**Inventors Who Changed the World**

**Story Summary**

From the curiosity of Leonardo Da Vinci to the dedication and sacrifice of Marie Curie, Little Heroes: Inventors Who Changed the World is a young child’s first introduction to the brilliant people who taught us the meaning of perseverance and innovation. Simple text and adorable illustrations tell the contributions of nine renowned inventors from around the world: Cai Lun, Johannes Gutenberg, Leonardo Da Vinci, Thomas Edison, Louis Pasteur, Marie Curie, Orville and Wilbur Wright, and Grace Murray Hopper. Inspire your own little inventor with the words of these inventive heroes who changed the world.

**Activity Ideas**

**Paint a Picture**

Leonardo Da Vinci invented different ways to paint and became known as the most famous painter in the world. Have children use their creativity to paint their own picture using different paint strokes.

**Phonograph Activity**

Show a picture of a phonograph. Explain that the phonograph invented by Edison had two purposes: to record and to play. Have children record and play back “Mary Had a Little Lamb”—the first recorded words.

*Additional activities can be found in the following pages of this document.*
Today our class read Inventors Who Changed the World on Vooks. This book highlights the accomplishments of heroes who imagined and invented a better world. The inventors introduced are: Cai Lun, Johannes Gutenberg, Leonardo Da Vinci, Thomas Edison, Louis Pasteur, Marie Curie, The Wright Brothers, and Grace Murray Hopper. Inspire your own little inventor with the words of these inventive heroes who changed the world.

What is Inventors Who Changed the World about?

Which of the inventions mentioned in the book do you think is most useful to you today?

Each inventor was inspired by something. Who or what inspires you?

Many inventors failed before they finally succeeded with their inventions. Have you ever failed at something? Did you try again?

What would you like to invent to make the world a better place?

Share who or what has inspired you in your life as well.
Vooks Pause & Ponder

Inventors Who Changed the World

Pause at the indicated time stamps and discuss the story

0:33
What is Cai Lun doing? What clues did you use to answer the question?

1:21–1:51
Discuss the quotation by Johannes Gutenberg, “Like a new star, it shall scatter the darkness of ignorance, and cause a light heretofore unknown to shine amongst men.” What is the “it”? In what ways did the printing press “scatter the darkness of ignorance” and “cause a light...”?

3:30
Do you have any questions about Inventors Who Changed the World?

4:09
What are some things that make you wonder?

5:53
Marie Curie was the first female to win a Nobel Prize. Have you ever been the first one to do something? How did it feel?

6:51
Wilbur had Orville, who is someone that you like to do things with? Have you ever invented something together?

7:09
Do you have any good ideas that you know will work? What are they and what are your plans to make them happen?

After viewing the Book:

1. How many ways can you think of that we use paper?
2. Does learning ever exhaust your mind?
3. Look around. How many things use electricity? What would we do without electricity?
4. All of the inventors in Inventors Who Changed the World are heroes because they imagined and invented a better world. What kind of hero will you be?
Inventors Fact Sheet

Cai Lun  
*born in China (50 AD–121 AD)*
- Invention/discovery: **paper making process**
- Inspired to make paper by watching wasps make their nests from strips of bamboo
- Smart and ambitious Chinese politician

Johannes Gutenberg  
*born in Germany (1395–1468)*
- Invention/discovery: **moveable type printing press**
- German blacksmith, goldsmith, inventor, printer, publisher
- Invented the printing press (the most important invention of modern times) in 1439

Leonardo Da Vinci  
*born in Italy (1452–1519)*
- Invention/discovery: **Invented ways to paint (the most famous artist in the world)**
- Drew plans for machines (submarine, helicopter, bicycle) that were later created
- Famous paintings: Mona Lisa, The Last Supper, The Vitruvian Man

Louis Pasteur  
*born in France (1822–1895)*
- Invention/discovery: **vaccinations (1885), pasteurization, proved that germs cause disease**
- Inspired to find a cure for infectious diseases after losing 3 children to typhoid fever
- Used microscopes to look for answers and discovered germs (helped save millions of lives)

Marie Curie  
*born in Poland (1867–1934)*
- Invention/discovery: **polonium named after Poland, radium which became a cancer fighter**
- She was the first woman to become Professor and Physics at Sorbonne University in France
- First person to be awarded two Nobel Prizes (1903, 1911)

