

# British Science Week:

## Journeys

Despite its name, British Science Week is a ten-day long celebration of science, maths, **engineering** and technology. It is celebrated annually and was first held in 1994, when it was known as 'Britain's National Science Week'.

It is now one of the biggest national celebrations of science, with over one million people of all ages taking part in fun and engaging activities across the UK each year. Anyone can organise and take part in an event during British Science Week and lots of people do, including teachers, community groups, parents and business leaders.

The event was created by the British Science Association and money is provided by BEIS (The UK Department for Business, Energy, **Innovation** and Skills) to make sure that lots of people get to take part. It was created so that everybody across the country had a chance to become interested in science.



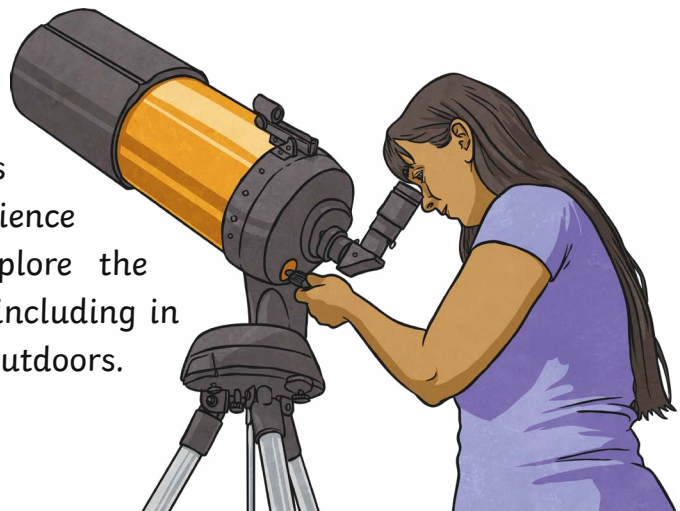
### Glossary

**Engineering** – The part of science which designs and builds engines, machines and buildings.

**Innovation** – Coming up with new products and ideas.

### Yearly Theme

The theme for this year's British Science Week is 'Journeys'. This theme was chosen so that it would make children think about scientific journeys in their everyday lives. Perhaps they could think about the journey food takes to get to them (or even the journey it takes through their body) or perhaps the way electricity travels to power items in their home and beyond. They could even think about journeys into outer space or the journeys of the planets. Journeys are all around us and the British Science Association want children to explore the science in the world around them, including in their home, school, local area and outdoors.



## Journey to the Ground

Going on a scientific journey of your own does not have to be difficult. Imagine you are walking through a park and you spy some sycamore seeds falling gracefully around you. Suddenly, you spy one that is falling much slower, and travelling further than the rest of the seeds. You follow it with your eyes and inspect it when it lands. It looks like an ordinary seed. What made this seed travel further than the rest? As a scientist, you must find out.

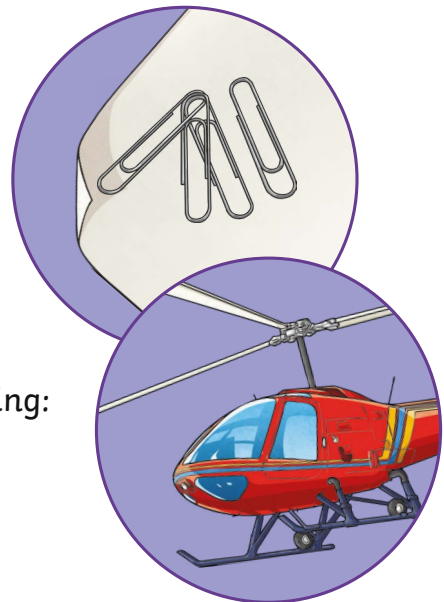
Sycamore seeds are designed to catch the wind as they fall and 'fly' far away from the tree in order to grow a new tree. The air pushes upwards against the 'wings' of the seed (and the arms of your helicopter) and pushes them in opposite directions, making the seed spin. This creates 'lift' which works against the force of gravity, and slows the seed down.

