo will make these and spray paint them)

4 colours of zip ties

Reflections Learnings

This activity was set up in the auditorium at The Edge with some chairs to sit in around the activity. The chairs were a way for people to be able to sit for awhile and make dna and chat as well as to create it's own space so as not to bleed into the other areas (as there were 5 other activities happening in the space). The chairs worked well, the DNA was great. The only thing was that it did not grow as big as was expected. It did not become the largest DNA. The following would have helped to make it more visible and interacted in much more (as there really was so much going on in the auditorium)

- A large sign that was interesting and had crochet around on it

- some kind of structure that the DNA could be presented onto (this was an initial idea that was thought of but dropped) and seen

- Suggested ways for getting more people involved at once in making the DNA. For example: one person weaving one person holding it up and one person being able to wrap and present it on the structure. Then swapping around.

Gallery