Most people have heard of red shift without necessarily knowing what it means, apart from knowing that it has something to do with stars and galaxies.

Wave forms can appear to be altered if the source of the waves is moving away or towards us. We notice this effect with sound waves – for example, if we are watching a train approaching and passing by. If an object is moving towards us, then its waves will appear to arrive at us slightly shorter than they should be. Shorter waves result in higher pitch. When the train recedes, the waves reach us stretched out a bit, which makes a lower-pitch sound. Therefore, the train approaches with a high pitch sound, but then the sound changes to a lower pitch sound as it passes us.

Something similar happens to light from distant galaxies. In visible light, the longest wavelength is red, while blue light has a shorter wavelength. So red shift does not necessarily imply that an object is red. It tells us that bands in the galaxy's spectrum are of longer wavelength than expected, so it is called a red shift. In a random universe, one might expect an equal number of red and blue shifts. In practice, blue shifts are rare.

The red shift is probably caused by space itself expanding. And this is consistent with what the Bible says in Psalm 104: "He stretches out the heavens like a tent."