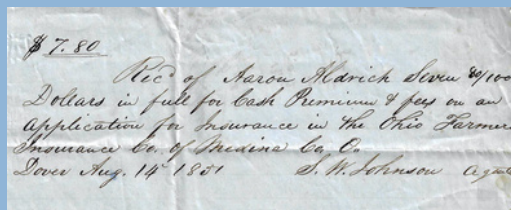


BAY VILLAGE HISTORICAL SOCIETY

Preserving the Character of Our City

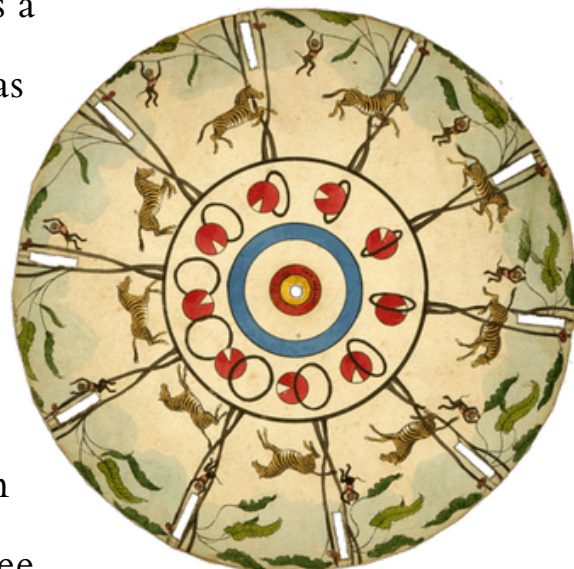


Seeing is Believing! Early 1800s Optical Toys

From simple flip book drawings to the incredible powers of modern special effects, children have been enjoying animation as entertainment for nearly 200 years! The earliest form of modern animation, a device known as a **phenakistoscope**, dates back to the early 1800s! It was a popular Victorian parlor toy and was sometimes referred to as the "**Magic Wheel**."

Can you guess why?

The disc shows a series of images where the subject in the images changes slightly each time. For example, see how the monkey and zebra's positions change slightly in each frame above. When the disc is spun and viewed through the small slits (while facing a mirror), the images appear to come to life. This is because the slits allow the viewer to see only one image at a time, while the spinning motion creates the **illusion** of movement. It is a simple concept that creates an exciting result! You will find templates and instructions to create your own "Magic Wheel" below.



While the "Magic Wheel" provided children with entertaining animations, there were other optical toys invented throughout the Victorian era that gave the viewer a still, 3D experience. Invented in 1838, the **stereoscope** looks much like the immersive virtual reality headsets we see today.



The stereoscope consisted of a device with two eyepieces and a set of photographs or drawings taken from slightly different angles. When viewed through the eyepieces, the images merge together into one image, creating a sense of **depth** and **dimension**. This is achieved because each eye sees a slightly different image, similar to the way our eyes perceive depth in the real world. The stereoscope was a breakthrough in visual technology and considered an early precursor to modern virtual reality. It allowed people to experience places and events without ever leaving home!

Children and adults alike gathered around these magical toys. They marveled at the illusion of motion through their magic wheels and immersed themselves in far away places via the stereoscope - you can too!



We encourage you to visit Rose Hill Museum to find and try out the stereoscopes yourself! Open Sundays 2:00 - 4:30, April through December.



Make Your Own Phenakistoscope!

Supplies Needed

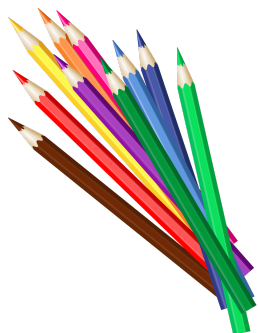
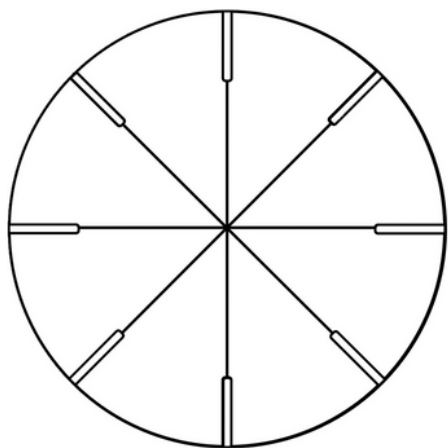
- phenakistoscope template (found at the end of this lesson), printed on card stock or other heavy duty paper
- drawing/coloring supplies (optional, needed for blank template)
- scissors
- pencil (preferably with a fresh, tall eraser)
- thumb tack
- mirror



Instructions

Choose a template to print on card stock or other heavy duty paper.

