

Edward Jenner

Edward Jenner was a famous scientist from the 18th century. His ground-breaking work led to modern vaccinations and has saved millions of lives.

Early Life

- He was born in Berkeley, Gloucestershire 1749.
- His father died when he was 5.
- He loved science and nature.
- When he was 21, he went to London to become a doctor.



Smallpox

When he finished training, Edward returned to Berkeley and became the local doctor. The most common and serious disease at this time was smallpox, which had killed over 2000 people in London at the time.

Edward wanted to find a cure. One day, he spoke to a dairymaid who told him that she wasn't worried about smallpox because she had already had a disease called **cowpox**. This got Edward thinking. It appeared that people who had had cowpox would not be able to get ill with the much more dangerous smallpox.

Cowpox was a disease passed from cows to people that was common among dairymaids and wasn't a serious illness.

Inoculation

If we get a disease, our **immune system** fights it by creating **antibodies**. Then, if we get the same disease again, our bodies are already equipped to fight it - so we can fight it sooner.

Inoculation means deliberately giving someone a small dose of a disease, so they will have already created antibodies to fight against a stronger dose of the disease if they were to catch it.

Edward knew about inoculation, and wondered if giving people cowpox could help them cure smallpox.

antibodies -

a protein in the blood which recognises alien bacteria and fights against them.

immune system -

the way your body fights off illnesses and infections.

The Experiment

- In 1796, Edward deliberately gave a boy called James Phipps cowpox.
- Within a few days, James was ill, but recovered quickly.
- Eight weeks later, Edward gave James a mild dose of smallpox.
- James got a scab but he did not develop full-blown smallpox.

Just as he predicted, Edward discovered that the young boy had built up a resistance to smallpox because he had been given a small dose of the less dangerous cowpox. This was the first ever vaccine.

The Vaccine

Edward tried the vaccine on other children and even on his own son. They were all fine too!

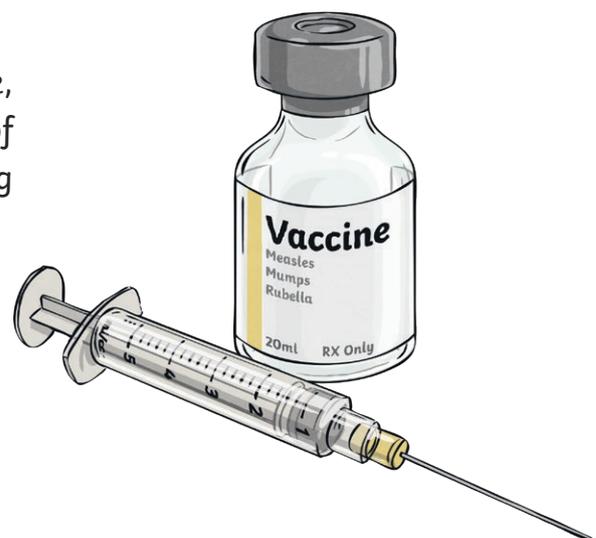
Edward wrote a book about his vaccination and soon it was used in hospitals in London. When doctors in other countries heard about his success, they wanted the vaccine to help sick people where they lived. Edward sent them a sample of his vaccine to use.

Even though it took many years for smallpox to be wiped out, doctors were able to vaccinate people worldwide.

His Legacy

Edward became very rich and famous but he stayed in Berkeley. He made sure that he looked after the people who lived there and gave them free vaccinations. He died in 1823 and was respected across the world for his discoveries.

Because of Edward's amazing work, we now have vaccinations for lots of dangerous illnesses and diseases including flu, measles, rubella and malaria.



Questions

1. Where was Edward Jenner born? Tick **one**.

- London
- Berkeley
- Century
- France

2. Where did he train to be a doctor?

3. How many people had smallpox killed in London? Tick **one**.

- over 200
- almost 200
- almost 2000
- over 2000

4. Who gave Edward the idea of using cowpox to help cure smallpox? Tick **one**.

- James Phipps
- another doctor
- a dairymaid
- his mother

5. Tick the boxes to say whether the sentences are **true** or **false**.

Sentence	True	False
Our immune system creates antibodies.		
Inoculation means giving someone a large dose of a disease.		
Antibodies are found in blood.		
James Phipps died from smallpox.		

