

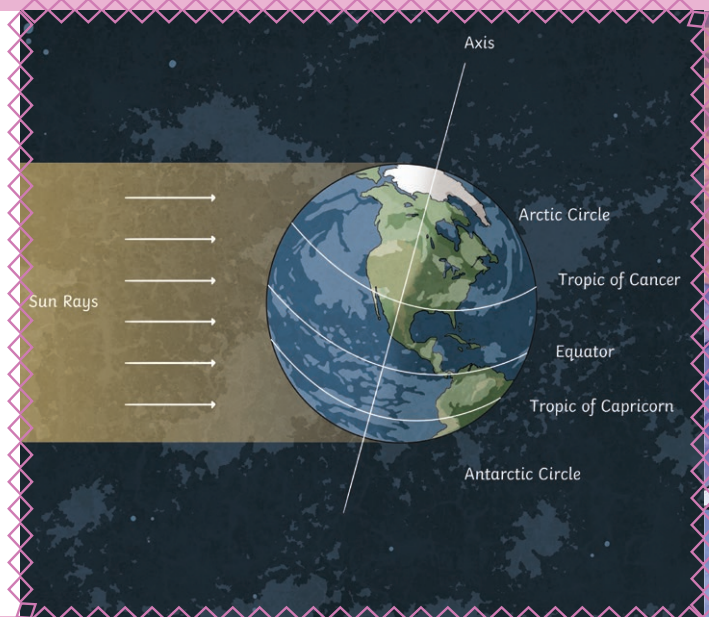
Winter Solstice

The winter solstice happens around the 21st of December every year in the top half of the Earth which is called the northern hemisphere. Hemisphere means half a sphere. The winter solstice is the day when there is the shortest amount of daylight and the longest amount of night.

What Is a Solstice?

A solstice only happens because the Earth is tilted over. This means that as the Earth travels around the Sun, sometimes the northern hemisphere is tilted towards the Sun and gets more light and heat, making it summertime. When the northern hemisphere is tilted away from the Sun, it is darker and colder, making it wintertime.

The summer solstice is the point when there is the most sunlight and the winter solstice is the point of least sunlight.



Solstice Facts:

- At the North Pole, there is no daytime at all during midwinter.
- If the Earth didn't tilt, we wouldn't have seasons.
- Australia is in the bottom half of the world so their winter is in June.

How Do People Celebrate?

Humans have celebrated the winter solstice for most of history. Since the winter solstice marks the longest night before days begin to get longer again, it was an event worth celebrating.

The winter solstice is also known as 'midwinter' or 'Yule'. As part of many historic celebrations, a huge log was burnt in a fire that lasted the twelve days of Christmas. This log was called a Yule log which inspired the chocolate cake dessert eaten today.

Many of the foods we eat today at Christmastime were also eaten long ago, such as meats, dried fruits, cheeses and pickles.

Questions

1. What 3D shape is the Earth?

2. Draw **three** lines to complete each sentence.

Solstices happen
because ...

• is also called 'midwinter'.

The winter solstice ...

• the Earth is tilted.

Humans have celebrated
the winter solstice ...

• for most of history.

3. Tick 'true' or 'false' for each statement.

True **False**

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The northern hemisphere is tilted towards the Sun in summer, making it warmer.

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The northern hemisphere is colder and tilted away from the Sun during winter.

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Winter is at the same time in Britain and Australia.

