

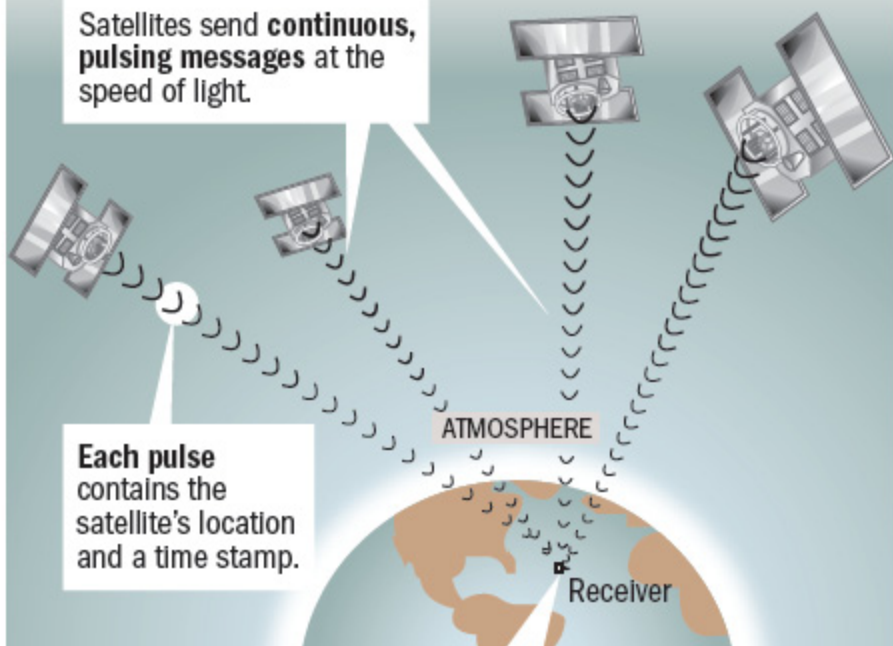
GPS: How it works

The **Global Positioning System (GPS)** uses signals from 24 satellites and can identify the direction, speed and location of any object on Earth that has a GPS receiver.

• **Triangulating from satellites:** A receiver must receive signals from at least three satellites to be able to calculate its own position. The receiver uses the location of the satellites and the time it took for the pulses to reach it to calculate precise location.

Satellites send **continuous, pulsing messages** at the speed of light.

Each pulse contains the satellite's location and a time stamp.



GPS satellites:

- There are 24 GPS satellites, with the first one going into orbit in 1989.
- Satellites are 12,000 miles from Earth.
- Seven to eight satellites are in position for use at any one time.