

# NASA space probe reaches dwarf planet

NASA's Dawn spacecraft is to begin orbiting Ceres, the largest body in the main asteroid belt between Mars and Jupiter. Dawn was launched in 2007 to explore Ceres and Vesta – the asteroid belt's second-biggest object – as part of a mission to understand how planets were formed

**Gamma ray and neutron detector**  
Measures chemical composition of asteroid surface

**Framing camera:** Takes images at multiple angles to generate topographical maps

**Antenna dish**

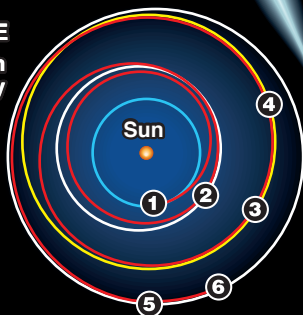
**Solar array**

**Spectrometer:** Detects visible and infrared light to identify surface minerals

**Ion thruster:** Three in total, used one at a time. Ten times faster than chemical rockets

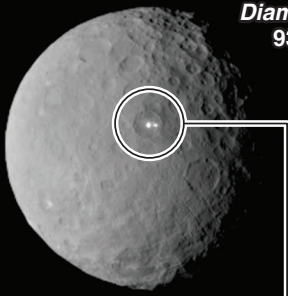
## MISSION TIMELINE

— Dawn trajectory



**CERES:** Asteroid reclassified as dwarf planet in 2006. Astronomers believe water ice may be buried below surface

**Diameter:**  
930km



- 1 Sep 2007: Launch**
- 2 Feb 2009: Mars gravity assist**
- 3 Jul 2011: Vesta arrival**
- 4 May 2012: Vesta departure**
- 5 Feb 2015: Ceres arrival**
- 6 Jul 2015: Mission end**

Scientists speculate that bright lights recently spotted on Ceres' surface could be reflections from ice or evidence of volcanic activity