'BECAUSE I SAID SO!'/ **TIME LINE EXTENSION** LESSON 4 AND5

Time line extension
Put the cards along a time line of dates.
Look out for clusters of cards when ideas changed quickly.

John Napier 1550-1617
(Scottish)
Mathematician who invented logarithms which were used to solve the equations for planetary orbits.

Galileo Galilei 1562-1642 (Italian)
Built his own telescope. Supported Copernicus' view of the Universe. Dropped objects from the top of the Leaning Tower of Pisa. Was arrested for his views and spent many years under house arrest.

Johannes Kepler 1571-1630
(German)
Calculated the most accurate tables of astronomy known so far. Realised the orbits of the planets round the Sun are not circles but ellipses. Designed the astronomical telescope.

Sir Isaac Newton 1643-1727
(English)
Showed that white light is made of a spectrum of colours. Invented the reflecting telescope. Described three laws of motion. Explained the orbits of comets.

Clyde Tombaugh 1906-1997
(American)
Discovered Pluto after many years observing.

Edmund Halley 1656-1742
(English)
Calculated that a comet would keep coming back at regular intervals, predicting correctly when this would be. This is Halley's comet.

Abu'l-Wafa 940-998 AD
(Iranian)
Built an observatory in Baghdad. Investigated the orbit of the Moon. His observations of stars were used by many later astronomers.

Johannes Kepler 1571-1630
(German)
Calculated the most accurate tables of astronomy known so far. Realised the orbits of the planets round the Sun are not circles but ellipses. Designed the astronomical telescope.

Roger Bacon 1214-1294
(English)
Made lenses and mirrors and designed a telescope. Planned his experiments (scientific method).

Georg Peurbach 1423-1461
(Austrian)
Believed the motions of the planets are controlled by the Sun. Observed Halley's comet.

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Nicolaus Copernicus 1473-1543
(Polish)
Built an observatory. Set out his theory of the Universe with the Sun at the centre of the Universe.

Pythagoras 569-475 BC
(Greek)
Taught that the Earth is a sphere at the centre of the Universe. Proved that the Earth is round from eclipse shadows and the presence of elephants.

Tsu Ch’ung Chi 430-501 AD
(Chinese)
Determined the precise time of the solstices by careful measurement of the shadows at noon.

Aryabhata 476-550 AD
(Indian)
Believed the orbits of the planets are ellipses. Explained the causes of eclipses correctly.

Hypatia 370-415 AD
(Egyptian)
First woman to make a substantial contribution to mathematics.
Wrote books on astronomy.

Zhang Heng 78-139 AD
(Chinese)
Described the positions of the stars. Corrected the calendar to bring it into line with the seasons.

John Adams 1819-1892
(English)
Predicted the position of the then unknown planet Neptune from calculations of the irregular orbit of Uranus. A French astronomer, Le Verrier, found Neptune.

Edwin Hubble 1889-1953
(American)
Founder of observational cosmology and explorer of the distant cosmos. Classified galaxies. Found evidence that the Universe is expanding.

Subrahmanyan Chandrasekhar 1910-1995
(Born in India but worked in England and America)
Won the Nobel Prize for work on the structure and evolution of stars.

Sir Fred Hoyle 1915-2001
(English)
Worked on the theory of the structure of stars and the origins of the chemical elements in stars.

Jocelyn Bell Burnell 1943-
(Irish)
Discovered pulsars (rotating stars that give out pulses of radio waves). She has received many awards for her astronomical observations.