MathSnacks
Finger Food
by Marty Ross, Burkard Polster, and QED (the cat)

Finger Magic

$$9 \times 3 = 27 \qquad 9 \times 6 = 54$$
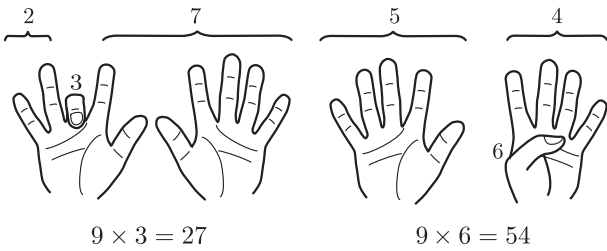
In the wonderful maths movie *Stand and Deliver*, the star teacher Escalante explains an easy way to multiply one-digit numbers by 9. For example, to calculate 9x3 start by holding your fingers splayed and fold in the third finger from from the left. Then there are 2 fingers to the left of this finger and 7 on the right. So, the answer is 27. The trick works because the sum of the digits in the answer is always 9.

Right Hand Rules
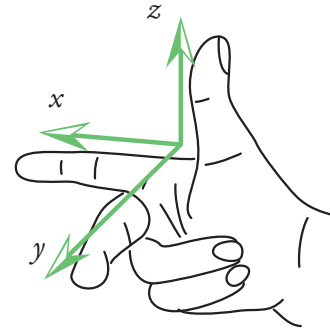
If you label the axes of a coordinate system randomly using the three letters x, y, and z there is a fifty percent chance that you end up with a right-handed coordinate system as shown. Alternatively you may end up with a left-handed coordinate system, which is the mirror image of a right-handed system. Most coordinate systems shown in books and used in practice are (by convention) right-handed, and the right-hand rule is a good way to remember what such a coordinate system looks like.
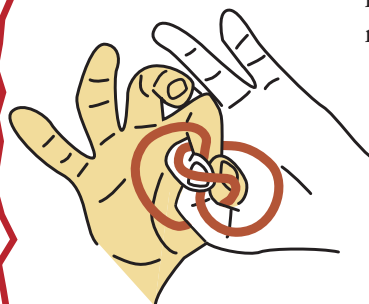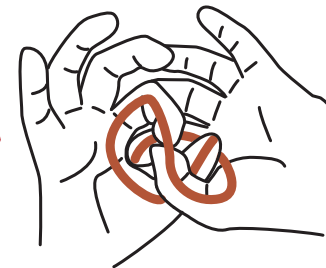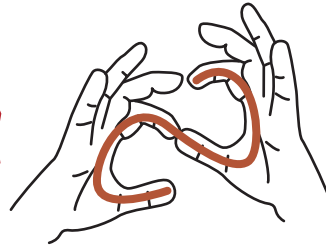
Binary Digits

$$01001=9 \qquad 00100=4 \qquad 11011=15$$

Using just one hand and the binary number system you can count from 0 to 31. Here a folded finger stands for a 0 and a stretched out finger for a 1. The only real problem with using this powerful system of counting is the number 4. Can you see why? And, up to what number can you count like this if you are allowed to use two hands?

Finger Knot

When you cross your arms, your shoulders together with your arms begin to form a knot. However to join your hands and make this into a closed mathematical knot you would have to be a contortionist. On the other hand, using only the forefingers and thumbs of your hands you can form the simplest of the mathematical knots.

Ripper Reference

E. M. Lieberthal, The Complete Book of Finger Math, McGraw-Hill (we have not read this book)