There are several Victorian era templates at the end of this lesson, as well as a blank template if you would like to create your own series of images! Print your chosen template(s) at 100% scale on card stock.



Cut around the outer edge of the disc, then carefully cut the slots.



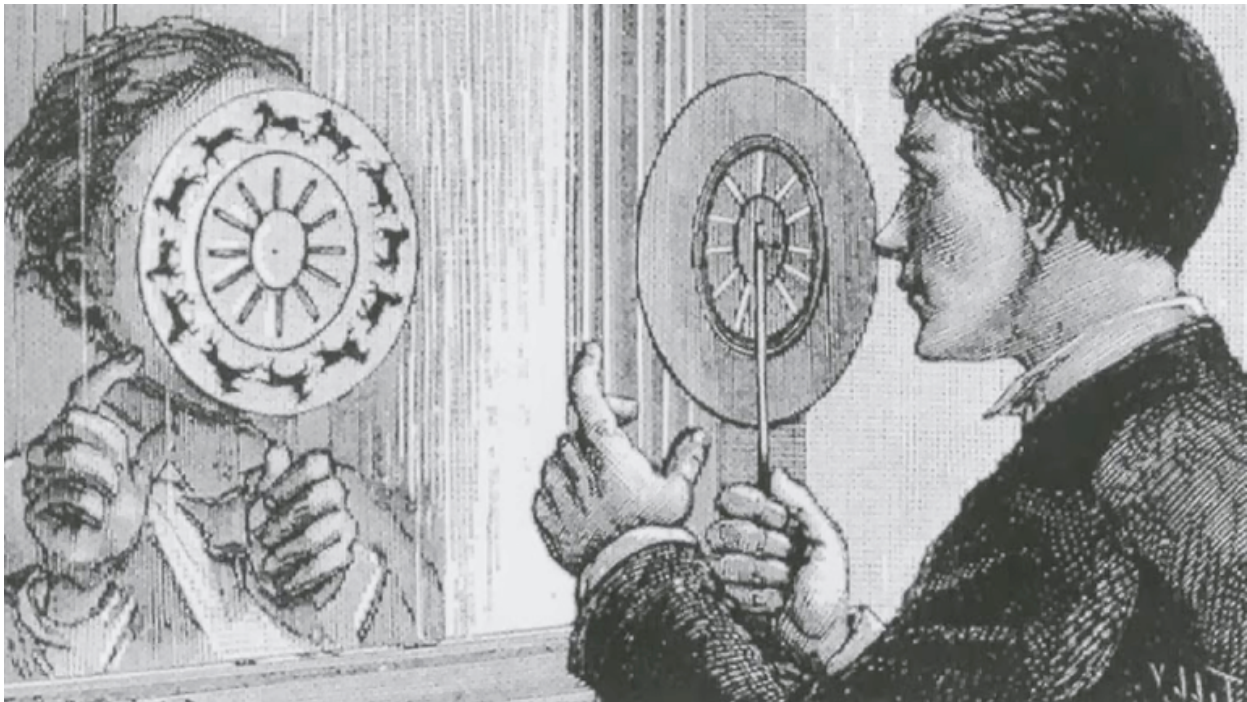
Locate the center of the disc and use a thumb tack to make a hole through the center. You may want to remove and stick the tack through several times, and spin the tack around to ensure the disc will spin freely.



Once your disc has a hole in the center, poke the thumb tack through the hole and use it to attach the disc to the eraser of a pencil. Be cautious - your tack may come all the way through the other side of the eraser to create a tight fit, be careful to not poke yourself! Test spinning the wheel to ensure your disc spins freely. If it does not, you will want to make the hole in your disc slightly bigger to allow this.



