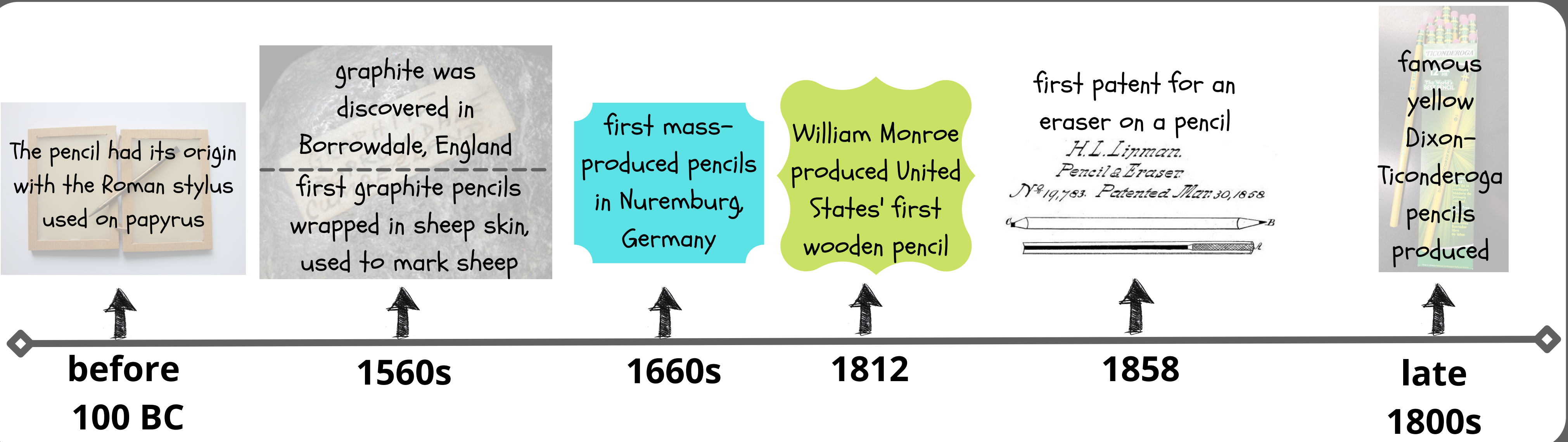
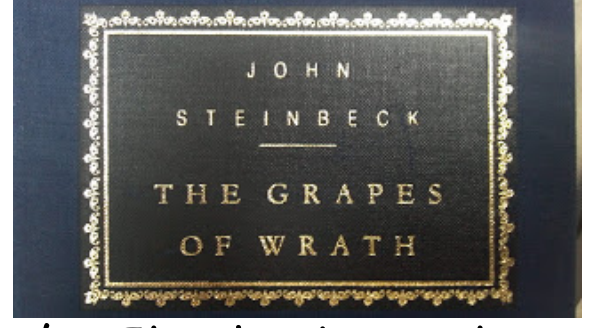



