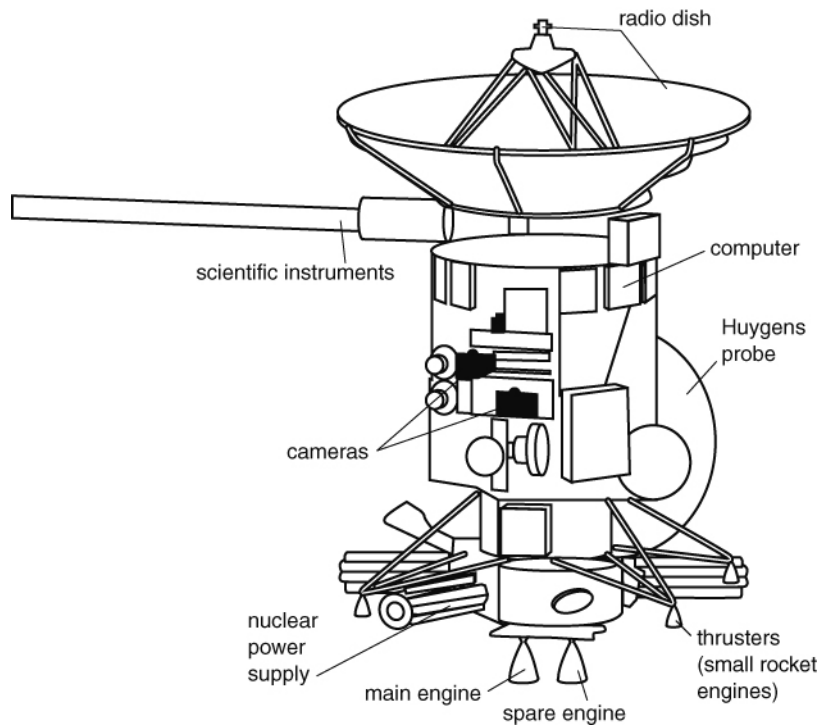


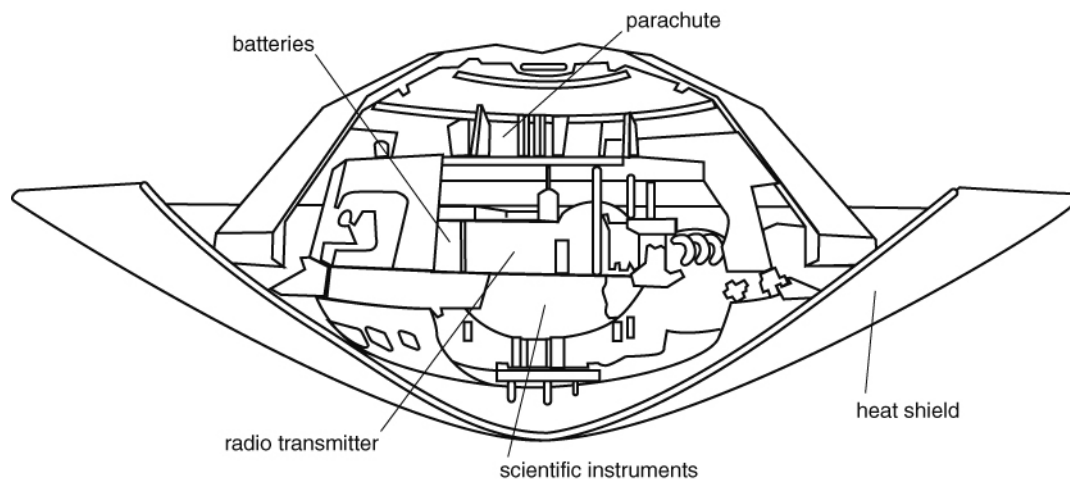
The Cassini space probe was launched in 1997 and arrived at Saturn in July 2004. It was carrying the Huygens probe, which it dropped onto Titan (one of Saturn's moons) in January 2005. Titan has a thick, cloudy atmosphere, so the Huygens probe provided the first pictures ever seen of its surface. Huygens was designed to transmit information to the Cassini probe during its descent through Titan's atmosphere and for a short time after it landed. Cassini relayed this information to Earth.

Cassini has now been orbiting Saturn for over 10 years and continues to send back images and other scientific information about Saturn and its moons.

Cassini probe



Huygens probe



- 1 Suggest why the Cassini probe needs each of the things labelled on the diagram.
- 2 Suggest why the Huygens probe needed each of the things labelled on the diagram.
- 3 Cassini has a nuclear powered generator but Huygens only had batteries. Suggest why the power supplies for the two craft were different.
- 4 **a** Why do you think Cassini has a more powerful radio transmitter than Huygens?
b Why does Cassini need a dish for its radio transmitter and receiver? Explain in as much detail as you can. (The dish reflects radio waves in a similar way to a curved mirror reflecting light.)
- 5 What are the advantages and disadvantages of using space probes like Cassini and Huygens to explore parts of the Solar System?

I can...

- discuss the advantages and disadvantages of ways of exploring the Solar System.