

## NASA spacecraft flies closest ever to the Sun

26th December 2024



Things are heating up for the USA's National Aeronautical Space Administration (NASA). One of the agency's missions is to study the Sun. In 2018, NASA sent a small research probe to photograph our nearest star. The

spacecraft is called the Parker Solar Probe. It made history on Christmas Eve by going closer to the Sun than any spacecraft has ever gone before. Parker flew to within 6.1 million kilometers of the Sun. This is very close. Parker also holds another record. It is the fastest object ever built by humans. In September 2023, it flew at a speed of 635,266 kph. At this speed, the probe could travel the 10,846 km from New York to Tokyo in just 1.025 minutes.

The Parker Solar Probe is named after the astrophysicist Dr Eugene Parker. He spent most of his life studying the Sun and its solar flares. He wanted to know why the flares, which shoot off from the Sun's surface, are hotter than the surface. This is known as the "coronal heating problem". It is a long-standing mystery for scientists. The temperature at the Sun's surface is around 4,100°C; while the temperature of the corona's flares can reach 1.1 million degrees Celsius. Scientists also hope to find out how solar winds originate. NASA said Parker (the probe) has faced extreme heat on its record-breaking fly-by. Temperatures reached a scorching 980 degrees Celsius.

Sources: [space.com](https://space.com) / [cnn.com](https://cnn.com) / [phys.org](https://phys.org)

### Writing

We need to know more about the Sun. Discuss.

### Chat

Talk about these words from the article.

heating / NASA / space / the Sun / probe / photograph / Christmas Eve / travel / astrophysicist / solar flares / scientists / mystery / solar winds / record breaking

### True / False

- 1) NASA means North Atlantic Space Agency. T / F
- 2) The NASA Parker Solar Probe spacecraft started its journey in 2018. T / F
- 3) The Parker Solar Probe is the fastest thing ever made by humans. T / F
- 4) The probe could get from New York to Tokyo in less than a minute. T / F
- 5) The probe is named after a quantum physicist. T / F
- 6) Solar flares are hotter than the surface of the Sun. T / F
- 7) A solar flare can be over a million degrees Celsius. T / F
- 8) The Parker Solar Probe faced temperatures of over 1,000°C. T / F

### Synonym Match

(The words in **bold** are from the news article.)

- |                      |                |
|----------------------|----------------|
| 1. <b>heating</b>    | a. thing       |
| 2. <b>nearest</b>    | b. top side    |
| 3. <b>object</b>     | c. move        |
| 4. <b>built</b>      | d. researching |
| 5. <b>travel</b>     | e. want        |
| 6. <b>studying</b>   | f. closest     |
| 7. <b>surface</b>    | g. red-hot     |
| 8. <b>reach</b>      | h. warming     |
| 9. <b>hope</b>       | i. get to      |
| 10. <b>scorching</b> | j. created     |

### Discussion – Student A

- a) What do you know about NASA?
- b) What do you know about the Sun?
- c) What do you want to know about the Sun?
- d) What do you think of the NASA mission to study the Sun?
- e) Are you more interested in the Sun or the Moon?
- f) Do you think Santa saw the probe on Christmas Eve?
- g) Would you like to travel from New York to Tokyo in one minute?
- h) Would you like to travel in space?

## Phrase Match

- |                                      |                           |
|--------------------------------------|---------------------------|
| 1. One of the agency's missions      | a. life studying the Sun  |
| 2. photograph our                    | b. is to study the Sun    |
| 3. It made                           | c. 980 degrees Celsius    |
| 4. Parker also holds                 | d. of 635,266 kph         |
| 5. it flew at a speed                | e. history                |
| 6. He spent most of his              | f. of the corona's flares |
| 7. It is a long-standing mystery     | g. winds originate        |
| 8. the temperature                   | h. nearest star           |
| 9. find out how solar                | i. another record         |
| 10. Temperatures reached a scorching | j. for scientists         |

## Discussion – Student B

- What do you think about what you read?
- Would you like to be an astrophysicist?
- What do you know about the Sun's heat?
- What do you know about solar winds?
- How important is the Sun?
- What do you think of a temperature of 1.1 million degrees?
- Are solar or lunar eclipses better?
- What questions would you like to ask the scientists?

## Spelling

- Things are engathi up
- One of the agency's nmosiiss
- NASA sent a small research borpe
- It made osiyhrt on Christmas Eve
- the fastest jbcteo ever built
- it flew at a esepd of 635,266 kph
- the Sun and its oslra flares
- It is a long-standing meyrtys for scientists
- the tptemaerru of the corona's flares
- how solar winds irigaonet
- the probe has faced emxeetr heat
- a sgoricnh 980 degrees Celsius

### Answers – Synonym Match

1. h	2. f	3. a	4. j	5. c
6. d	7. b	8. i	9. e	10. g

## Role Play

### Role A – The Sun

You think the Sun is the best thing to study. Tell the others three reasons why. Tell them what is wrong with their things. Also, tell the others which is the least interesting of these (and why): the oceans, Mars or the climate.

### Role B – The Oceans

You think the oceans are the best thing to study. Tell the others three reasons why. Tell them what is wrong with their things. Also, tell the others which is the least interesting of these (and why): the Sun, Mars or the climate.

### Role C – Mars

You think Mars is the best thing to study. Tell the others three reasons why. Tell them what is wrong with their things. Also, tell the others which is the least interesting of these (and why): the oceans, the Sun or the climate.

### Role D – The Climate

You think the climate is the best thing to study. Tell the others three reasons why. Tell them what is wrong with their things. Also, tell the others which is the least interesting of these (and why): the oceans, Mars or the Sun.

## Speaking – Studying

Rank these with your partner. Put the best things to study at the top. Change partners often and share your rankings.

- |               |             |
|---------------|-------------|
| • The Sun     | • The Moon  |
| • Space       | • Asteroids |
| • The oceans  | • Mars      |
| • The climate | • The poles |

### Answers – True False

1	F	2	T	3	T	4	F	5	F	6	T	7	T	8	F
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Answers to Phrase Match and Spelling are in the text.