6. What did Edward write a book about?

7. Do you think Edward Jenner was a kind man? Use evidence from the text to support your answer.

Answers

1. Where was Edward Jenner born? Tick **one**.

- London
- Berkeley**
- Century
- France

2. Where did he train to be a doctor?

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Sentence	True	False
Our immune system creates antibodies.	✓	
Inoculation means giving someone a large dose of a disease.		✓
Antibodies are found in blood.	✓	
James Phipps died from smallpox.		✓

6. What did Edward write a book about?

Edward wrote a book about his vaccination.

7. Do you think Edward Jenner was a kind man? Use evidence from the text to support your answer.

Pupil's own response, such as: 'I think Edward Jenner was a kind man because he shared his vaccine with people all around the world and gave free vaccinations to the people in his home town to help them.'

Edward Jenner

Edward Jenner was a famous scientist from the 18th century. His ground-breaking work led to modern vaccinations and has saved millions of lives.

Early Life

Edward Jenner was born in Berkeley, Gloucestershire in 1749. He was looked after by his mother and his brothers and sisters because his father had died when he was 5 years old.

Edward loved science and nature and knew he wanted to be a doctor. When he was 21, he went to London to train in medicine.



Smallpox

Once he was qualified, Edward returned to Berkeley and became the local doctor. The most common and serious disease at this time was smallpox, which had killed over 2000 people in London at the time. Edward was keen to find a cure. One day, he spoke to a dairymaid

who told him that she wasn't worried about smallpox because she had already had a disease called **cowpox**. This got Edward thinking. It appeared that people who had had cowpox would not be able to contract smallpox.

Cowpox was a disease passed from cows to people that was common among dairymaids and wasn't a serious illness.

Inoculation

If we get a disease, our **immune system** fights it by creating **antibodies**. Then, if we get the same disease again, our bodies are already equipped to fight it - so we can fight it sooner.

Inoculation means deliberately giving someone a small dose of a disease, so they will have already created antibodies to fight against a stronger dose of the disease if they were to catch it.

Edward knew about inoculation, and wondered if giving people cowpox could help them cure smallpox.

antibodies -

a protein in the blood which recognises alien bacteria and fights against them.

immune system -

the way your body fights off illnesses and infections.

The Experiment

In 1796, Edward deliberately gave a boy called James Phipps cowpox. Within a few days, James was ill, but recovered quickly.

Eight weeks later, Edward gave James a mild dose of smallpox. James got a scab but he did not develop full-blown smallpox.

Just as he predicted, Edward discovered that the young boy had built up a resistance to smallpox because he been given a small dose of the less dangerous cowpox.

The Vaccine

Edward tried the vaccine on other children and even on his own son. They were all fine too!

At first, people laughed at him. However, Edward was determined to prove them all wrong. He wrote a book about his vaccination and soon it was used in hospitals in London.

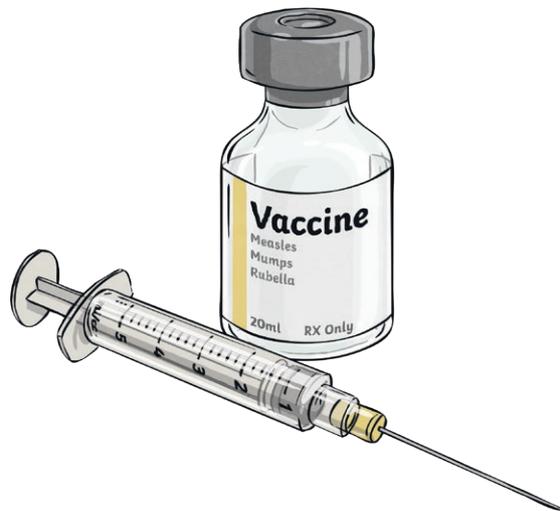
When doctors in other countries heard about his success, they wanted the vaccine to help sick people where they lived. Edward sent them a sample of his vaccine to use.

Even though smallpox did not die out for many years, doctors were able to vaccinate people worldwide and eventually smallpox was wiped out.

His Legacy

Edward became very rich and famous but he stayed in Berkeley. He made sure that he looked after the people who lived there and gave them free vaccinations. He died in 1823 and was respected across the world for his discoveries.

Because of Edward Jenner's amazing work, we now have vaccinations for lots of dangerous illnesses and diseases including flu, measles, rubella and malaria.



