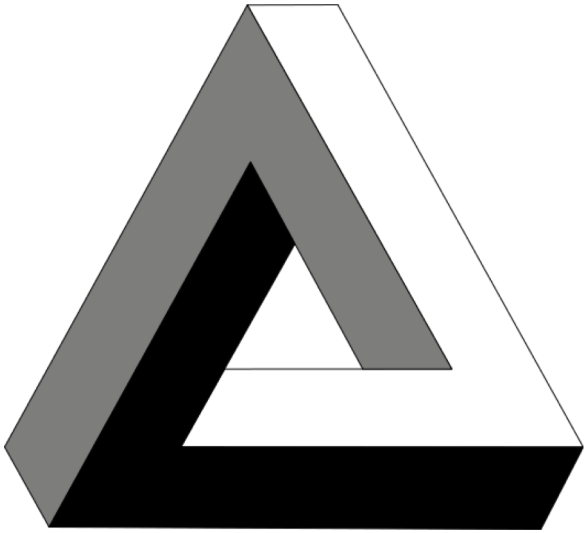
Impossible objects

Art in Maths

What do you see?

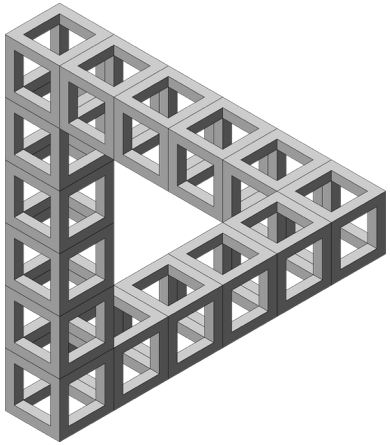
The Penrose Triangle

The Penrose Triangle is an impossible triangular object. It is an **optical illusion** consisting of an object which **can be drawn but cannot exist as a solid object.**



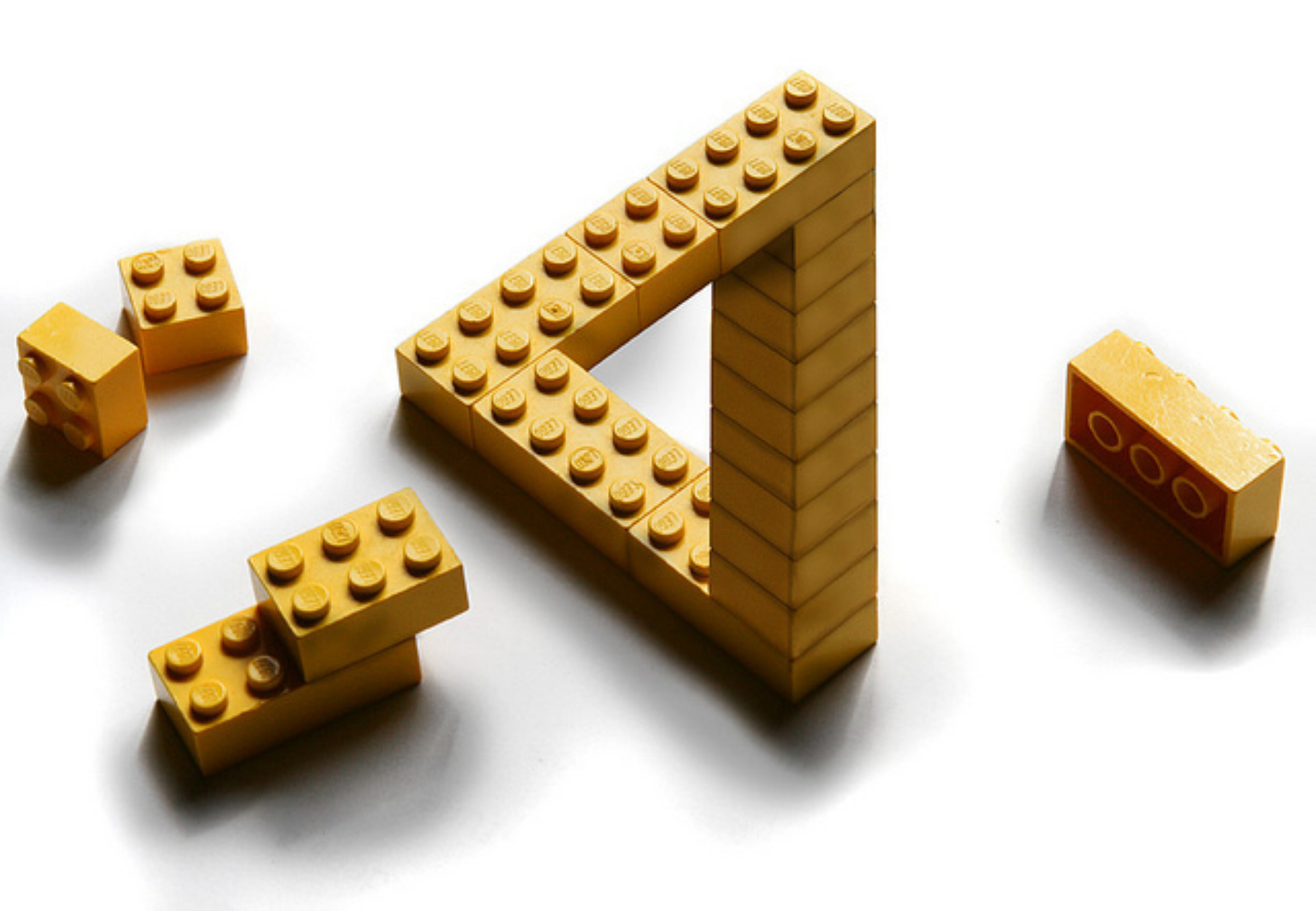
It was first created by the Swedish artist Oscar Reutersvard in 1934 and made popular by Lionel Penrose in the 1950s.

