

19th-Century Inventors

Name: **Alexander Graham Bell**

Most Famous Invention: Telephone



Look inside the history files to find out more about two great 19th-century inventors. We still use the things that they invented today!

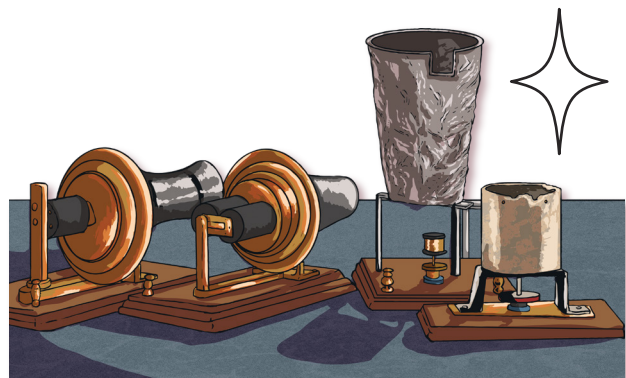
Alexander Graham Bell
was born in Scotland in 1847.



When he was young, Alexander Graham Bell always wanted to know more about the world around him. He tried to solve problems by inventing new things. When he was 12 years old, he invented a machine to help the local mill owner. The owner of the mill was so happy that he let him have a small workshop to work on his inventions in.

Alexander Graham Bell enjoyed experimenting with the different ways that sound can travel. In 1875, working alongside a man named Thomas Watson, he invented what is now called the telephone.

On 9th October 1876, Alexander Graham Bell and Thomas Watson talked to each other on the telephone for the first time. They were over two miles away from each other. He started his own telephone company in 1877 and the telephone became famous around the world.



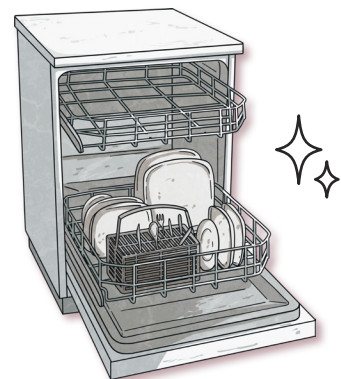
Name: Josephine Garis Cochrane**Most Famous Invention: Dishwasher**

Josephine Garis Cochrane was born in Ohio, USA, on 8th March 1839. She was the daughter of John Garis and Irene Fitch Garis.

Garis Cochrane's husband was called William. They both loved inviting their friends round to their house for dinner. Her valuable dishes were chipped while being washed after one of her dinner parties. This made her want to invent a safer way to wash her valuable dishes.

Garis Cochrane worked in her tool shed and she invented a hand-powered dishwasher. The dishes were held in a rack while a hose of hot, soapy water cleaned them.

Garis Cochrane began to win prizes for her invention in 1893. She started to sell her dishwashers to hotels and restaurants across Illinois, USA. Soon, so many people wanted a dishwasher that she opened her own factory in 1897. The dishwasher became famous across the globe.



Did You Know...?

Josephine Garis Cochrane's grandfather was called John Fitch. He invented a new type of steam-powered boat.

Disclaimer: We hope you find the information and resources on our website useful. Please be aware that aspects of an individual's life may be controversial to some. Due to this, we highly recommend that you carefully research the individual before teaching about them to children. If your children do independent research about an individual, we advise using only pre-selected, child-appropriate sources of information and websites appropriate to their age.

Questions

1. In which year was Alexander Graham Bell born? Tick one.
 - ☐ 1839
 - ☐ 1847
 - ☐ 1876
 - ☐ 1893
2. What was the name of Josephine Garis Cochrane's father? Tick one.
 - ☐ Alexander Bell
 - ☐ William Cochrane
 - ☐ John Garis
 - ☐ Thomas Watson
3. In which year did Josephine Garis Cochrane open her own factory? Tick one.
 - ☐ 1839
 - ☐ 1877
 - ☐ 1893
 - ☐ 1897
4. Number the events from 1-5 to show the order they happened in Alexander Graham Bell's life. The first one has been done for you.
 - ☐ Alexander Graham Bell and Thomas Watson talked to each other on the telephone.
 - ☒ 1 He was born in Scotland.
 - ☐ He invented a machine to help a mill owner.
 - ☐ Alexander Graham Bell started his own telephone company.
 - ☐ He started working with Thomas Watson.
5. Find and copy one word from the section about **Josephine Garis Cochran** which means the same as 'expensive'.