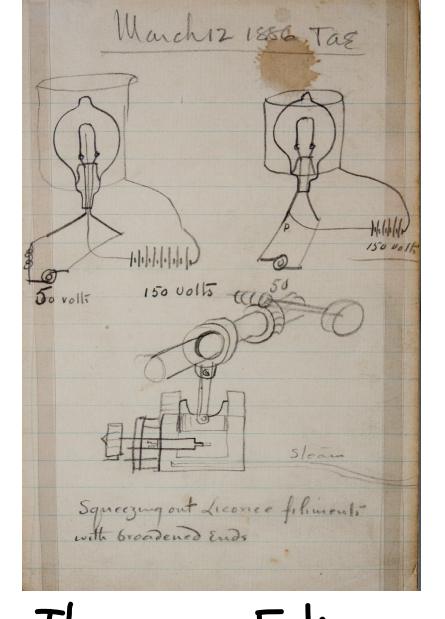
# How the Pencil Changed the World



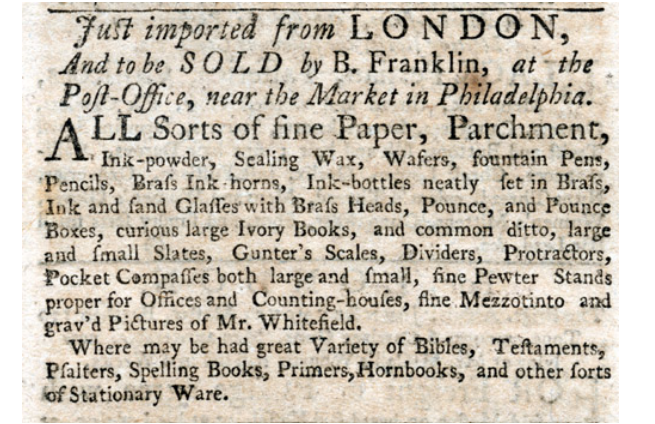
  
John Steinbeck wrote many of his famous novels in pencil

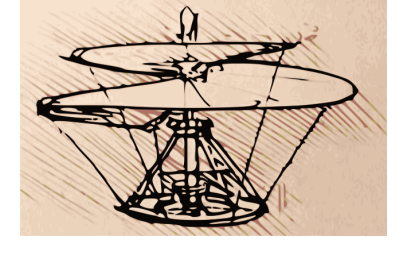
Ulysses S. Grant sketched Civil War battle plans in pencil



  
Thomas Edison sketched his lightbulb in pencil

## Famous Pencil People

  
Benjamin Franklin advertised pencils for sale - Pennsylvania Gazette, 1729

  
Leonardo da Vinci sketched many of his inventions in pencil

## Advantages of Pencil

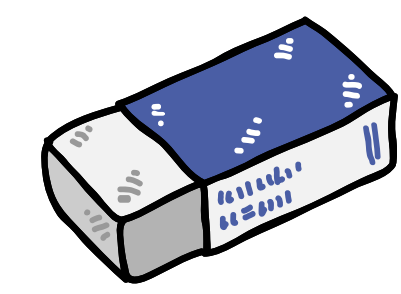
- ✓ more permanent than chalk
- ✓ affordability
- ✓ portability
- ✓ come in a variety of hardness degrees for various uses
- ✓ useful for artists
- ✓ longevity
- ✓ does not leak like a pen
- ✓ widely accessible
- ✓ erasable

## The Eraser

The eraser is as important as the pencil itself. Being able to erase and correct one's mistakes is beneficial in many contexts, such as:

- learning mathematics
- taking multiple choice tests
- creating artwork
- learning to print or write.

Being comfortable with making mistakes is important. There is greater brain activity when a person makes a mistake than when they get a correct answer. Pencils and erasers eliminate the "permanency" of a mistake.



## Benefits of Handwriting

- improved word memory
- improved word recognition
- improved fine motor coordination in the hand
- increased sensorimotor coordination - combined physical activity of writing and visual feedback
- formation of more complex neural networks in the brain



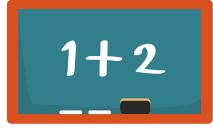




## The Future?

Some say that pencils (and pens and paper) will soon be obsolete, but could this be true? The wooden pencil has already survived the introduction of mechanical pencils, pens, computers, tablets with styluses, and mobile phones.

What will come next?



## Without the Pencil

- How would our world have been different?
-  Math work would have been completed with chalk on slates or in ink!
  - Learners would be afraid of making permanent mistakes 
  -  Some of the world's most important inventions may have never been created
  - We may never have seen some of the great literature and artwork of the world 
  -  The economy would be missing a major industry

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## Images

Graphite photo <http://www.johnbetts-fineminerals.com/jhbnyc/mineralmuseum/picshow.php?id=33629>

Ben Franklin advertisement image <https://librarycompany.org/BFWriter/writer.htm>

Da Vinci helicopter, Ulysses S. Grant, Grapes of Wrath cover, Roman stylus, Thomas Edison lightbulb, Linman pencil eraser patent, pencil eraser images <https://commons.wikimedia.org/wiki>