



New South Wales Branch
Hunter & Coastal Region

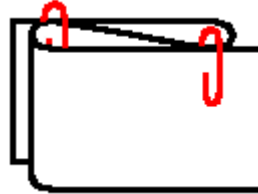
Topological Paperclips

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The set-up for linking paper-clips.

Materials needed

A strip of paper and two paper-clips



To Do & Make

Fold the paper over and then back, so you get a Z-shape (see image). Now slide the paper clips on from one side, so that the paper is held in this shape. Each paper clip needs to go inside an angle of the z. Now tell onlookers that you will pull both ends of the paper, so they fly up into the air. Have them try to judge how far apart the paper clips will land. When you pull on each end, they will fly up into the air and land joined together.

Tips

Practice this one before you do in front of anyone else!

If you try it again slowly, you will see that the paper pulls the two paper clips through each other, before they spring off.

From a topological point of view, the two paper clips are never truly linked. A paper clip can be straightened to a plain piece of wire and you can never link two straight pieces of wire. To be truly linked they would have to be two circles, like links in a chain. All that the paper does is wrap the two pieces of wire around each other.

Further Activities

Try more than two paper clips and more than two folds

Address: 1st Floor, 518 Hunter Street, Newcastle 2300,
P.O. Box 41, ADAMSTOWN 2289

Phone: 02 49 291760

Fax: 02 49291753

Email: resources@scoutreach.com.au

Web: <http://www.scoutreach.com.au>