### What to do:

1. Cut out the helicopter template carefully using scissors.
2. Fold along the dotted lines as shown to make a 'T' shape.
3. Attach a paper clip to the bottom of the helicopter.
4. Hold your helicopter in the air and release.
5. Time how long it takes to spin to the ground.

### You will need:

- scissors
- helicopter template
- paper clips
- stopwatch



What could you change about your helicopter to make it fall more slowly? Think about the following:

- length, size or shape of the rotor blades;
- weight (i.e. the number of paper clips);
- the size of the helicopter.

Which one do you think will make the largest difference? Why?

# Questions

1. British Science Week is a celebration of science, maths engineering and...? Tick **one**.

- technology
- innovation
- energy
- skills

2. Match the question to the correct answer.

What was British Science Week originally called?

Who created British Science Week?

Who provides funding for British Science Week?

British Science Association

The Department for Business, Energy, Innovation and Skills

Britain's National Science Week

3. Give three examples of people who may choose to organise a British Science Week event.

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

4. When the 'wings' on your helicopter spin, what force is created?

\_\_\_\_\_

5. a) What is the theme for this year's British Science Week?

\_\_\_\_\_

b) Explain why this year's theme was chosen.

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\_\_\_\_\_

6. Why does the author begin the first paragraph with the phrase 'Despite its name'?

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7. Would you like to complete the **Journey to the Ground** experiment? Give a reason for your answer.

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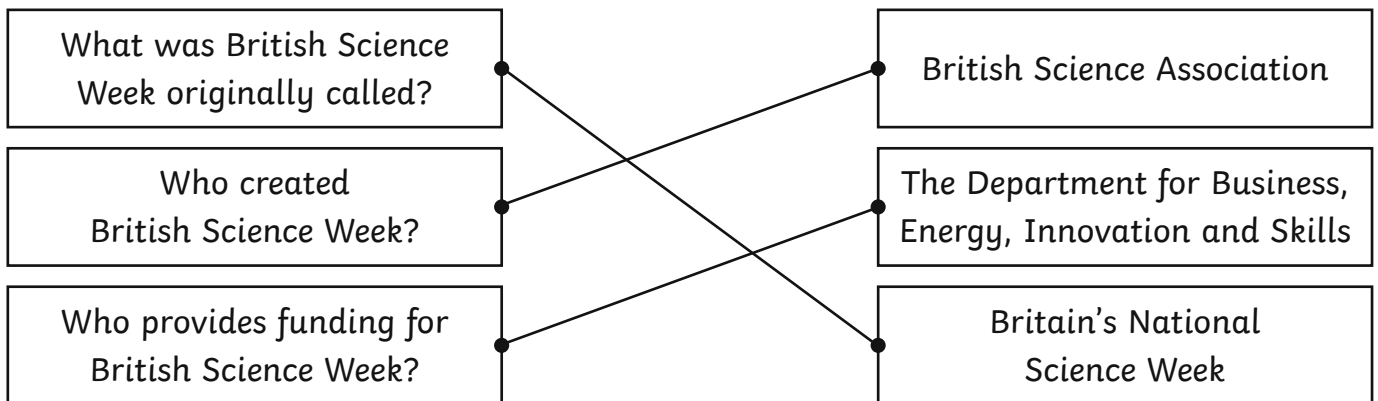
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# Answers