4. How much sunlight is there at the North Pole during the winter solstice?

5. What season is it in Australia when it is summer in the UK? Can you explain why?

6. Explain the **two** different types of 'Yule logs'.

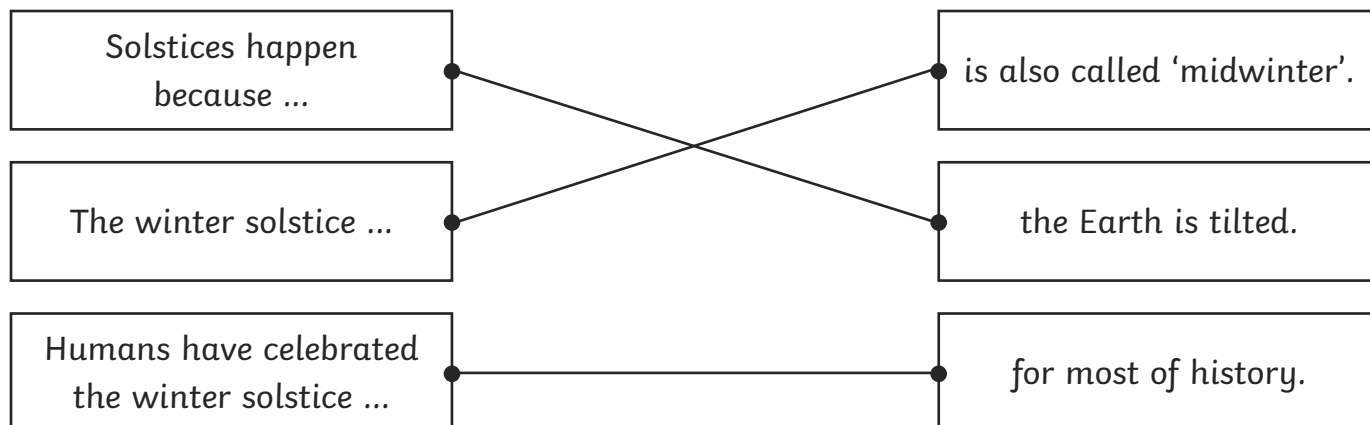
7. Name **two** foods that have been eaten at Christmas or midwinter for a long time.

Answers

1. What 3D shape is the Earth?

The Earth is a sphere.

2. Draw **three** lines to complete each sentence.



3. Tick 'true' or 'false' for each statement.

True False



The northern hemisphere is tilted towards the Sun in summer, making it warmer.



The northern hemisphere is colder and tilted away from the Sun during winter.



Winter is at the same time in Britain and Australia.

4. How much sunlight is there at the North Pole during the winter solstice?

There is no sunlight.

5. What season is it in Australia when it is summer in the UK? Can you explain why?

Pupils' own responses, such as: When it is summer in the UK, it is winter in Australia. This is because as one hemisphere is tilted towards the Sun, the other hemisphere is tilted away from the Sun.

6. Explain the **two** different types of 'Yule logs'.

Pupils' own responses, such as: One Yule log is made of cake and chocolate and is eaten; the second type of Yule log is an extra large log for the fire which burns for the twelve days of Christmas.

7. Name **two** foods that have been eaten at Christmas or midwinter for a long time.

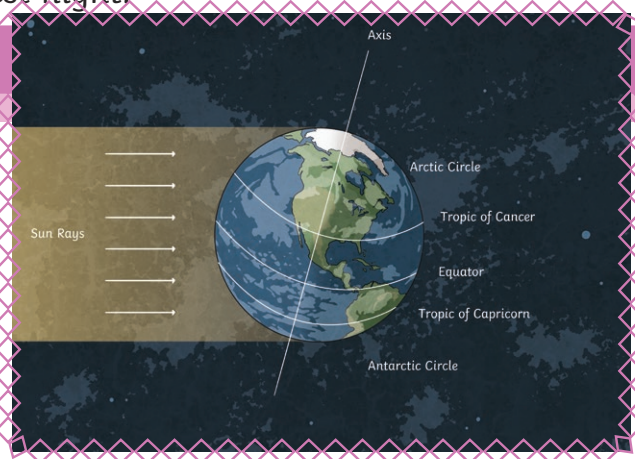
Accept any two from: Meats, dried fruits, cheeses, pickles and Yule logs.

Winter Solstice

The winter solstice takes place around the 21st of December every year in the top half of the Earth which is called the northern hemisphere.. It is the day when there is the shortest amount of daylight and the longest night.

What Is a Solstice?

A solstice only happens because the Earth is tilted at an angle. This means that as the Earth orbits the Sun, sometimes the northern hemisphere is tilted towards the Sun, getting more light and heat and sometimes it is tilted away from the Sun, making it darker and colder.



When the northern hemisphere is tilted towards the Sun, it is summer. When it is tilted away, it is winter. A solstice is when either summer or winter reaches its peak. The summer solstice is the point when there is the most light and the winter solstice is the point of least light.

How Do People Celebrate?

Solstice Facts:

- Some countries near the North Pole have no daytime at all during midwinter.
- If the Earth didn't tilt, we would have no seasons at all.
- Have you worked out that the winter solstice in Australia happens in June when Europe is having its summer solstice?

For most of history, people have celebrated the winter solstice. People had to keep track of the seasons, especially in the winter when stored food had to last until the following spring. Many cultures celebrated the winter solstice because it is the longest night before the days begin to get longer again.

The winter solstice is also known as 'midwinter', 'Yuletide' or 'Yule'. In historic celebrations, a large log called a Yule log was burnt in a fire that lasted the twelve days of Christmas. The Yule logs made of cake and chocolate eaten today were inspired by this tradition.

