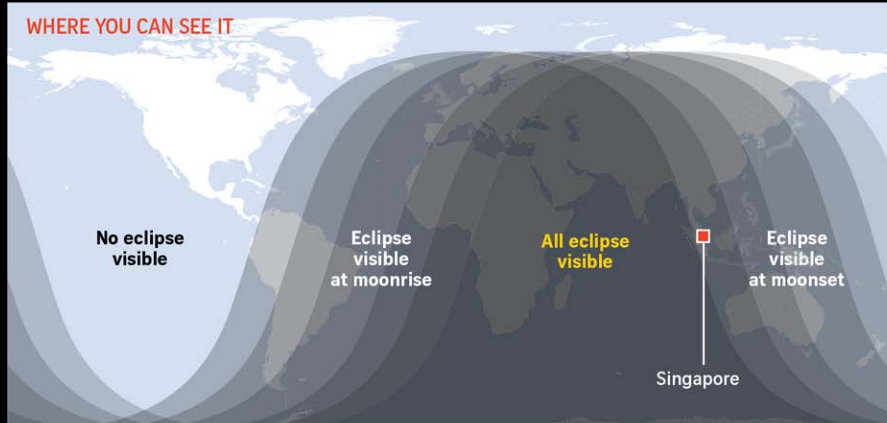


askSTart

Seeing red

Skywatchers will be in for a treat in the wee hours of Saturday morning, as two red objects – the planet Mars and a blood Moon – will appear brightly in the night sky. **Luke Anthony Tan** finds out more from National University of Singapore physics lecturer Dr Abel Yang on how these celestial phenomena occur, and how to catch them in their heavenly glory.

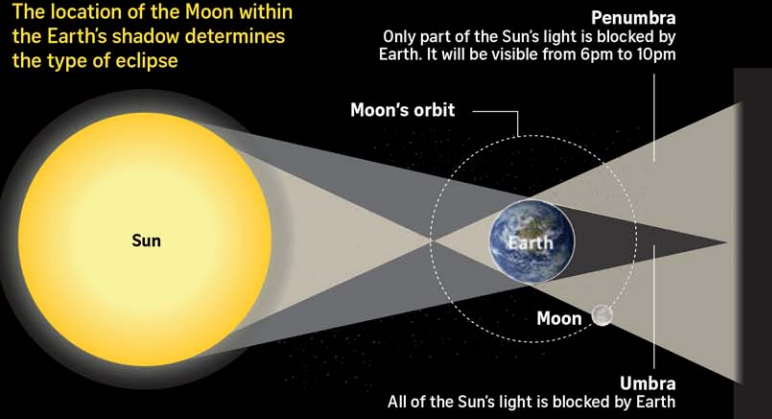


TOTAL LUNAR ECLIPSE

- During a lunar eclipse, the Moon moves directly behind the Earth, and is covered by Earth's shadow.
- The eclipse on Saturday will be the longest total eclipse of the 21st Century, lasting for one hour and 43 minutes.

- The eclipse will be mainly visible from the Earth's eastern hemisphere, which includes Europe, Africa, Australia and Asia.

The location of the Moon within the Earth's shadow determines the type of eclipse



Types of lunar eclipses

Total
A total lunar eclipse is when the Moon is completely inside the umbra.

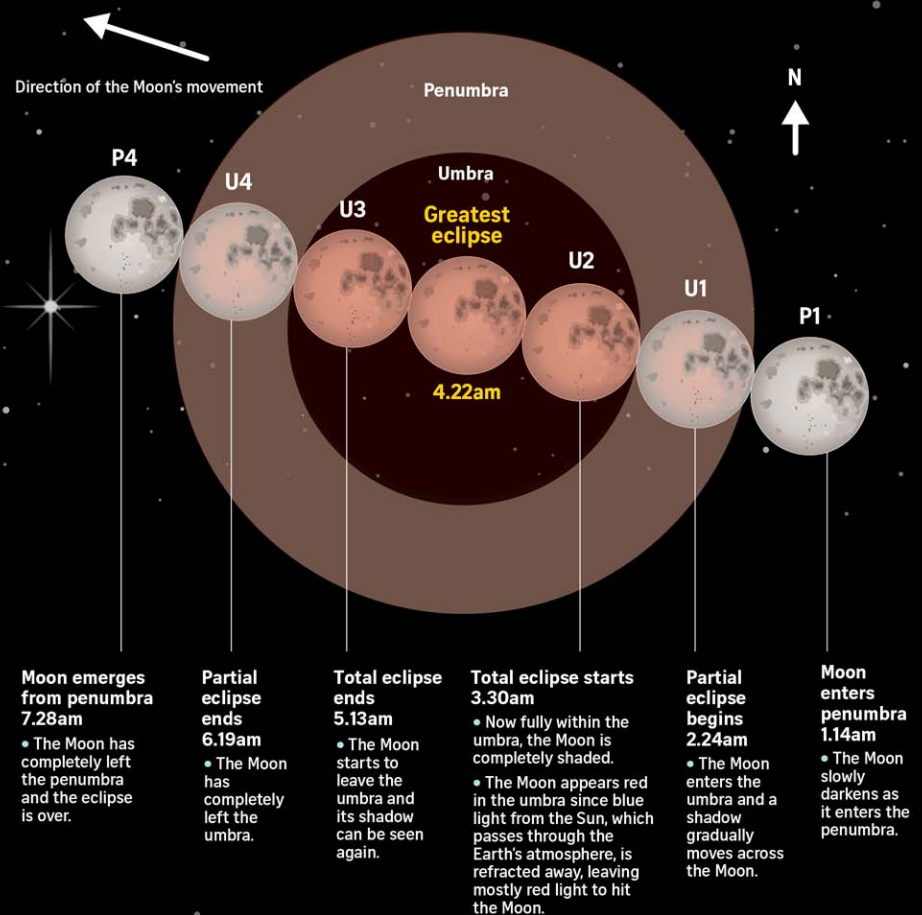
Partial
A partial eclipse is when the Moon does not completely enter the umbra.