1. British Science Week is a celebration of science, maths engineering and...? Tick **one**.

- technology**
- innovation
- energy
- skills

2. Match the question to the correct answer.



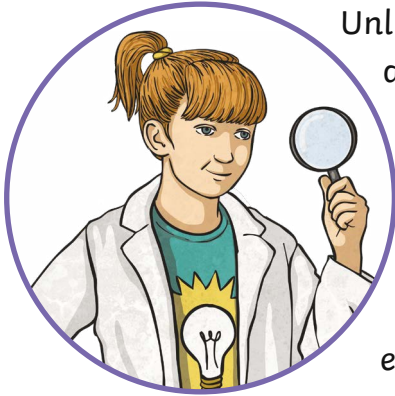
3. Give three examples of people who may choose to organise a British Science Week event.  
**Accept any three of the following answers, in any order: a teacher; a community group; a parent; a business leader.**
4. When the 'wings' on your helicopter spin, what force is created?  
**Accept the answer 'lift' only.**
5. a) What is the theme for this year's British Science Week?  
**Accept the answer 'Journeys' only.**
- b) Explain why this year's theme was chosen.  
**Accept any reasonable explanation as to why the theme was chosen which relates to at least one of the following points: to make children explore science in the world around them; to make children explore science in the home/at school/in their local area/outdoors; to give children a chance to think about the journeys in their day to day lives including food around the body and to get to them, electricity, planets and space travel.**
6. Why does the author begin the first paragraph with the phrase 'Despite its name'?  
**Accept answers which state that the name 'British Science Week' contains the word week; however, the celebration itself is not seven days long, it is ten. This means that despite being called 'week', the celebration is not a week long.**

7. Would you like to complete the **Journey to the Ground** experiment? Give a reason for your answer.

**Accept either 'yes' or 'no' provided that a reason is given in support of the chosen answer, such as: Yes, because it sounds like fun and I am interested learning more about plants and how they are suited to their environment; No, because I think it sounds boring as I am more interested in other aspects of science, such as space travel.**

# British Science Week:

## Journeys



Unlike what its name suggests, British Science Week is actually a ten-day long annual celebration of science, maths, engineering and technology. When it was first held in 1994, it was called 'Britain's National Science Week'. It has now become one of the biggest national science celebrations, with over one million people of all ages participating in enjoyable and engaging activities across the UK each year. Anyone can organise and take part in an event during British Science Week and many people, including teachers, community groups, parents and business leaders, organise science-based events for others to enjoy.

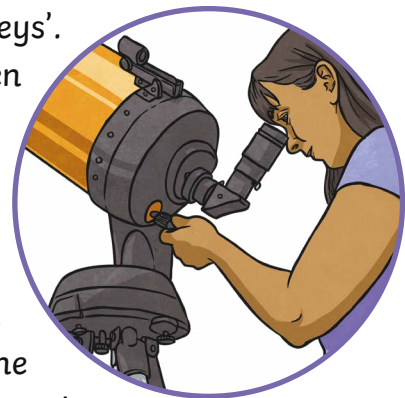
The event is led by the British Science Association, using money donated from the BEIS (the Department for Business, Energy, Innovation and Skills within the UK government). The money they provide helps participants with the costs of running Science Week activities in their local area. It is hoped that the events taking place across the country will spark an interest in science amongst young people, which may encourage them to pursue a scientific career.

### Annual Theme

The theme for this year's British Science Week is 'Journeys'.

This theme was chosen so that it would make children think about journeys in their everyday lives. Perhaps they could think about the journey food takes to get to them (or even the journey it takes through their body) or perhaps the way electricity travels to power items in their home and beyond. They could even think about journeys into outer space or the journeys of the planets. Journeys are all around us and

the British Science Association want children to explore the science in the world around them, including in their home, school, local area and outdoors.



### Famous British Scientists

These are some of the most famous British scientists in recent history and a brief summary of their contributions:

<b>Charles Darwin</b> created the scientific theory of evolution.	<b>Stephen Hawking</b> was a world-renowned physicist.	<b>Alexander Graham Bell</b> invented the telephone.	<b>Tim Berners-Lee</b> invented the World Wide Web.
<b>Rosalind Franklin</b> discovered the structure of DNA.	<b>John Logie Baird</b> invented the television.	<b>Dorothy Hodgkin</b> was a world-renowned chemist.	<b>Jocelyn Bell Burnell</b> discovered pulsars in outer space.