Celebrations often include lights to brighten up the dark months as well as singing, dancing and, of course, good food. Traditional midwinter foods would have been saved from the summer and autumn harvests, such as meats, dried fruits, cheeses and pickles – you might still see similar food today during Christmas celebrations.

Questions

1. What is the name of the top half of the Earth?

2. A solstice can only happen because of what?

3. How much sunlight is there at the North Pole during the winter solstice?

4. Draw **three** lines to complete each sentence.

People had to track ...

is celebrated around the
21st December.

Traditional midwinter
foods were saved ...

from the summer and
autumn harvests.

The winter solstice ...

the changing seasons.

5. Explain the two different types of 'Yule logs'.

6. Tick 'true' or 'false' for each statement.

True False

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The northern hemisphere is tilted towards the Sun in summer.

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There are four solstices per year.

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The winter solstice happens all over the world at the same time.

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The northern hemisphere is tilted away from the Sun during winter.

7. Which of these words is closest in meaning to the word 'reaches its peak'? Tick one.

- ☐ goes down a mountain
- ☐ gets to the top
- ☐ travels in an orbit

8. Describe what someone in Australia might be wearing on 21st December. Explain how you know.

Answers

1. What is the name of the top half of the Earth?

The top half of the Earth is called the northern hemisphere.

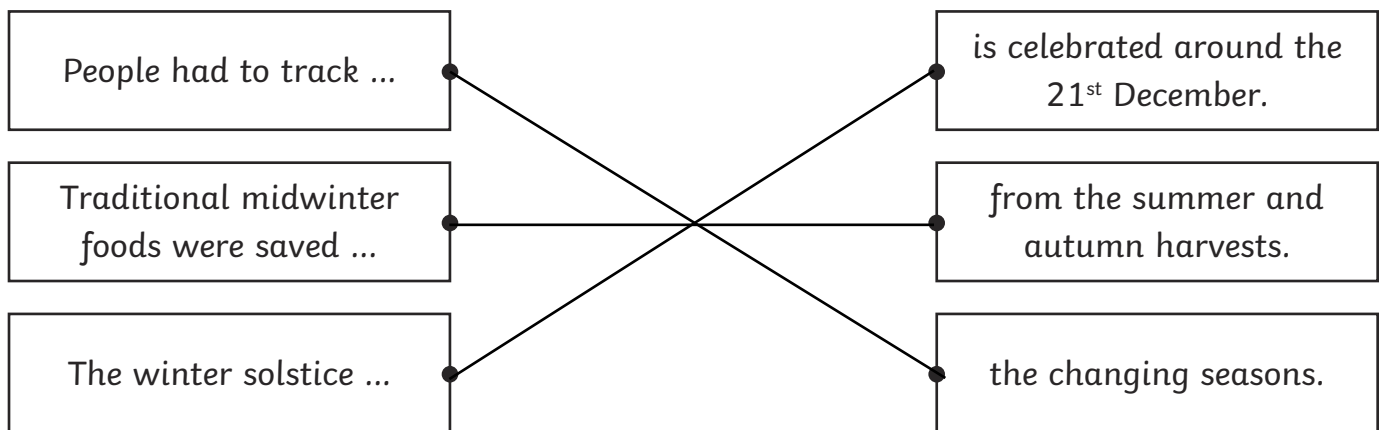
2. A solstice can only happen because of what?

A solstice can only happen because the Earth is tilted (and it orbits the Sun).

3. How much sunlight is there at the North Pole during the winter solstice?

There is no sunlight at the North Pole during the winter solstice.

4. Draw **three** lines to complete each sentence.



5. Explain the two different types of 'Yule logs'.

One Yule log is made of cake and chocolate and is eaten; the second type of Yule log is an extra large log for the fire which burns for the twelve days of Christmas.

6. Tick 'true' or 'false' for each statement.

True False

- | | | |
|-------------------------------------|-------------------------------------|--|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | The northern hemisphere is tilted towards the Sun in summer. |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | There are four solstices per year. |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | The winter solstice happens all over the world at the same time. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | The northern hemisphere is tilted away from the Sun during winter. |

7. Which of these words is closest in meaning to the word 'reaches its peak'? Tick one.

- ☐ goes down a mountain
- ☒ **gets to the top**
- ☐ travels in an orbit

8. Describe what someone in Australia might be wearing on 21st December.

Explain how you know.

Pupils' own responses, such as: On 21st December, someone in Australia might be wearing summer clothes like shorts, t-shirts or swimming costumes. I know this because the text says that summer and winter are opposite in the UK and Australia.

Winter Solstice

The winter solstice occurs annually between 20th and 23rd December in the northern hemisphere. It is the day when there is the shortest amount of daylight.

