Light Speed

Light travels in straight lines called rays. It travels at 186,000miles *(300,000 km)* a second – or 200 million miles an hour!! It takes eight and a half minutes for the light from the sun to reach earth. This means that if the sun were suddenly to go dark, it would take eighth and a half minutes before anyone would notice. The distance that light can travel in a year is called a "light year". From the distant galaxies, it can take billions of years for the light to get here!
In 1666, Sir Isaac Newton shone a beam of sunlight through a piece of glass called a prism. The light that comes out of it was broken up into all colours of the rainbow. Newton had discovered that ordinary white light is made up of many colours mixed together. We proved this ourselves with our experiment on colour wheels – to read what we did, please click here. When rays of light hit something opaque *(something that light cannot shine through)* they bounce off it. We call this reflection. We can see things when light is reflected off them into our eyes. The raindrops break light into its different colours, making a rainbow. Rainbow colours are always in the same order. Light waves spread out from their source in ever-decreasing circles, like ripples on a pond. Where two waves meet, they combine in some places and cancel out in others. This process, called interference, produces light and dark bands.

Facts:

- Nothing travels faster than the speed of light;
- No matter how fast you are moving, the speed of light seems to be the same speed as if you were not moving at all;
- As a person is accelerated towards the speed of light, time slows down for him/her. If you were a twin, you would come back to earth younger than your brother/sister!