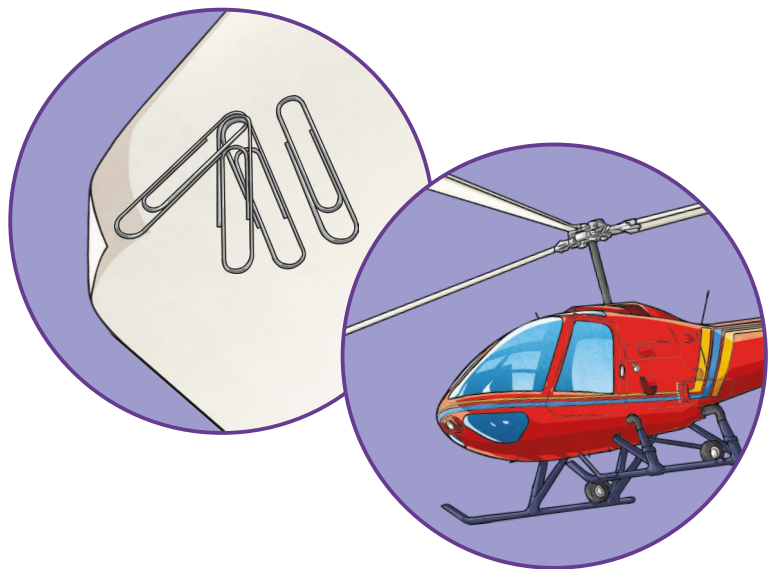
### Journey to the Ground

Going on a scientific journey of your own does not have to be difficult. Imagine you are walking through a park and you spy some sycamore seeds falling gracefully around you. Suddenly, you spy one that is falling much slower, and travelling further than the rest of the seeds. You follow it with your eyes and inspect it when it lands. It looks like an ordinary seed. What made this seed travel so much further than the rest? As a scientist, you must find out.

Sycamore seeds are designed to catch the wind as they fall and 'fly' far away from the tree in order to grow a new tree. The air pushes upwards against the 'wings' of the seed (and the arms of your helicopter) and pushes them in opposite directions, making the seed spin. This creates 'lift' which works against the force of gravity, and slows the seed down.

#### You will need:

- scissors
- helicopter template
- paper clips
- stopwatch





**What to do:**

1. Cut out the helicopter template carefully using scissors.
2. Fold along the dotted lines as shown to make a 'T' shape.
3. Attach a paper clip to the bottom of the helicopter.
4. Hold your helicopter in the air and release.
5. Time how long it takes to spin to the ground.

What could you change about your helicopter to make it fall more slowly?  
Think about the following:

- length, size or shape of the rotor blades;
- weight (i.e. the number of paper clips);
- the size of the helicopter.

Which one do you think will make the largest difference? Why?

# Questions

1. Which of these scientists invented the world wide web? Tick **one**.

- Dorothy Hodgkin
- Tim Berners-Lee
- Albert Einstein
- Rosalind Franklin

2. What do the letters BEIS stand for? Tick **one**.

- British Energy, Inclusion and Skills
- Business, Energy, Inventions and Science
- British Education, Innovation and Science
- Business, Energy, Innovation and Skills

3. **Find** and **copy** two adjectives from the first paragraph which describe the activities taking place during British Science Week.

1. \_\_\_\_\_

2. \_\_\_\_\_

4. 'It is hoped that the events taking place across the country will spark an interest in science amongst young people.'

Why do you think the author has chosen the word 'spark' here?

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5. Which two forces work on the sycamore seed during its flight?

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6. 'The air pushes upwards against the 'wings' of the seed (and the arms of your helicopter) and pushes them in opposite directions, making the seed spin.'  
Why do you think that the author chose to use brackets?

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7. Why is the money provided by BEIS important to British Science Week's success?

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8. How important do you think the funding from the BEIS is to British Science Week? Give reasons for your answer.

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9. Name a scientific discovery that you have experienced and explain how it affects your life.

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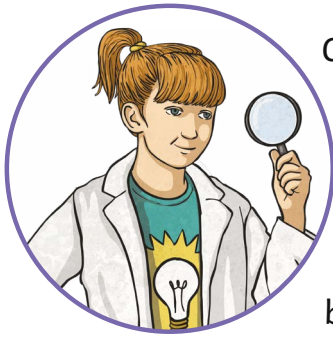
# Answers

