

MINI ADVENTURE KNOWLEDGE ORGANISER  
PIONEERS SPRING 2019-2020  
SPACE SCIENTISTS

**Key dates:**

October 1957 - The world's first artificial satellite  
May 1959 - First creatures to return alive from space  
April 1961 - The first man in space  
June 1963 - The first woman in space  
March 1965 - First-ever spacewalk  
July 1969 - First man on the Moon  
April 1971 - The first space station is launched  
February 1984 - 'Free-flying' in space  
November 1998 - Assembly of ISS begins  
April 2001 - First space tourist

**Countries involved in the 'Space Race'**

**Soviet Union**

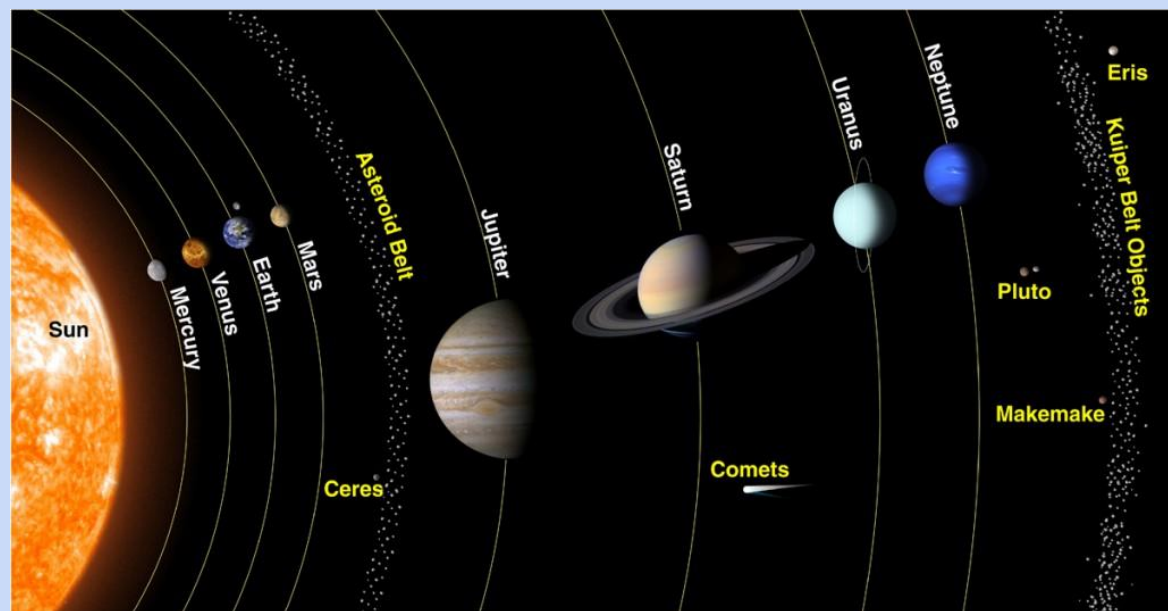
(which consisted of the current countries: Russia, Georgia, Ukraine, Moldova, Belarus, Armenia, Azerbaijan, Kazakhstan, Uzbekistan, Turkmenistan, Kyrgyzstan, Tajikistan)



**USA**

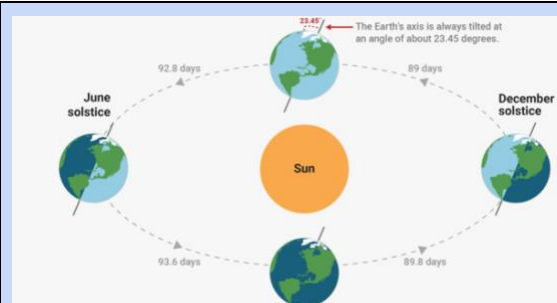
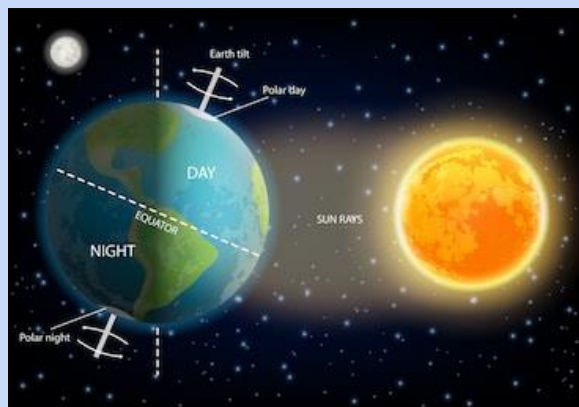


**Our Solar System**



**Rotation of the Earth**

The earth rotates on an axis. During the winter, the North Pole is tilted away from the Sun's rays. As Earth travels around the Sun, the tilt of Earth changes. By June, the North Pole is tilted towards the Sun and the days become very long. Earth takes a year to orbit the Sun and it is the tilt which creates the seasons.

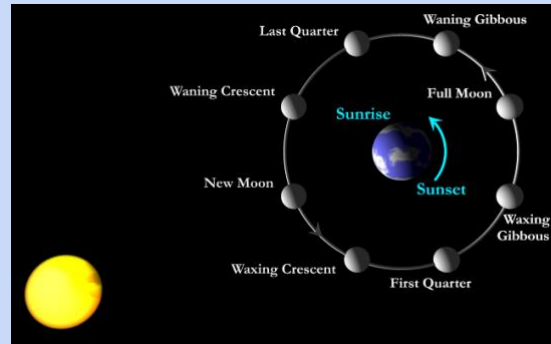


The Earth rotates one complete turn every 24 hours to give us day and night. When Britain faces the Sun it is daytime in Britain but the other side of the world is in darkness. So, in Australia it is the middle of the night.

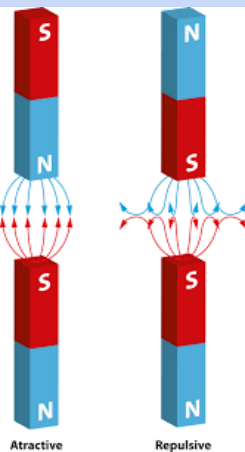
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### The Earth and Moon

The Moon is lit by the Sun. Half of the Moon is lit and half is dark. When the dark side of the Moon is facing Earth we cannot see it; this is called a new moon. As the Moon starts to orbit Earth we can see more and more of the lit side. At various stages in its orbit it is called a crescent moon, a quarter moon and a full moon. It is called a full moon when we can see all of the sunlit side of the Moon.



### Forces



#### Magnetism

Magnets have two poles – north and south. Opposite poles attract and similar poles repel each other.

#### Gravity

Unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.

**Drag Forces** are forces such as air resistance, water resistance and friction that act between moving surfaces.

**Friction** is a force between two surfaces that are sliding, or trying to slide, across each other. Friction always works in the direction opposite to the direction in which the object is moving, or trying to move. Friction always slows a moving object down.

### Gears, Levers and Pulleys

Levers, gears and pulleys are all mechanisms that make jobs easier to do. They allow a smaller force to have a greater effect.

Gears are toothed wheels that lock together and turn one another.

The wheels are usually different sizes so that one gear speeds up to slow down the next gear. Gears are also used to change the direction of movement.

Pulleys are like gears but the two wheels do not lock together.

Instead the wheels are joined by a belt. Pulleys can be used to change the speed, direction or force of a movement.