HOW TO SEE

- While a telescope is not necessary, a telescope or binoculars can provide a better view.

- If you want to see the entire eclipse, you should watch from a place that has a clear and unobstructed view of the western sky.



OPPOSITION OF MARS

- Mars and Earth both orbit the Sun at different distances and speeds. But every two years or so, the Sun and the two planets will line up in an event known as an opposition.

- This time, however, not only will Mars be in opposition, it will be the closest to the Sun and the Earth, in an event known as a perihelic opposition. The red planet, which will be

56 million km

away from the Earth, will appear at its brightest and largest.

- Occuring every 15 to 17 years, the next perihelic opposition of Mars will occur in

2035

- The planet will be visible all night but it will reach its highest point in the sky at

1.15am

on Saturday.



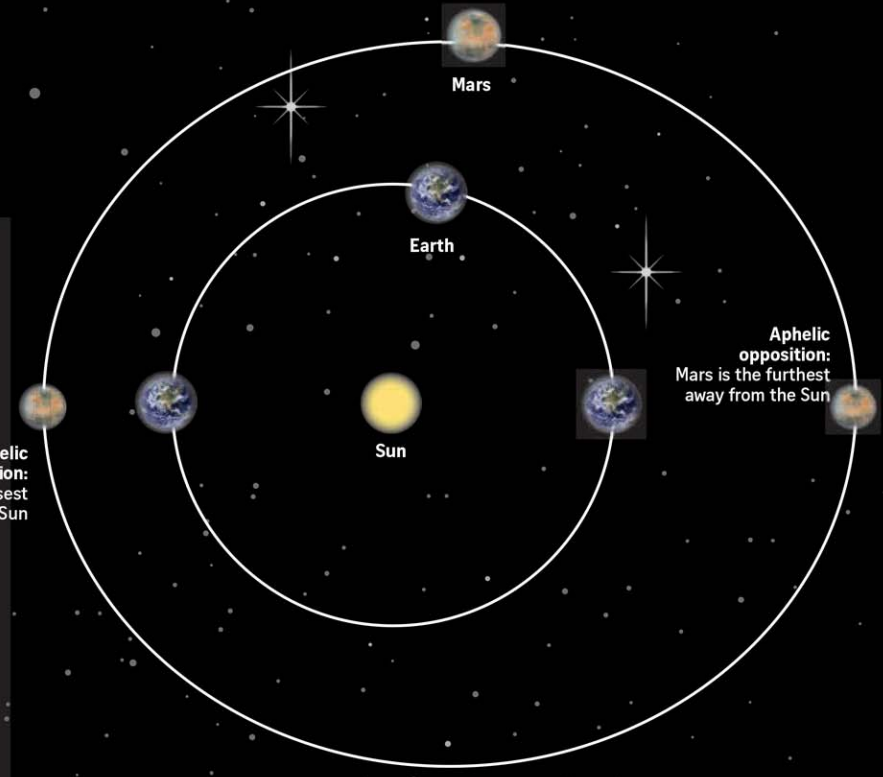
SCAN FOR MORE
Here is everything else you need to know about the cosmic event



Sources:
DR ABEL YANG, AGENCE FRANCE-PRESSE, REUTERS

PHOTOS: SCIENCE CENTRE SINGAPORE

STRAITS TIMES GRAPHICS



HOW TO SEE

- To identify Mars against the backdrop of the starry night, look out for a bright, red-orange point that does not twinkle.
- To observe Mars with a telescope, try to use a magnification of 150x to 200x since Mars is a small planet; binoculars will not have enough magnification to see the details of Mars.



PUBLIC VIEWING

- Members of the public are invited to a community-led event organised by the Maritime and Port Authority of Singapore (MPA) and SingAstro at the Roof Garden at Marina South Pier on Friday night. Telescopes will be provided for the public to watch the planetary events unfold.
- Starting at 7.30pm on Friday, there will be talks on astronomy and guided tours of the Singapore Maritime Gallery at Marina South Pier. The public may register for the talks and tours at Singapore Maritime Gallery's website.