- Which of these scientists invented the world wide web? Tick **one**.
  - Dorothy Hodgkin
  - Tim Berners-Lee**
  - Albert Einstein
  - Rosalind Franklin
- What do the letters BEIS stand for? Tick **one**.
  - British Energy, Inclusion and Skills
  - Business, Energy, Inventions and Science
  - British Education, Innovation and Science
  - Business, Energy, Innovation and Skills**
- Find** and **copy** two adjectives from the first paragraph which describe the activities taking place during British Science Week.  
**Accept any two of the following answers only, in any order: enjoyable; engaging; science-based.**
- 'It is hoped that the events taking place across the country will spark an interest in science amongst young people.'  
Why do you think the author has chosen the word 'spark' here?  
**Accept any reasonable answer that suggests a spark has been used as a synonym of 'create a strong interest or desire'.**
- Which two forces work on the sycamore seed during its flight?  
**Accept the answers 'lift' and 'gravity' only.**
- The air pushes upwards against the 'wings' of the seed (and the arms of your helicopter) and pushes them in opposite directions, making the seed spin.  
Why do you think that the author chose to use brackets?  
**Accept any answer which discusses the author's use of brackets as parentheses, to aid understanding of the sentence.**

7. Why is the money provided by BEIS important to British Science Week's success?  
**Accept any answer which discusses that the money provided by the BEIS helps with the running costs of British Science Week and helps to fund events taking place across the country. Without the money, people would not be able to host events and British Science Week would not be as popular.**
  
8. How important do you think the funding from the BEIS is to British Science Week? Give reasons for your answer.  
**Accept answers which discuss that the money provided by the BEIS helps with the running costs of British Science Week and helps to fund events taking place across the country. Without the money, many people may not have the opportunity to engage with science. It is important that young people get the chance to explore science around them and help us understand the world better.**
  
9. Name a scientific discovery that you have experienced and explain how it affects your life.  
**Accept any reasonable response, such as: I have experienced electricity. It affects my life because I have lights in my home and I can use the toaster to make my breakfast.**

# British Science Week:

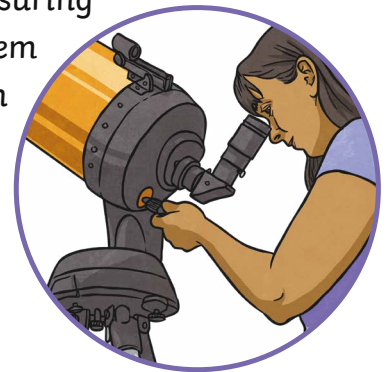
## Journeys



Contrary to what its name suggests, British Science Week is a ten-day long annual celebration of science, maths, engineering and technology, which was first held under the title of 'Britain's National Science Week' in 1994.

From its humble beginnings, British Science Week has now become one of the biggest national science celebrations, with over one million people of all ages taking part in enjoyable, challenging and engaging activities across the UK each year. Anyone can organise and take part in an event during British Science Week and many people, including teachers, community groups, parents and business leaders, take this opportunity to hold demonstrations and events for others to enjoy.

The event is co-ordinated by the British Science Association, using funding from the BEIS (the Department for Business, Energy, Innovation and Skills within the UK government). Funding is essential in ensuring that grants are available to participants to help them with the costs of running meaningful activities in their local area. By hosting a variety of events across the nation, it is hoped that an interest in science will be sparked amongst the next generation, which may encourage them to pursue a scientific career.



### Annual Theme

Each year, British Science Week creates a specific theme which spans across all of their educational resources. The theme for this year's British Science Week is 'Journeys'. This theme was chosen so that it would make children think about journeys in their everyday lives. Perhaps they could think about the journey food takes to get to them (or even the journey it takes through their body) or perhaps the way electricity travels to power items in their home and beyond. They could even think about journeys into outer space or the journeys of the planets.

Journeys are all around us and the British Science Association want children to explore the science in the world around them, including in their home, school, local area and outdoors.