The next few slides contain some wonderful & epic illusions using this triangle.



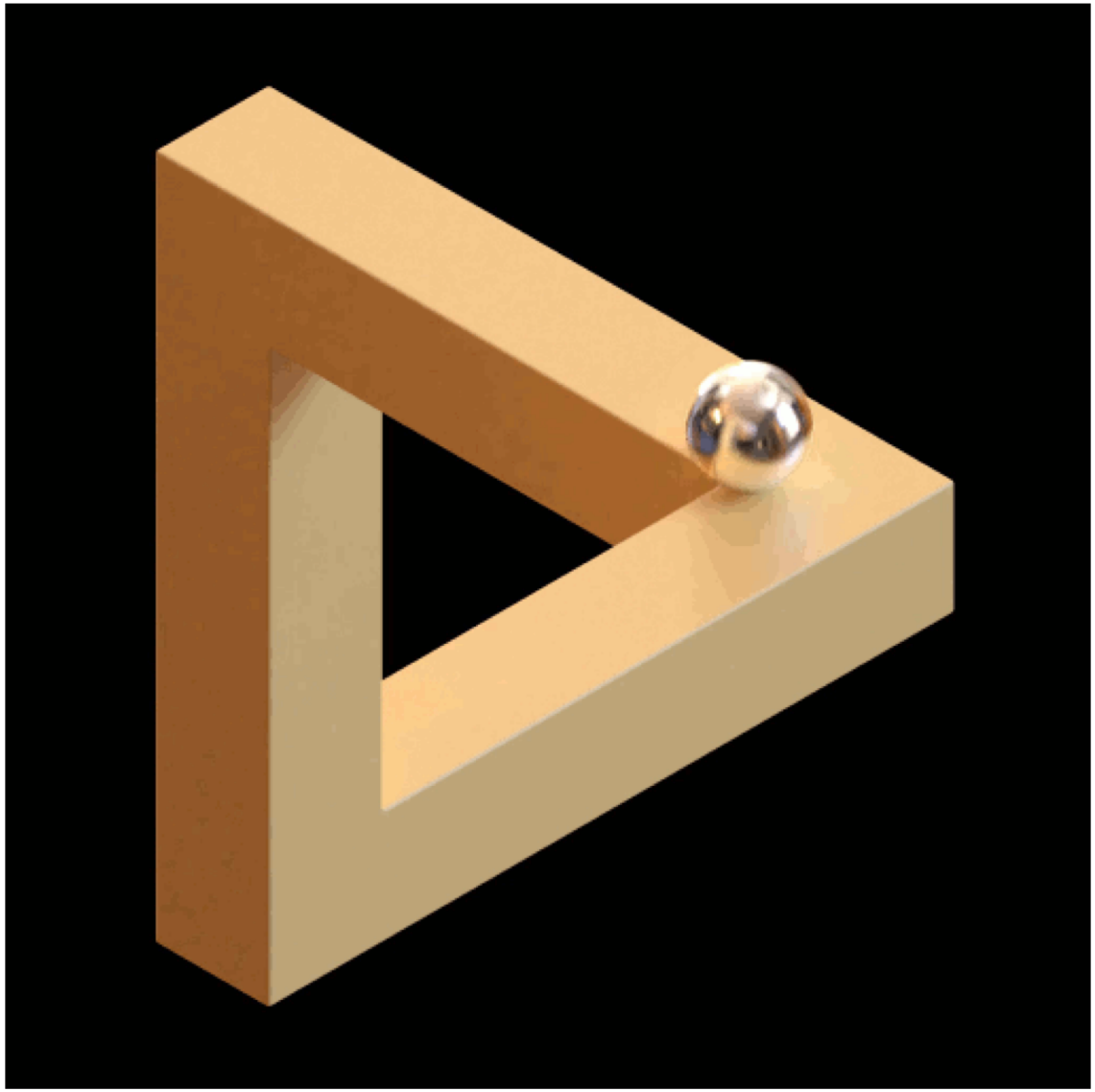
As you take in each picture, think and write down 'what makes this an illusion – why is it impossible?'

