Time

Working scientifically

In this unit, children can:

- Ask relevant questions and using different types of scientific enquiries to answer them
- Set up simple practical enquiries, comparative and fair tests
- Make systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment
- Use straightforward scientific evidence to answer questions or to support their findings

Science curriculum links

Y3 Pupils can:

- Recognise that shadows are formed when the light from a light source is blocked by an opaque object
- Find patterns in the way that the size of shadows change
- Y6 Pupils can:
- Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them

Wider Curriculum Links

- History - look at the ways different civilisations have marked and measured time. The Ancient Egyptians, Babylonians, Ancient Greeks and Romans would be interesting to compare. Link to their worship of the sun and the changing light across the seasons
- Maths - link to knowledge and understanding of units of measurement for time, comparing time intervals, working out duration, estimating and accurately measuring time
- Geography - consider time zones around the world. Discuss Greenwich Mean Time and why our times change in the UK twice a year
- PE - challenge the children to complete timed activities and improve their scores (bleep test)

Perfect Picture Books

- 'Just a second' by Steve Jenkins
- 'Timelines of science' by Dorling Kindersley
- 'A street through time' by Dorling Kindersley
- 'Darwin's super pooping worm spectacular' by Polly Owen
- 'The DNA book' by Dorling Kindersley
- 'You are 25% banana' by Susie Brooks
- 'The speed of starlight' by Colin Stuart
- 'Charles Darwin's On the Origin of Species' by Sabena Redeva
- 'Once upon a big idea' by James Carter

Supporting Scientists

Galileo 1564-1642

- Galileo was the first astronomer to use a telescope. He was able to provide evidence to support Copernican theory that other planets orbit the sun. Galileo discovered the constant of the pendulum by watching a chandelier swing in the cathedral at Pisa. Timing it with his pulse, he noticed that the oscillation always took the same time. His greatest contribution was in the field of inertia. Galileo devised the theory that if a body is moving freely, it will continue to do so unless something happens to change its speed, to stop it, or to make it change direction

Charles Darwin 1809-1882

- Darwin was a British naturalist who is most famous for his theory of evolution. He did not publish this theory for 20 years after he'd written it as he was worried people would think it was too radical - they did! Darwin studied the natural world for many years and he went on expeditions to many remote places such as Brazil, Chile, Peru and the Galapagos Islands, taking samples and studying the animals and plants that thrived in different conditions

Albert Einstein 1879-1955

- Einstein made many scientific discoveries in the fields of light, matter, space, gravity and time but his most famous is the theory of relativity. It showed that even the smallest amount of mass could make a huge amount of energy. This theory paved the way for inventions such as nuclear energy

Francis Crick, Maurice Wilkins, James Watson and Rosalind Franklin

- These 4 scientists all contributed towards the development of the double helix model for the structure of DNA (deoxyribonucleic acid). DNA provides the patterns for constructing the genetic code inside the cells of the body which determine your characteristics. Approximately half of these are inherited from your parents

Stephen Hawking 1942-2018

- Stephen was a prodigious child who studied physics, chemistry and cosmology at university. At the age of 21 he was diagnosed with motor neurone disease. Stephen made many important scientific discoveries including black holes, stars and the universe. His most famous book, 'A brief history of time', sold over 10 million copies