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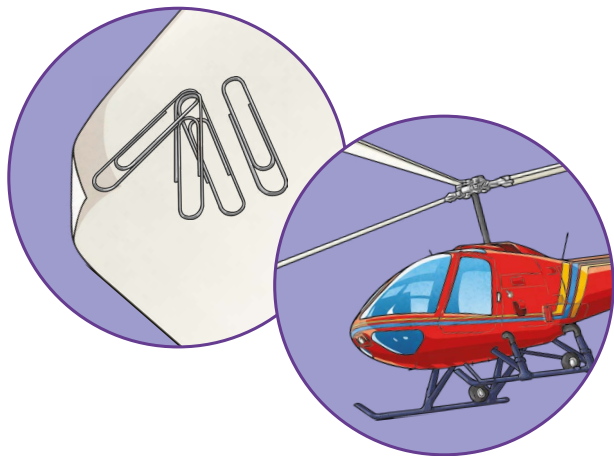
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What could you change about your helicopter to make it fall more slowly?  
Think about the following:

- length, size or shape of the rotor blades;
- weight (i.e. the number of paper clips);
- the size of the helicopter

Which one do you think will have the most impact? Why?



# Questions

1. Which of these British scientists studied the universe? Tick **one**.

- Tim Berners-Lee
- Alexander Graham Bell
- Jocelyn Bell Burnell
- Rosalind Franklin

2. Match the extract from the text to the subject it discusses.

'The theme for this year's British Science Week is 'Journeys'.'

Britain's previous success in the scientific field.

'These are some of the most famous British scientists in recent history and a brief summary of their contributions to the field.'

The origin of British Science Week.

'British Science Week is a ten-day long annual celebration of science, maths, engineering and technology, first held under the title of 'Britain's National Science Week' in 1994.'

What British Science Week will focus on in 2019.

3. Give two examples of journeys mentioned in the text.

- \_\_\_\_\_  
\_\_\_\_\_
- \_\_\_\_\_  
\_\_\_\_\_

4. **Find** and **copy** a word or phrase from the first paragraph which tells us that British Science week is celebrated every year.

\_\_\_\_\_

5. In the section entitled Journey to the Ground, what effect does the author's use of bold text have on the way the text is read?

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6. **Find** and **copy** a phrase from the section Famous British Scientists which means the same as 'famous'.

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7. Which of the three suggested changes would you make want to make to your helicopter to make it fall more slowly? Explain your choice.

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8. Why does the author begin the first paragraph with the phrase 'Contrary to what its name suggests'?

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9. Why might someone think that it would be difficult to make a new scientific discovery?

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10. Explain why funding from BEIS is essential to British Science Week's growth.

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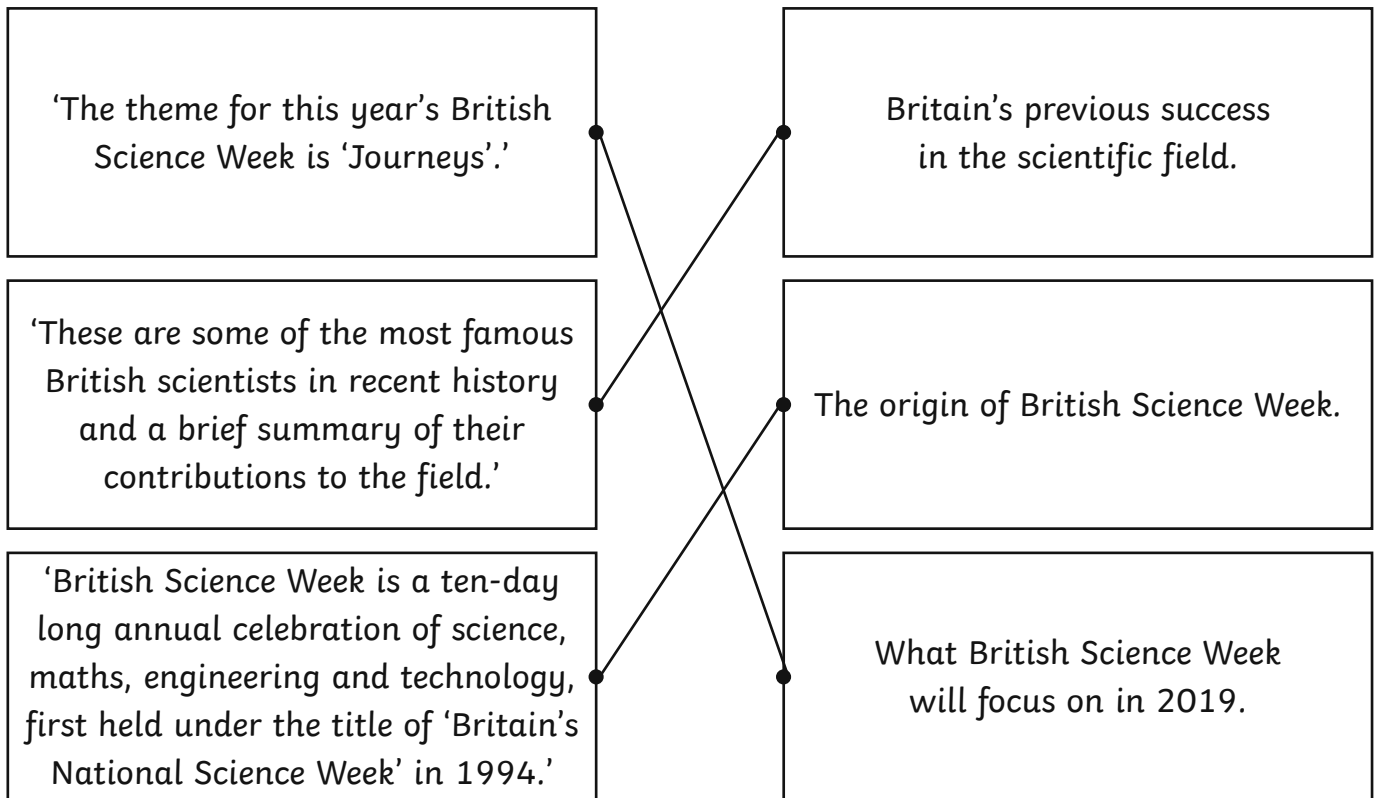
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# Answers

