

## Bitesize GCSE Science - Physics

### Space

#### **Astronomer at the Royal Observatory Greenwich, Tom Kerss on satellites**

A satellite is any object that orbits around what we would call a superior body, that just means another object which is bigger or heavier than the satellite itself.

So we place satellites in orbit around the Earth, what we do is we build space craft, we launch them up on rockets and they are designed to orbit the Earth, which means that they don't just fly out into space they stay with the Earth as the Earth makes its orbit around the Sun and then they can communicate to us here on the surface of the Earth and they can also be used to transmit communications over long range.

Satellites really have transformed the world, we're talking about satellites that allow us to use phones for example over long distance or to transmit internet to remote places but we also use satellites to position ourselves on the Earth's surface, things like GPS.

We also use them to monitor the Earth's climate and the surface of the Earth so that we can look at natural disasters when they occur and we can generate photographs of the Earth and see how it is changing.

Quite often when we talk about satellites what we actually mean to say is artificial satellites because we are really talking about space craft. The Moon for example is a natural satellite because we didn't make it but it does orbit the Earth, which is bigger and heavier than itself, and in fact we can go further and say that all the planets are natural satellites of the Sun and their moons are also natural satellites of those planets.

So artificial satellites are sent in to space by us, natural satellites are already there but they both obey the same principal, they both orbit larger bodies in space.