

Parker Solar Probe

Why in News?

Recently, Parker Solar Probe made history by surviving the closest-ever approach to the Sun.

- **Launched in** - 2018.
- **Launched by** - NASA.
- **Mission** - To “Touch the Sun”.
- It is designed to fly within about 4 million miles (6.5 million kilometers) of the Sun's surface.
- **Aim** - To make observations of the **outer corona of the Sun**.

It became the 1st spacecraft to fly through the corona, the Sun's upper atmosphere in 2021.

- **Study objectives** - To trace the energy flow, to study magnetic fields, plasma, energetic particles, and to image the solar wind.
- **Movement** - It gradually circling closer towards the sun, using flybys of Venus to gravitationally pull it into a tighter orbit with the sun.
- Every orbit bringing it closer, the probe faces brutal heat and radiation.
- **4 Instruments**
 - Fields Experiment (FIELDS)
 - Integrated Science Investigation of the Sun (ISIS)
 - Wide Field Imager for Solar Probe (WISPR)
 - Solar Wind Electrons Alphas and Protons (SWEAP)
- **Thermal protector** - An 11.5cm thick carbon-composite shield from temperatures of nearly 2,500 degrees Fahrenheit.
- **Speed** - It moves faster than any human-made object, up to 430,000 mph.
- **Significance** - It flies more than 7 times closer to the Sun than any spacecraft and over 7 years, it will complete 24 orbits around the Sun.

Solar probe touches Sun's outer atmosphere



References

1. [The Hindu| Parker Solar Probe Makes History](#)
2. [NASA| Parker Solar Probe](#)