1. Which of these British scientists studied the universe? Tick **one**.

- Tim Berners-Lee
- Alexander Graham Bell
- Jocelyn Bell Burnell**
- Rosalind Franklin

2. Match the extract from the text to the subject it discusses.



3. Give two examples of journeys mentioned in the text.

**Accept any of the following, in any order:**

- **The journey of how food travels across the world, is made, or the journey it takes through the body once eaten.**
- **The journey electricity takes to power items.**
- **Journeys into space or the journeys of the planets.**
- **The journey of a sycamore seed travelling to the ground.**

4. Find and copy a word or phrase from the first paragraph which tells us that British Science week is celebrated every year.  
**Accept the word 'annual' or the phrase 'from its humble beginnings' only.**
5. In the section entitled Journey to the Ground, what effect does the author's use of bold text have on the way the text is read?  
**Accept any answer which discusses the author's use of bold text to emphasise the word choice or distance the seed travelled, in order to convey the scientist's curiosity.**
6. Find and copy a phrase from the section Famous British Scientists which means the same as 'famous'.  
**Accept the phrase 'world-renowned' only.**
7. Which of the three suggested changes would you make want to make to your helicopter to make it fall more slowly? Explain your choice.  
**Accept any choice from length, size, or shape of the blades, number of paperclips, or size of the helicopter, as long as reasons for their thinking are provided, such as: I would like to change the length of the wings on the helicopter as I believe the larger the wings, the more 'lift' would be created, so the helicopter would fall slower.**
8. Why does the author begin the first paragraph with the phrase 'Contrary to what its name suggests'?  
**Accept any answer which discusses that the money provided by the BEIS helps with the running costs of British Science Week and helps to fund events taking place across the country. Without the money, people would not be able to host events and British Science Week would not continue to grow in popularity.**
9. Why might someone think that it would be difficult to make a new scientific discovery?  
**Accept answers which state that the name 'British Science Week' contains the word week; however, the celebration itself is not seven days long, it is ten. This means that contrary to its name containing the word 'week', the celebration is not actually a week long.**
10. Explain why funding from BEIS is essential to British Science Week's growth.  
**Accept any reasonable answer which discusses the fact that all of our knowledge has been achieved through scientific discovery. There is very little that we do not yet know about or are aware that we do not know about. Due to this, someone may think it unlikely that they would be able to make a new discovery which is not already known about.**