Next, find the closest mirror! With one hand, hold your disc facing the mirror and use one eye to peer through the slot at the images. With your free hand spin the disc. You may have to play around with the speed, some animations are better at a higher speed, others are better at a slower speed.



Tips for viewing

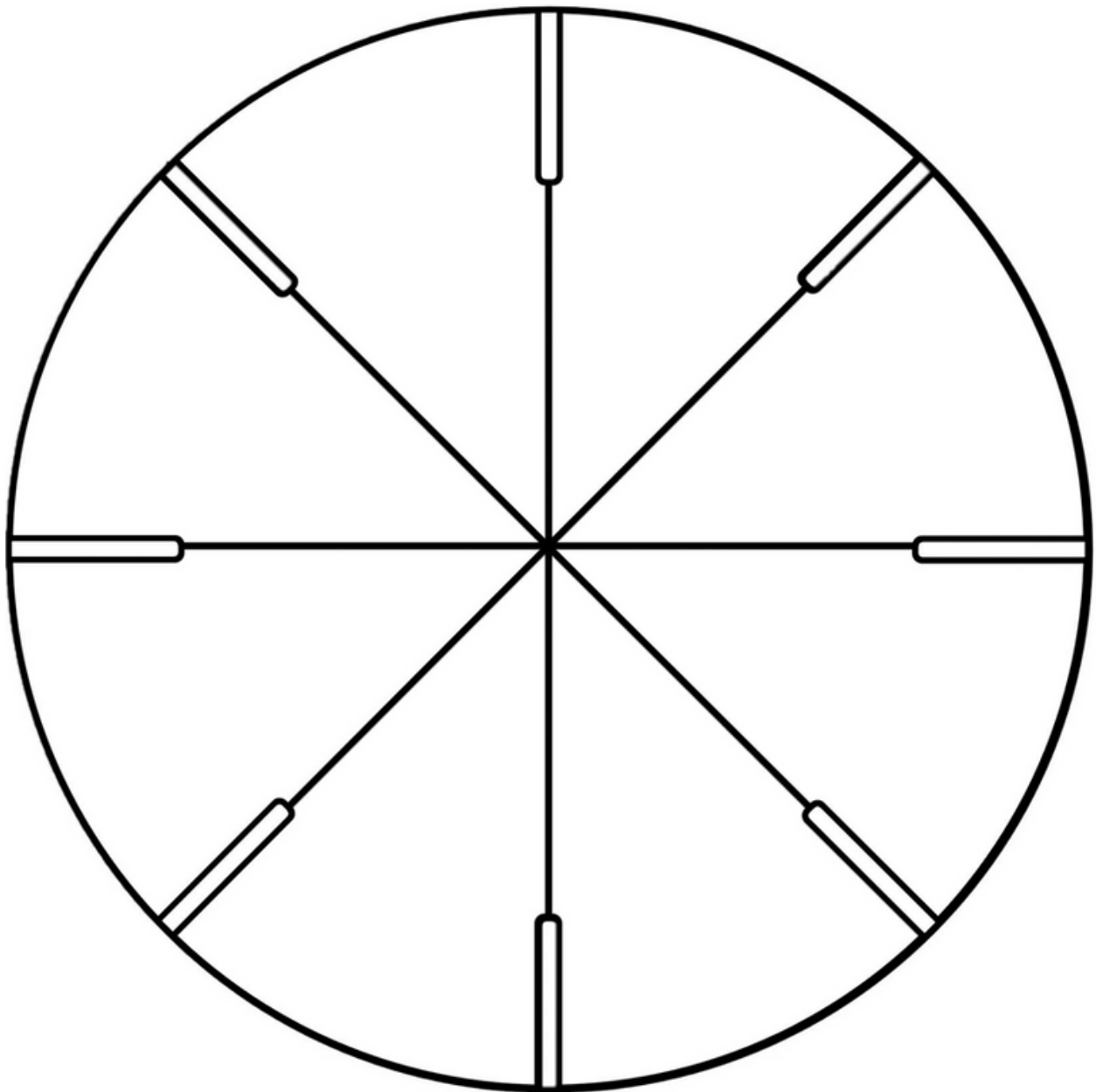
- Close the eye that is not looking through the slots
- Do not hold the disc too close to the mirror
- Hold your face as close to the disc as possible
- If you have glasses, you may want to remove them
- You may have to play around with various positions and speeds before getting the animation just right. Don't give up!

