



THE THAUMATROPE RESOURCE.

This resource has been prepared by the Howick Historical Village Education Department while under LEOTC contract to the Ministry of Education.

This resource was prepared by Richard Lees, Education, HHV, and was submitted to the Howick Historical Village Education Departments External Review group for approval before being made available as a resource

The resource is offered in support of:

- The New Zealand Social Studies Curriculum, strands: *Culture & Heritage, Time Continuity & Change, Resources & Economic Activities*
- Technology Curriculum *Technological Capability*.

Related activities and resources available through Howick Historical Village..

- This resource is complimentary to the *Victorian Indoor Toys* activity, available to schools visiting the Howick Historical Village.
- *'The Thaumatrope'* resource links with the *'Boy's pockets'* and *'The Evening'* resource.

Teachers wishing to book a visit should contact the Co ordinator at: (+64) 09 5769481 or e-mail fencible@ihug.co.nz

USING THIS RESOURCE

This resource can be used in conjunction with *The Evening* resource in which a thaumatrope is mentioned

THAUMATROPE

The Thaumatrope and Optical Toy (optical means seeing, or visual)

Queen Victoria reigned from 1837 to 1901. At this time educational toys were popular; these toys not only gave pleasure but also instruction. Prince Albert, the consort (consort means husband or companion) of Queen Victoria liked the young princes and princesses to have educational toys.

Many of these educational toys were the result of scientific discoveries. The Thaumatrope was invented in 1825 by Dr John Ayrton Paris, one year before the invention of the camera.

In 1826 the first photograph was taken with a 'camera obscura' by Nicephore Niepce in France and it took 8 hours to take the photograph.

By 1839, thirteen years later, and two years after Princess Victoria became Queen, improvements to the camera meant it only took 15 - 30 minutes to take a photograph with Mr Louis Daguerre's improved camera.

The Thaumatrope does not take photographs but it magically makes a picture change and before the invention of the camera must have been an exciting toy for children.

Parents could buy a box full of *Thaumatropeal amusements*, a box of different thaumatropes.

People living at this time were fascinated by the new images and new discoveries about pictures.

What is a Thaumatrope?

A thaumatrope is a disc of cardboard with pieces of string on opposite sides of the disc and different images on either side of the card. An image on one side will be one way up - right way, and on the other, upside down.

For example a bird cage on one side, right way up, and a bird on the other side of the card board disc upside down.

When the disc is spun by rolling the string between fingers and thumbs the images (pictures) become one picture.

How does it work!

The Thaumatrope works because the first image (picture) seen by the eye and sent to your brain, is still in your brain when the second image arrives in the brain. Your brain sees both pictures as one picture putting the two pictures together.

EQUIPMENT REQUIRED TO MAKE A THAUMATROPE.

- ball point pen, dark pencil or fine felt tip pens
- string
- scissors.
- A4 cardboard - 225 gsm stock is available from stationery suppliers and comes in different colours. Light colours are best so that the drawing will show up. Any reasonably heavy duty cardboard will suffice.

HOW TO MAKE A THAUMATROPE

- Using an upside down cup draw a circle on the cardboard
- Cut out the circle
- Punch two holes on opposite sides of the circle
- Tie a three inch long piece of string into each hole on either side of the circle
- Draw a bird cage facing up on one side
- On the other side, in the middle - draw a bird facing down.
- Rolling the string backward and forwards between your fingers & thumbs will make the bird appear to be in the cage.

Here are some ideas:

Thaumatrope are limited only by your imagination.

You can design your own.

But remember for a Thaumatrope to work the image on one side must be the opposite way up to the one on the other side

Ideas:

- A bald man on one side and his wig on the other
- A lady on one side and a beard on the other.
- A whale on one side and boat on the other. Draw the boat in a position where it will be in front of the whale being chased.
- A boy on one side holding his hand out and a girl on the other. Draw them side by side so that when you spin the card they hold hands.

Here is a tip to help with getting the pictures lined up.

By pushing a pin through the card you can locate the correct position where the images will overlap and become one.

For example : by pushing the pin through the top of the bald mans head you will know where to draw his wig on the other side. (remember to draw an upside down wig.)

EXAMPLE