Questions

1. What happened when Edward was 5? Tick **one**.

- His brother was born.
- His father died.
- He went to London.
- He wanted to be a doctor.

2. **It appeared that people who had had cowpox would not be able to contract smallpox.**
In this sentence, the word **contract** is closest in meaning to: Tick **one**.

- agree
- catch
- large
- survive

3. What are antibodies?

4. Use the information in the text to order the statements.
The first one has been done for you.

- James got a scab, but not full-blown smallpox.
- Edward gave James Phipps cowpox.
- 1 Edward Jenner spoke to a dairymaid.
- Edward gave James Phipps smallpox.
- James was ill.

5. What is cowpox?

6. How did people react to Edward Jenner's discovery? Tick **one**.

- they laughed at him
- they praised him
- they bought the vaccine from him
- they didn't care

7. Why do you think Edward Jenner used the vaccine on his own son?

8. Why do you think his work is described as 'ground-breaking'?
Use evidence from the text to support your answer.

Answers

1. What happened when Edward was 5? Tick **one**.

- His brother was born.
- His father died.**
- He went to London.
- He wanted to be a doctor.

2. **It appeared that people who had had cowpox would not be able to contract smallpox.**

In this sentence, the word **contract** is closest in meaning to: Tick **one**.

- agree
- catch**
- large
- survive

3. What are antibodies?

Antibodies are proteins in the blood which fight against diseases.

4. Use the information in the text to order the statements.

The first one has been done for you.

- 5** James got a scab, but not full-blown smallpox.
- 2** Edward gave James Phipps cowpox.
- 1** Edward Jenner spoke to a dairymaid.
- 4** Edward gave James Phipps smallpox.
- 3** James was ill.

5. What is cowpox?

Cowpox was a disease passed from cows to humans that wasn't serious.

6. How did people react to Edward Jenner's discovery? Tick **one**.

- they laughed at him**
- they praised him
- they bought the vaccine from him
- they didn't care

7. Why do you think Edward Jenner used the vaccine on his own son?

Pupil's own response, such as: 'I think Edward Jenner used the vaccine on his own son because he was confident that it worked and wanted to protect him against smallpox. Also it would prove to the world how confident he was about it – as he was willing to use it on his son.'

8. Why do you think his work is described as 'ground-breaking'?

Use evidence from the text to support your answer.

Pupil's own response such as: 'I think the work 'ground-breaking' is used because this means something that is a big change, and Edward Jenner's work was very new and changed the way people used medicine to protect themselves from diseases. Also, it saved many lives and has led to vaccines being created for other diseases, like the flu, measles rubella and malaria.'

Edward Jenner

Edward Jenner was a famous scientist from the 18th century. His ground-breaking work led to the invention of modern vaccinations and as such, has saved millions of lives.



Early Life

Edward Jenner was born in Berkeley, Gloucestershire in 1749. He was looked after by his mother and his brothers and sisters since his father had died when he was 5 years old.

As a child, Edward loved science and nature, and knew he wanted to be a doctor. When he was 15, he went to work for a country surgeon and in 1770, when Edward was aged 21, he went to London to train as a doctor.

Smallpox

Once he was qualified, Edward returned to Berkeley and became the local doctor. The most common and serious disease at this time was smallpox, which had killed over 2,000 people in London at the time. People who contracted smallpox got little spots on their skin, which were filled with pus. Survivors were left with scars from the spots and some people even went blind.

Cowpox was a disease passed from cows to people that was common among dairymaids and wasn't a serious illness.

It was a very worrying illness in the 18th century, and Edward was keen to find a cure. One day, he spoke to a dairymaid who told him that she wasn't worried about smallpox because she had already had a disease called **cowpox**. This got Edward thinking. It appeared that people who had had cowpox would not be able to contract smallpox.

Inoculation

If we get a disease, our **immune system** fights it by creating **antibodies**. Then, if we get the same disease again, our bodies are already equipped to fight it - so we can fight it sooner.

Inoculation means deliberately giving someone a small dose of a disease, so they will have already created antibodies to fight against a stronger dose of the disease if they were to catch it.

Edward knew about inoculation, and wondered if giving people cowpox could help them cure smallpox.

antibodies - a protein in the blood which recognises alien bacteria and fights against them.

immune system - the way your body fights off illnesses and infections.

