Math in Disguise: Constructing Braids

Constructing regular braids involves following an algorithm, with a pattern that can (in principle) be indefinitely repeated. Copying a braid involves also detecting the algorithm before applying it. Comparing various braids amounts to comparing the various algorithms, and classifying them has a combinatorial touch…

The actual construction with several fabric or plastic threads becomes tricky in practice. We recommend the *chenille wire* that is colourful but has a metal core that makes the construction very stable. Another advantage is that the beginning of the chenille wires can be fixed together by twisting them, so that the construction only requires the wires and a plane surface (or a second person) to hold the construction. Notice that chenille wires can also be bended at leisure, their only drawback being that their edges are pointy (they are not suitable for bracelets unless this problem is dealt with).

Another braid activity can be done with *curvy paper stripes*. Cutting a piece of paper at some parallel sinusoidal curves one may produce sinusoidal stripes (they can also be joined together as to make longer stripes). Then one may interlace the stripes and get a braid. It should be investigated which kind of regular braids can be made out of such parallel stripes. Nowadays one may also 3D print thin sinusoidal plastic stripes for this purpose.