6. What did Josephine Garis Cochrane's grandfather invent?

7. Which of these inventions do you think is most useful? Explain why.

Answers

1. In which year was Alexander Graham Bell born? Tick one.
 - ☐ 1839
 - ☒ **1847**
 - ☐ 1876
 - ☐ 1893
2. What was the name of Josephine Garis Cochrane's father? Tick one.
 - ☐ Alexander Bell
 - ☐ William Cochrane
 - ☒ **John Garis**
 - ☐ Thomas Watson
3. In which year did Josephine Garis Cochrane open her own factory? Tick one.
 - ☐ 1839
 - ☐ 1877
 - ☐ 1893
 - ☒ **1897**
4. Number the events from 1-5 to show the order they happened in Alexander Graham Bell's life. The first one has been done for you.
 - 4** Alexander Graham Bell and Thomas Watson talked to each other on the telephone.
 - 1** He was born in Scotland.
 - 2** He invented a machine to help a mill owner.
 - 5** Alexander Graham Bell started his own telephone company.
 - 3** He started working with Thomas Watson.
5. Find and copy one word from the section about **Josephine Garis Cochran** which means the same as 'expensive'.

valuable
6. What did Josephine Garis Cochrane's grandfather invent?

Josephine Garis Cochrane's grandfather invented a new type of steam-powered boat.
7. Which of these inventions do you think is most useful? Explain why.

Pupils' own responses, such as: I think the telephone is most useful because you could still wash dishes by hand but you couldn't speak to people miles away without a telephone.

19th-Century Inventors

Name: **Alexander Graham Bell**

Most Famous Invention: Telephone



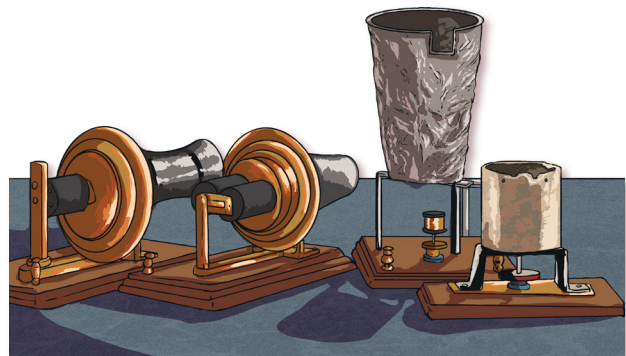
Alexander Graham Bell
was born in Scotland on 3rd March 1847.
He was a scientist, inventor and **engineer**.

Look inside the history files to find out more about two great 19th-century inventors. We still use the things that they invented today!

Graham Bell was the son of Professor Alexander Melville Bell and Eliza Grace Symonds. As a young child, he always wanted to know more about the world around him and tried to solve problems by inventing new things. At just 12 years old, he invented a machine to remove the outer case from grains of wheat. The owner of the mill was so happy with his invention, he let Graham Bell have a small workshop that he could work on his inventions in.

Graham Bell spent many years experimenting with the different ways that sound can travel, especially using electricity. In 1875, he found an **assistant** called Thomas Watson. Together, they worked on creating what is now called the telephone.

On 9th October 1876, Graham Bell and Thomas Watson talked to each other on the telephone for the first time. They were over two miles away from each other. In 1877, he started his own telephone company and his invention became famous around the world.