The Wright Brothers  
 Wilber born in Indiana, USA (1867–1912)  
 Orville born in Ohio, USA (1871–1948)
- Invention/discovery: **flew the first airplane (1903)**
- Ran a printing press business and a successful bicycle shop
- Were inspired by Leonardo Da Vinci to make their own helicopters and kites

Thomas Edison  
*born in Ohio, USA (1847–1931)*
- Invention/discovery: **light bulb in 1879, phonograph, motion pictures**
- Partially deaf, he did not do well in school and was eventually homeschooled
- Set up his first lab in his parents’ basement when he was 10

Grace Murray Hopper  
*born in New York, USA (1906–1992)*
- Invention/discovery: **programmed a room sized computer to respond to human language**
- One of the first modern computer programmers
- Took apart alarm clocks to see how they worked
**Connecting Activity**

Draw a line to match the inventor with their invention or discovery.

- **Cai Lun**  
  Born in China (50 AD–121 AD)  
  - **Discovered Radium**

- **Johannes Gutenberg**  
  Born in Germany (1395–1468)  
  - **Flew the First Airplane**

- **Leonardo Da Vinci**  
  Born in Italy (1452–1519)  
  - **Discovered Germs**

- **Thomas Edison**  
  Born in Ohio (1847–1931)  
  - **Programed Computers**

- **Louis Pasteur**  
  Born in France (1822–1895)  
  - **Light Bulb**

- **Marie Curie**  
  Born in Poland (1867–1934)  
  - **Paper Making Process**

- **The Wright Brothers**  
  Wilber born in Indiana, USA (1867–1912)  
  Orville born in Ohio, USA (1871–1948)  
  - **New Ways of Painting**

- **Grace Murray Hopper**  
  Born in New York, USA (1906–1992)  
  - **Printing Press**
Now it is your turn to become an inventor who changed the world. Come up with an invention and write the name of it on the line below. Then describe how it is used.

My invention is ____________________________________________________________ .

Here is how it is used: ____________________________________________________ .

Now that you have invented something, draw what you and your invention would look like.

1. Draw your face and hair.
2. Draw the kind of clothes you wear while inventing.
3. Draw what gear or tools you need to invent your ideas.
4. Draw the invention you would like to create.
Create a paper airplane

Materials needed
- 8 ½” x 11” sheet of paper
- Crayons or markers (optional)

1. Start with an 8.5 x 11 sheet of paper.
2. Fold the paper in half lengthwise.
3. Open paper up, fold top left corner toward middle crease.
4. Fold top right corner toward middle crease.
5. Close paper with folded edges inside. Position paper with point at the top.
6. Rotate point of paper clockwise one quarter turn.
7. Fold bottom right corner of paper to meet top of paper.
8. Fold bottom right corner to top a second time.
9. Flip paper over so the pointed corner is to the left.
10. Fold bottom left corner of paper to meet top of paper.
11. Fold bottom left corner to top a second time.
12. Hold paper by bottom center and open wings.

- Variations can be made to wings by folding at different angles.
- Draw some details: people in the plane, windows, etc. Fly the airplane like the Wright brothers!
Paper making (adult help needed)

Materials needed
- Framed fine mesh screen large enough to fit over tub
- Two plastic tubs (one to soak paper in and one large enough for screen frame to fit over and catch excess water)
- Large rag
- Water
- Scrap paper (newspaper, magazines, etc.)
- Blender

Directions
1. Tear scrap paper into approximately 2” strips.
2. Put scrap paper into one of the tubs and mix with water.
3. Put wet scrap paper in the blender and blend into pulp, first on low speed to mix and then a higher speed until the pulp is the desired consistency.
4. (Optional) At this point you can add seeds, color or decorations as desired.
5. Place the screen over the other tub.
6. Spread the pulp evenly over the screen. You can make the paper any thickness desired. The thicker the paper, the longer it will take to dry.
7. Press the pulp down with the rag to remove excess water.
8. Allow paper to dry (this can take a few days).
9. When the paper is ready, let the children write, paint, color, cut shape, or try any other ideas with the paper.