You can also follow the links on the printable version too find out more. **All links are blue and underlined.**



Penrose Triangle Lego illusion by Erik Johansson

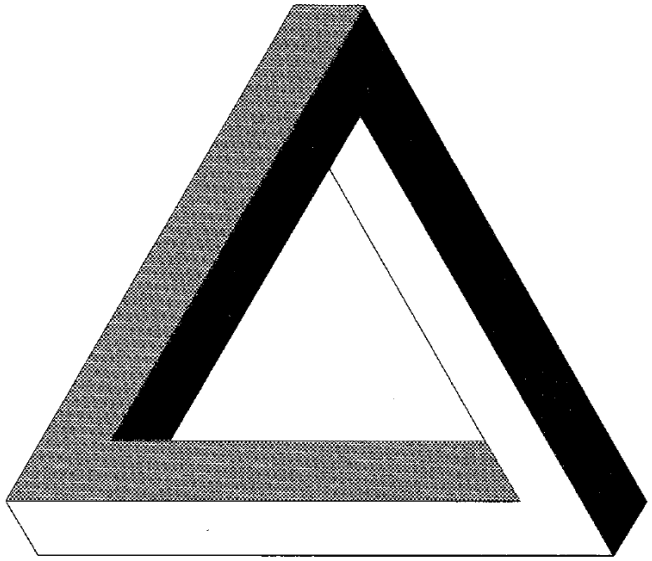
Penrose Triangle dice illusion



Penrose Triangle gif

Impossible triangle sculpture as an optical illusion, East Perth, Western Australia

Now its your turn to construct your own Penrose Triangle.

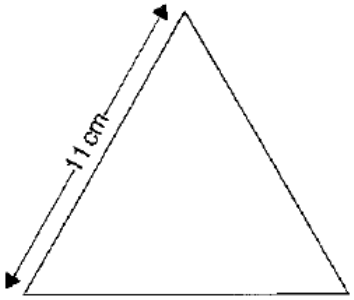


The information is on the following slide.

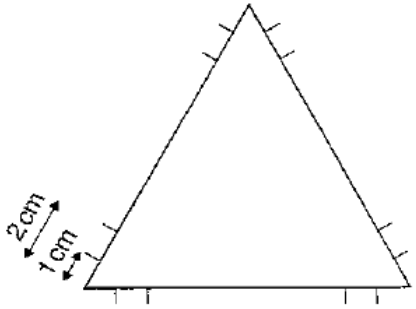
It would be lovely if you could upload this work to the website!

Now you are going to construct your own impossible object.

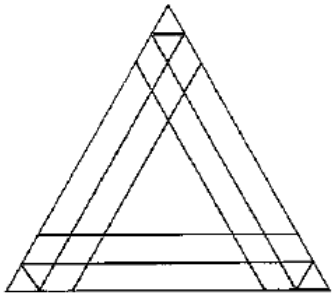
1 Draw an equilateral triangle.
Make its sides 11 cm long.
(Set your compasses to 11 cm.)



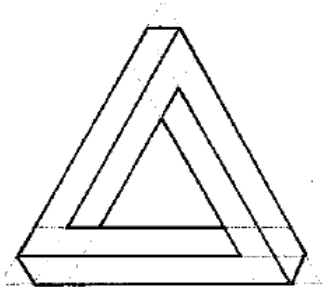
2 Mark **1 cm** and **2 cm** from each corner.
Do this at all 3 corners.



3 Join the points.
Make this diagram.



4 Now make the lines you want thicker, or colour them.
Rub out the other lines.



5 Colour your Penrose triangle.
Make it look like the one on page 2.