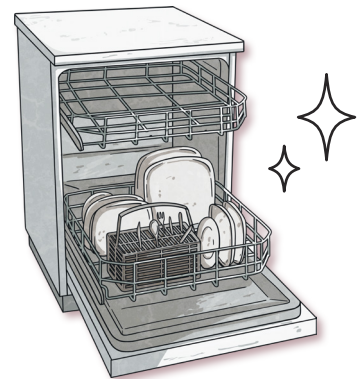
Name: Josephine Garis Cochrane**Most Famous Invention: Dishwasher**

Josephine Garis Cochrane was born in Ohio, USA, on 8th March 1839. She was the daughter of John Garis and Irene Fitch Garis. Her father was an engineer. Josephine Garis Cochrane's grandfather was an inventor too. He was called John Fitch and he had already invented a new type of steam-

After getting married, Garis Cochrane and her husband William bought a house and began inviting their friends round for dinner. During one of their dinner parties, her valuable dishes were chipped while being washed. This made her want to invent a safer way of washing her valuable dishes.

Garis Cochrane worked in her tool shed with George Butters, a **mechanic**. Together, they created a hand-powered dishwasher. The dishes were held safely in a rack while a hose of hot, soapy water sprayed and cleaned them.

Garis Cochrane showed her invention at a world gathering in 1893. She won the highest prize for her new creation and began to sell the Cochrane Dishwasher to hotels and restaurants across Illinois, USA. Soon, so many people wanted a Cochrane Dishwasher that she opened her own factory in 1897. Her invention became famous across the globe.



Glossary

assistant: A person who helps with a particular job.

engineer: A person who designs or builds engines or machines.

mechanic: A skilled worker who fixes vehicles, engines and machines.

Questions

1. How old was Alexander Graham Bell when he created his first invention? Tick one.

- ☐ 12
☐ 15
☐ 20
☐ 32

2. Number the events from 1-5 to show the order they happened in Josephine Garis Cochrane's life. The first one has been done for you.

- ☐ She worked in her tool shed to invent the dishwasher.
☒ 1 She was born in Ohio, USA.
☐ She opened her own factory.
☐ Josephine Garis Cochrane's expensive dishes became chipped.
☐ Josephine Garis Cochrane won a prize for her invention.

3. Draw **three** lines to match the name of the person to their role.

Eliza Grace Symonds

Alexander Graham
Bell's assistant

Thomas Watson

Josephine Garis
Cochrane's mother

Irene Fitch Garis

Alexander Graham
Bell's mother

4. Find and copy a word from Josephine Garis Cochrane's fact file which means the same as 'invention'.

5. Alexander Graham Bell was an engineer. Explain what is meant by the word 'engineer'.

6. Who was George Butters?

7. Comment on the importance of Alexander Graham Bell's invention.

8. Explain how Josephine Garis Cochrane's invention still impacts life today.

Answers

1. How old was Alexander Graham Bell when he created his first invention? Tick one.

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3 She worked in her tool shed to invent the dishwasher.

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5 She opened her own factory.

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Eliza Grace Symonds

Alexander Graham
Bell's assistant

Thomas Watson

Josephine Garis
Cochrane's mother

Irene Fitch Garis

Alexander Graham
Bell's mother

4. Find and copy a word from Josephine Garis Cochrane's fact file which means the same as 'invention'.

creation

5. Alexander Graham Bell was an engineer. Explain what is meant by the word 'engineer'.

An engineer is a person who designs or builds engines or machines.

6. Who was George Butters?

George Butters was a mechanic who helped Josephine Garis Cochrane to invent the dishwasher.

7. Comment on the importance of Alexander Graham Bell's invention.

Pupils' own responses, such as: Alexander Graham Bell's invention was important because it allowed people from around the world to communicate with each other in a way that they never had been able to before.

8. Explain how Josephine Garis Cochrane's invention still impacts life today.

Pupils' own responses, such as: Josephine Garis Cochrane's invention still impacts life today because millions of homes, restaurants and hotels wash their dishes safely and easily using a dishwasher.