What Is a Solstice?

The word 'solstice' comes from Latin and means 'Sun stands still'. This is because the Sun appears to stand still in the sky during the solstice.

A solstice, just like the seasons of the year, only happens because the Earth is tilted on its axis at an angle of 23.5°. This means that as the Earth orbits the Sun, sometimes the North Pole is tilted towards the Sun, getting more light and heat and sometimes the North Pole is tilted away from the Sun, making it darker and colder.

When the northern hemisphere is tilted towards the Sun, it is summer. When it is tilted away, it is our winter. A solstice signifies the peaks in this orbit; the summer solstice is the point of most light and the winter solstice is the point of least light before the days begin to get longer again.



Solstice Facts:

- Some countries near the North Pole experience 24-hour darkness during midwinter.
- Have you worked out that the winter solstice in the southern hemisphere would be around the 21st of June when the northern hemisphere is having its summer solstice?

How Do People Celebrate?

For thousands of years, people have celebrated the winter solstice. In ancient times, it was very important to keep track of the days and seasons, especially in the winter when stored food had to last until the following spring. People celebrated the winter solstice because it meant that the light was returning and the days were once again getting longer.

Celebrations in Europe have names such as 'midwinter', 'Yuletide' or 'Yule'. In historic celebrations, a huge log called a Yule log was burnt in a fire that lasted the twelve days of Christmas. The popular Yule log cake eaten today was inspired by this ancient tradition.

Celebrations often include lights to brighten up the dark months as well as singing, dancing and, of course, good food. Traditional midwinter foods would be those that had been preserved and saved at harvest time such as meats, dried fruits, cheeses and pickles. These foods are still familiar in modern times during Christmas celebrations.

Many winter solstice celebrations revolve around the Sun and include themes of light returning, light winning over darkness or good conquering evil.



Questions

1. What is the reason that we have seasons on Earth?

2. How much light does the North Pole get during the winter solstice?

3. Summarise what you have learnt about winter solstice celebrations in 25 words or fewer.

4. Explain the two different types of 'Yule logs'.

5. Tick 'true' or 'false' for each statement.

True False

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The northern hemisphere is tilted towards the Sun in summer.

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The winter solstice is when there is the most light from the Sun.

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The northern hemisphere is tilted away from the Sun during winter.

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In midwinter, it is very sunny at the North Pole.

6. Traditional midwinter foods were often summer or autumn foods that were dried and pickled. Why do you think they had to be dried or pickled?

7. Which of these words is closest in meaning to the word 'signifies'? Tick one.

- ☐ hides
- ☐ copies
- ☐ marks
- ☐ moves

8. Compare what a person in the UK and a person in Australia might be wearing on 21st December. Explain the scientific reasons for your answer.

Answers

1. What is the reason that we have seasons on Earth?

We have seasons on Earth because the Earth is tilted at an angle (of 23.5° on its axis).

2. How much light does the North Pole get during the winter solstice?

The North Pole gets no light at all during the winter solstice.

3. Summarise what you have learnt about winter solstice celebrations in 25 words or fewer.

Pupils' own responses, such as: People celebrate the winter solstice because the days start getting longer afterwards. They eat traditional foods and celebrate with lights, singing and dancing.

4. Explain the two different types of 'Yule logs'.

One Yule log is made of cake and chocolate and is eaten; the second type of Yule log is an extra large log for the fire which burns for the twelve days of Christmas.

5. Tick 'true' or 'false' for each statement.

True False

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The northern hemisphere is tilted towards the Sun in summer.

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The winter solstice is when there is the most light from the Sun.

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The northern hemisphere is tilted away from the Sun during winter.

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In midwinter, it is very sunny at the North Pole.

6. Traditional midwinter foods were often summer or autumn foods that were dried and pickled. Why do you think they had to be dried or pickled?

Pupils' own responses, such as: The food harvested in summer or autumn would have rotted before winter so people had to preserve the food by pickling it or drying it.

7. Which of these words is closest in meaning to the word 'signifies'? Tick one.

- ☐ hides
☐ copies
☒ **marks**
☐ moves

8. Compare what a person in the UK and a person in Australia might be wearing on 21st December. Explain the scientific reasons for your answer.

Pupils' own responses, such as: On 21st December, someone in the UK might be wearing warm layers of clothes with a coat, hat and gloves and someone in Australia might be wearing summer clothes such as shorts, a t-shirt or a swimming costume. This is because on 21st December, Australia is tilted towards the Sun, making it warmer and the UK is tilted away from the Sun, making it colder.