The Experiment

In 1796, Edward was treating a dairymaid when he decided to scrape some of the pus from the cowpox rash on her hand. He then scratched the same pus under the skin of an 8-year-old boy called James Phipps, deliberately giving him cowpox. This was the first ever vaccination. Within a few days, James was ill with cowpox, but recovered quickly.

Eight weeks later, Edward gave James a mild dose of smallpox. James got a scab but he did not develop full-blown smallpox.

Just as he predicted, Edward discovered that the young boy had built up a resistance to smallpox because he been given a small dose of the less dangerous cowpox.

The Vaccine

Edward tried the vaccine on other children and even on his own son. They were all fine too!

At first, people laughed at him- they thought injecting someone with material from a diseased animal was disgusting. However, Edward was determined to prove them all wrong. He wrote a book about his vaccination and soon it was used in hospitals in London.

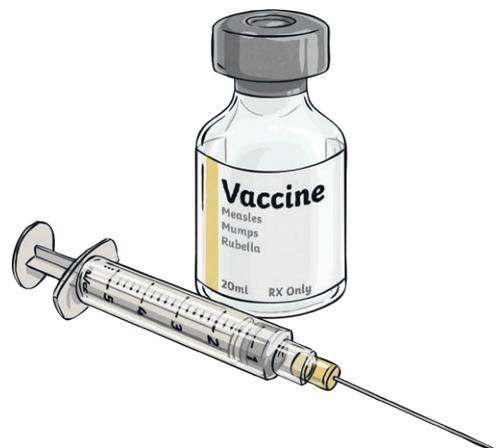
When doctors in other countries heard about his success, they wanted the vaccine to help sick people where they lived. Edward sent them a sample of his vaccine to use.

Even though smallpox did not die out for many years, doctors were able to vaccinate people worldwide and eventually smallpox was eradicated (wiped out).

His Legacy

Edward became very rich and famous but he stayed in Berkeley. He made sure that he looked after the people who lived there and gave them free vaccinations. He died in 1823 and was respected across the world for his discoveries.

Because of Edward's amazing work, we now have vaccinations for lots of dangerous illnesses and diseases including flu, measles, rubella and malaria.



Questions

1. **When** and **where** was Edward Jenner born?

2. Which is closest in meaning to the word **common**? Tick **one**.

- grand
 frequent – happening a lot
 working with cows
 confusing

3. List **two** ways smallpox survivors might be affected.

4. Explain how inoculation works in your own words.

5. Who did Edward Jenner give the first vaccination to?

6. Tick the boxes to say whether the sentences are **true** or **false**.

Sentence	True	False
Edward Jenner tested the vaccine on his son.		
Doctors from around the world paid for the vaccine from Edward Jenner.		
When he got rich, Edward Jenner moved away.		
At first, people thought his ideas were disgusting.		

7. Do you think Edward Jenner was a kind man? Use evidence from the text to support your answer.

8. Why do you think his work is described as 'ground-breaking'? Use evidence from the text to support your answer.

Answers

1. **When** and **where** was Edward Jenner born?

Edward Jenner was born in Berkeley in 1749.

2. Which is closest in meaning to the word **common**? Tick **one**.

- grand
- frequent – happening a lot**
- working with cows
- confusing

3. List **two** ways smallpox survivors might be affected.

They might go blind.

They might have scars.

4. Explain how inoculation works in your own words.

Pupil's own response, such as: 'Inoculation is when someone is given a mild dose of a disease so their body can create antibodies to help protect them against a related, but more serious disease.'

5. Who did Edward Jenner give the first vaccination to?

James Phipps

6. Tick the boxes to say whether the sentences are **true** or **false**.

Sentence	True	False
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At first, people thought his ideas were disgusting.	✓	

7. Do you think Edward Jenner was a kind man? Use evidence from the text to support your answer.

Pupil's own response, such as: 'I think Edward Jenner was a kind man because he shared his vaccine with people all around the world, and gave free vaccinations to the people in his home town to help them.'

8. Why do you think his work is described as 'ground-breaking'? Use evidence from the text to support your answer.

Pupil's own response such as: 'I think the word 'ground-breaking' is used because this means something that is a big change, and Edward Jenner's work was very new and changed the way people used medicine to protect themselves from diseases. Also, it saved many lives and has led to vaccines being created for other diseases, like the flu, measles rubella and malaria.'