19th-Century Inventors

Name: George Washington Carver

Most Famous Inventions:
Plant-Based Household Inventions



George Washington Carver was a Black, American teacher, scientist and inventor. He devoted his later life to inventing many useful products using plants, such as peanuts and sweet potatoes.

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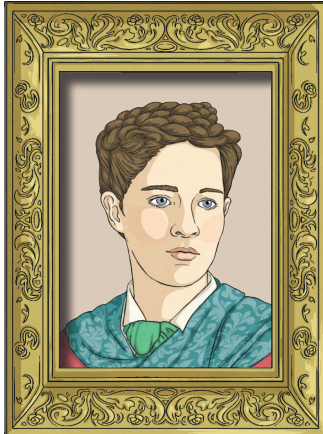
George Washington Carver was born into enslavement in the 1860s because his parents were enslaved people. In the 19th century, many Black people were sold into enslavement. They were not treated as equals and they were often prevented from receiving an education. In 1865, enslavement ended and Washington Carver's enslaver, Moses Carver, raised him and his brother as if they were their own sons. Carver and his wife gave them an education and Washington Carver was particularly interested in science and the arts.

In 1896, Washington Carver became a teacher at Tuskegee University where he taught for 47 years. During this time, he spent lots of his time helping Black farmers whose farmland had

become almost useless due to the cotton crops that had grown there. He taught them how to plant crops, such as peanuts and soya beans, that could help put nutrients back into the soil to help things grow better. Many farmers began planting, growing and harvesting peanut and sweet potato plants but they found them hard to sell. As a result of this, Washington Carver began to invent and develop many products using these crops. He invented more than 300 products from peanuts, including plastics, paints, oils, ink and soaps and 118 from sweet potatoes, including postage-stamp glue, flour, vinegar and synthetic rubber. He even invented plant-based petrol.

Name: **Josephine Garis Cochrane**

Most Famous Invention: Dishwasher

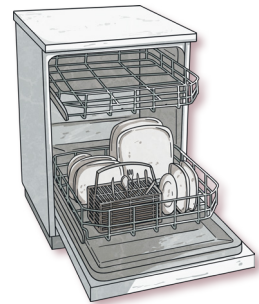


Born in Ohio, USA, on 8th March 1839, Josephine Garis Cochrane was the daughter of John Garis, an **engineer**, and Irene Fitch Garis. Josephine Garis Cochrane was born into a very creative family; her grandfather, John Fitch, had already invented a new type of steam-powered boat.

After getting married, Josephine Garis Cochrane and her husband William bought a house and began inviting their friends round for dinner. During one of their dinner parties, her **heirloom** dishes were chipped while being washed; this prompted her to start to think of a safer way of washing her valuable dishes. She also wanted to find a quicker and less tiring way of cleaning up after dinner parties.

Garis Cochrane worked in her tool shed with George Butters, a **mechanic**. Together, they created a hand-powered dishwasher within which the dishes were held safely in a rack while a hose of hot, soapy water sprayed and cleaned them.

Garis Cochrane was determined to make her dishwasher successful and she showed her invention at a world gathering in 1893. She won the highest prize for her new creation and began to sell the Cochrane Dishwasher to hotels and restaurants across Illinois, USA. Soon, so many people wanted a Cochrane Dishwasher that she opened her own factory in 1897 and her invention became famous across the globe.



Glossary

abolished: Formally put an end to.

engineer: A person who designs or builds engines or machines.

heirloom: A valuable object which has belonged to a family for a long time.

mechanic: A skilled worker who fixes vehicles, engines and machines.

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Disclaimer: Sensitive and/or upsetting topics may emotionally impact your students due to past experiences. You should consider whether this content is appropriate and ensure adequate support is available for anyone affected.

Questions

1. Which of these sentences best defines the word mechanic? Tick one.

- ☐ A person who designs or builds engines or machines.
- ☐ A skilled worker who fixes vehicles, engines and machines.
- ☐ A person who comes up with new methods, ideas or products.
- ☐ A valuable object which has belonged to a family for a long time.

