



Assembly



Wonders of the Universe

Aim:

- To consider something of the enormity of the universe, and the relationship of the human race to it
- To ponder what the significance of humans might be

Introduction

What do you know about the Universe?

Have a multiple choice quiz about the Universe, e.g.:

- The universe is expanding at the same rate in each direction. What is the centre of the universe?
 - a. The sun;
 - b. **It has no centre;**
 - c. The Milky Way;
 - d. The Earth
- Besides ordinary matter, the universe contains a lot of 'dark matter', which is an unknown substance. What fraction of the mass of the Universe is ordinary matter, like hydrogen and helium?
 - a. 70-80%;
 - b. 30-40%;
 - c. **2-3%;**
 - d. 0-0.2%
- Galaxies are built of many stars. How many stars in a typical galaxy?
 - a. 10 million;
 - b. 1 billion;
 - c. **100 billion;**
 - d. 100 trillion
- The expansion of the universe was discovered by observing that all galaxies are moving away from us. Who made this discovery?

- a. Albert Einstein;
- b. Fritz Zwicky;
- c. **Edwin Hubble;**
- d. Johannes Kepler

- Quasars (quasi-stellar objects) are the brightest objects in the Universe. Where does their energy come from?
 - a. Nuclear burning;
 - b. **Matter falling into a black hole;**
 - c. Collision of stars;
 - d. Gravitational collapse
- Galaxies form larger clumps called clusters. They are held together by their own gravity. How many galaxies are in a typical cluster?
 - a. 10;
 - b. **1000;**
 - c. 1 million;
 - d. 1 billion

Looking Deeper

The Wonders of the Universe

Ask pupils whether any of them have been watching the television series 'The Wonders of the Universe'.

In the first programme, Professor Brian Cox explained the theory that the Universe has a finite 'life-span' – that it is inevitably going to cease to exist, although the process would take many trillions of years. Long before the end of the Universe, conditions within our Solar System will have changed to the extent that human life will no longer be sustainable. Just as the Earth is a tiny speck in the infinite distances of the Universe, so Professor Cox said, "life .. is just a temporary structure, a brief moment on the long road from order to disorder."



Current Affairs Assembly

KS3/4 Environment – Appreciation

Assembly



Reflection

What is our significance?

Many people, commenting on internet forums about the programme, felt depressed at the idea that human life might cease to exist. But Professor Cox himself was far more upbeat and positive, as he stated, "that doesn't make us insignificant because we are the cosmos made conscious and life is the means by which the Universe understands itself. For me our true significance lies in our ability and our desire to understand and explore this beautiful Universe. I believe it is only by our continued exploration of the cosmos and the laws of nature that govern it, that we will truly understand ourselves and our place in this Universe of wonders."

Three thousand years before Professor Cox reflected on the significance of human life in relation to the Universe, a humble shepherd boy studied the stars as he sat under the night sky, caring for his sheep. Without the benefits of modern scientific equipment and discoveries, he sensed the vastness of the Universe we live in and it caused him to reflect on the significance of human beings. He wrote a poem, which is recorded within the book of Psalms in the Old Testament section of the Bible:

O Lord, when I look at the night sky and see the work of your fingers
the moon and the stars you set in place
what are mere mortals that you should think about them,
human beings that you should care for them?
Yet you made them only a little lower than God

and crowned them with glory and honour.
You gave them charge of everything you made,
putting all things under their authority
the flocks and the herds
and all the wild animals,
the birds in the sky, the fish in the sea,
and everything that swims the ocean currents.

O LORD, our Lord, your majestic name fills the earth!

(Taken from Psalm 8)

Prayer

Lord God,

When we look at the vastness of the Universe, we can be tempted to think that we as humans are insignificant and worthless. Please help us to see ourselves as you see us and to understand the value that you place on each individual human life.

Amen.

Key words

Universe,
wonder,
value,
significance