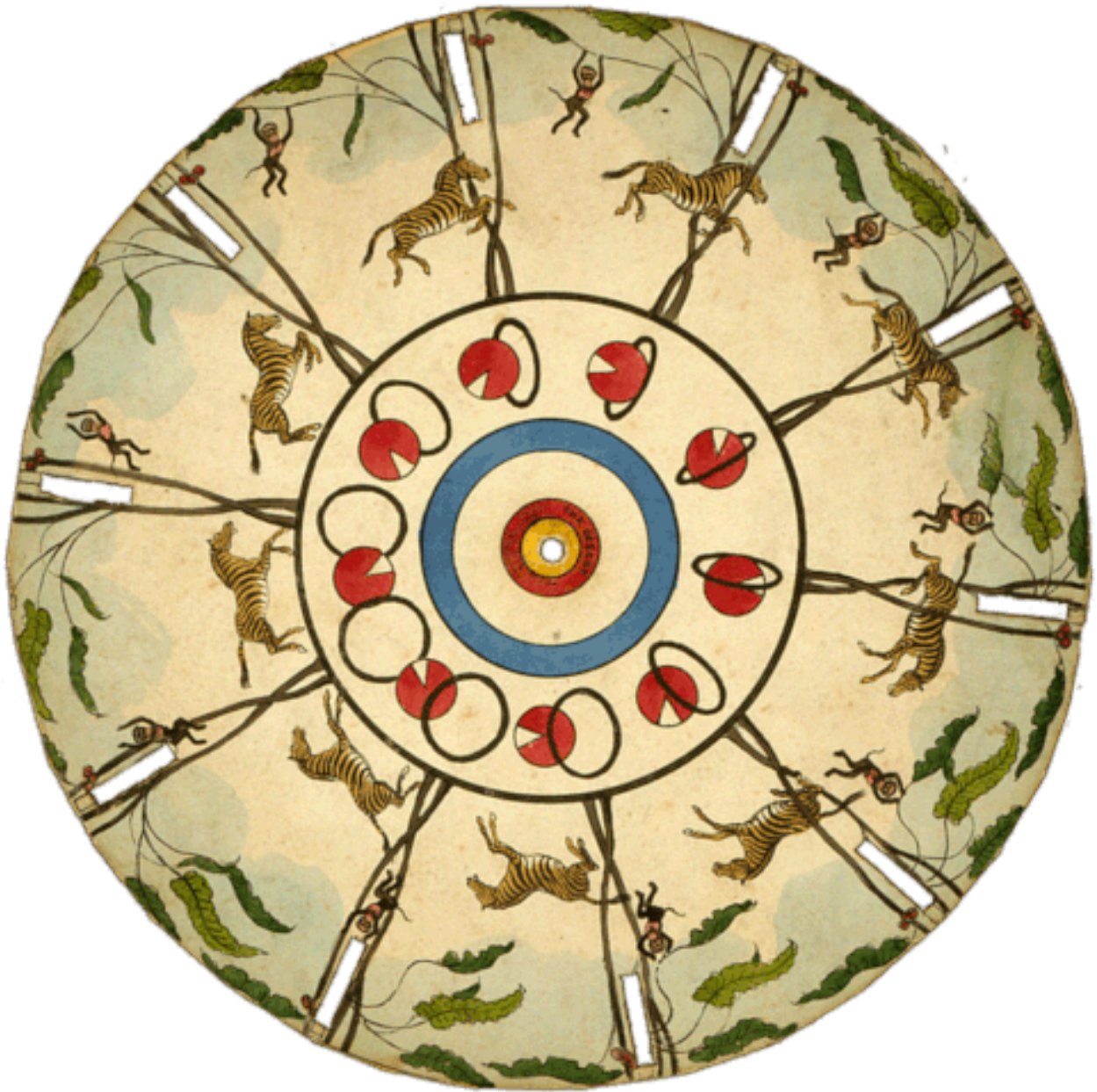
We would love to see your phenakistoscopes! Share a picture with us via email bvhsrosehill@gmail.com, or share on Facebook and tag Bay Village Historical Society