2. Draw **three** lines to match the inventor to their invention.

George Washington Carver

dishwasher

Josephine Garis Cochrane

steam-powered boat

John Fitch

plant-based petrol

3. How long did George Washington Carver teach at Tuskegee University?

4. List **two** items that George Washinton Carver made from peanuts.

- ---
- ---

5. Josephine Garis Cochrane's dishes were described as heirlooms. Briefly explain what is meant by this.

6. Explain how George Butters helped Josephine Garis Cochrane to become successful.

7. Which of these inventions do you think has had the biggest global impact?
Explain your answer.

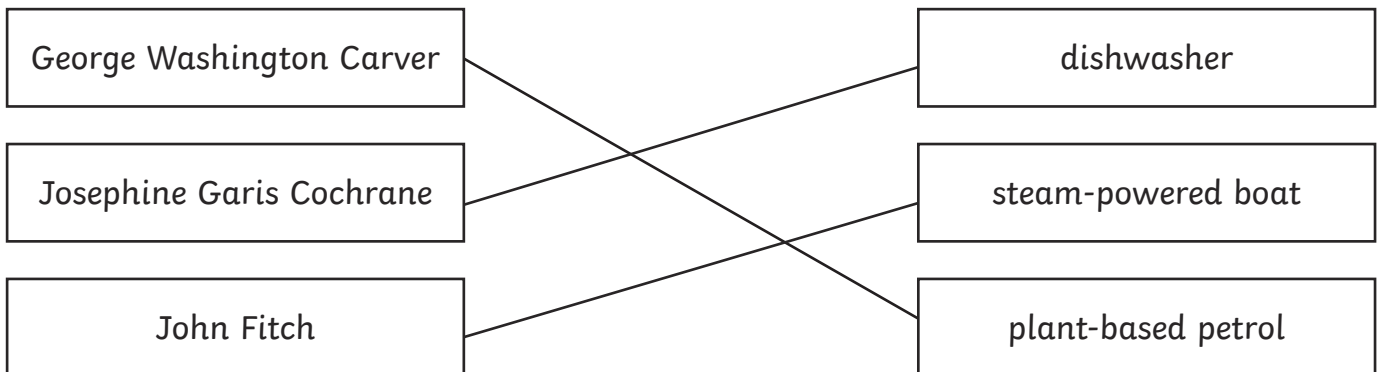
8. Explain your own idea for a new invention in 30 words or fewer.

Answers

1. Which of these sentences best defines the word mechanic? Tick one.

- ☐ A person who designs or builds engines or machines.
- ☒ **A skilled worker who fixes vehicles, engines and machines.**
- ☐ A person who comes up with new methods, ideas or products.
- ☐ A valuable object which has belonged to a family for a long time.

2. Draw **three** lines to match the inventor to their invention.



3. How long did George Washington Carver teach at Tuskegee University?

George Washington Carver taught at Tuskegee University for 47 years.

4. List **two** items that George Washinton Carver made from peanuts.

Accept any two of the following: plastics, paints, oils, ink and soaps.

5. Josephine Garis Cochrane's dishes were described as heirlooms. Briefly explain what is meant by this.

An heirloom is a valuable object which has belonged to a family for a long time.

6. Explain how George Butters helped Josephine Garis Cochrane to become successful.

Pupils' own responses, such as: George Butters helped Josephine Garis Cochrane to become successful because, as a mechanic, he helped her to build the first dishwasher.

7. Which of these inventions do you think has had the biggest global impact?

Explain your answer.

Pupils' own responses, such as: I think that the telephone has had the biggest global impact because dishes can still be cleaned without a dishwasher but people cannot talk to people on the other side of the world without a telephone.

8. Explain your own idea for a new invention in 30 words or fewer.

Pupils' own responses, such as: My idea is to invent a machine that can tell if your toast is cooked perfectly and turns off the toaster before the toast burns.