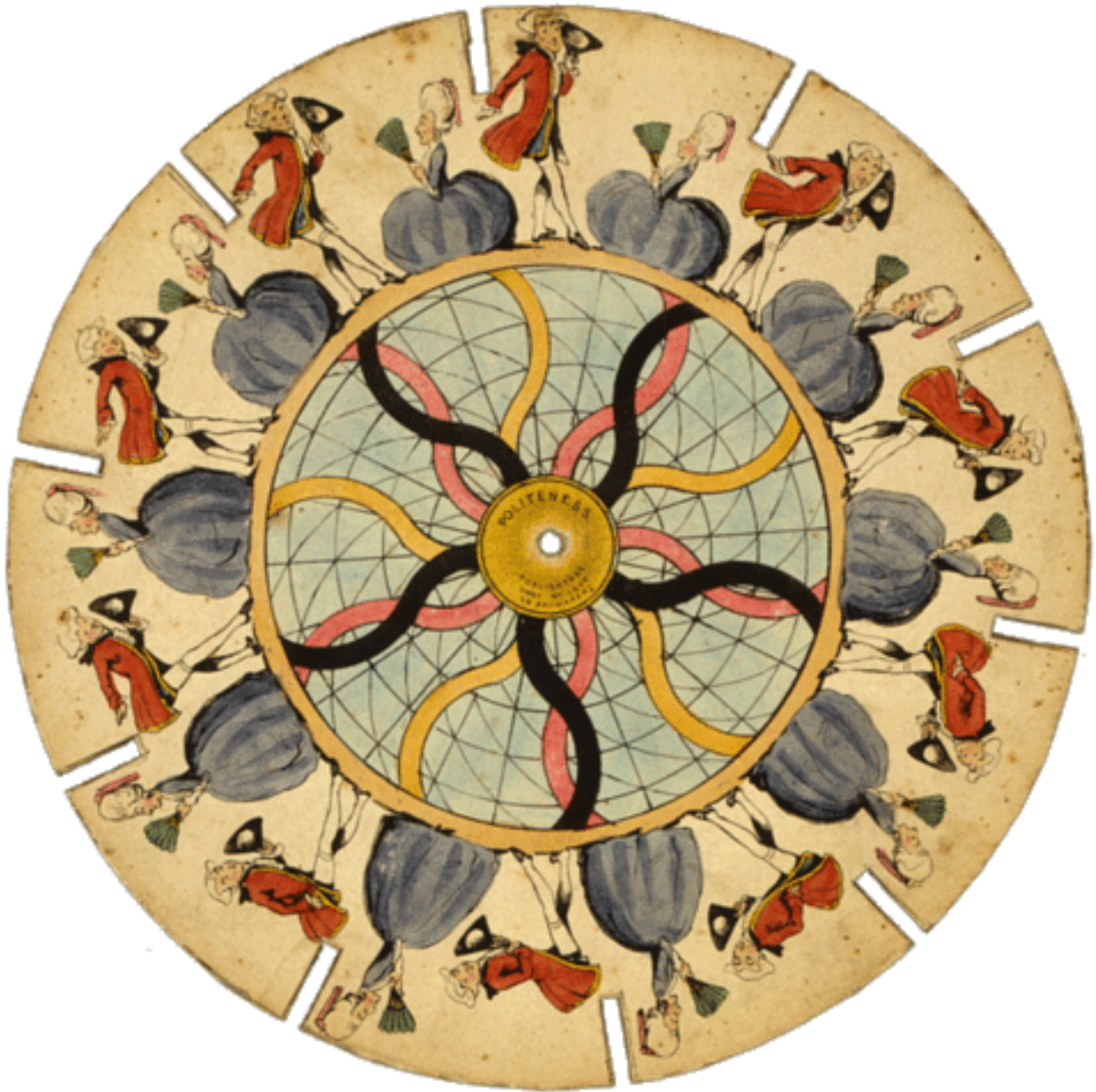
Blank Template

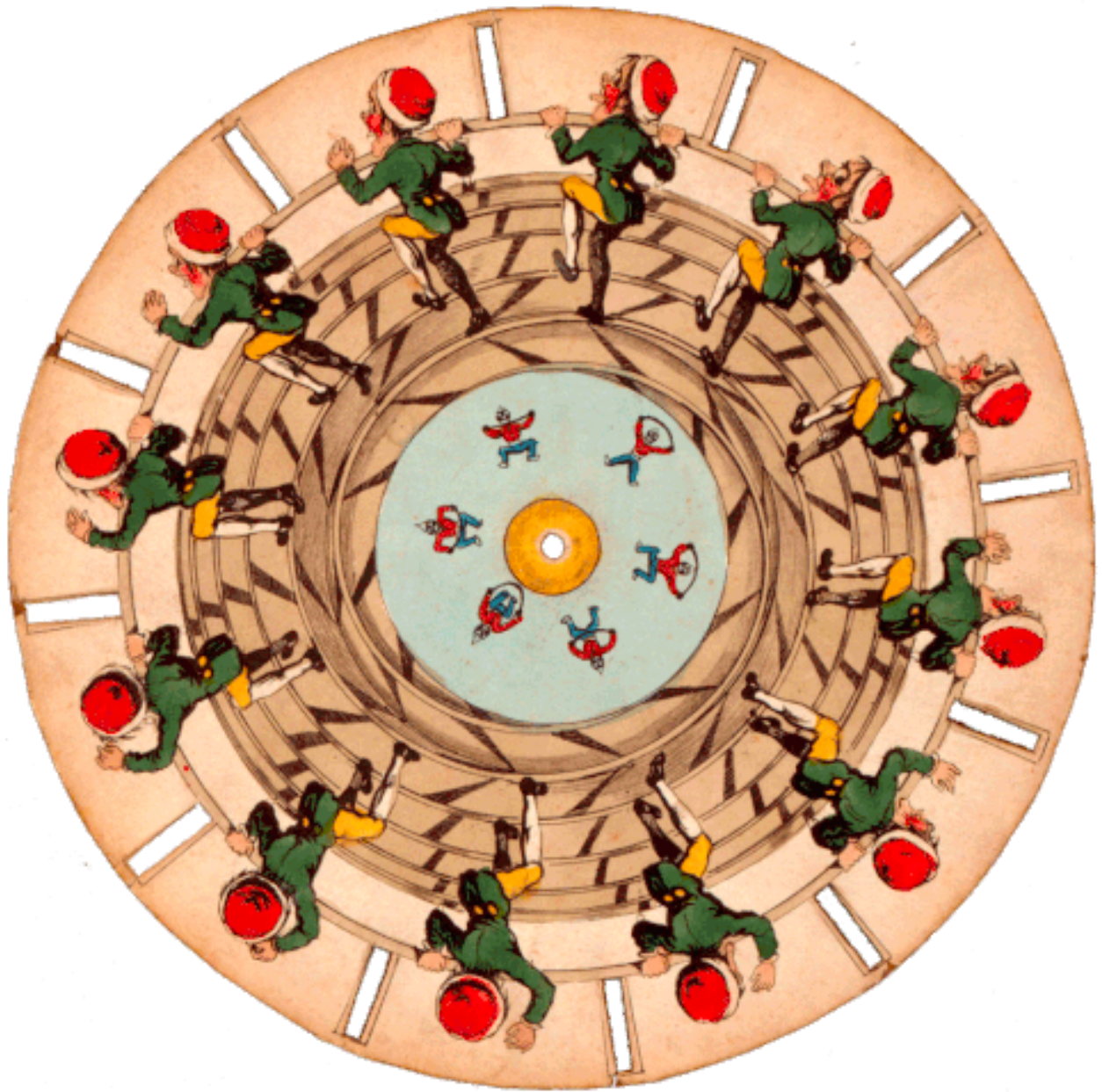
Use the template below to create your own phenakistoscope! Remember that each image in the series should be slightly different, to create the illusion of movement when the disc is spun. Keep scrolling to find examples of Victorian era images!















Information and resources for this lesson sourced from:

Tiernan, Jonny. “What Is a Phenakistoscope?” Linearity Blog, 25 July 2022, www.linearity.io/blog/phenakistoscope/.

“Phenakistoscopes (1833).” The Public Domain Review, publicdomainreview.org/collection/phenakistoscopes-1833/. Accessed 9 Aug. 2023.