## High School & Sixth Form



## Pi Day - Lower 5 examine the volume of a cylinder





Friday the 14<sup>th</sup> of March was Pi Day in honour of the mathematical constant  $\pi$ , the ratio of a circle's circumference to its diameter. This day was chosen back in 1988 by American physicist Larry Shaw as the first three digits of  $\pi$  are 3.14, the same as the US way of writing the date. In addition, Albert Einstein was born on this day in 1879.

As Lower 5 have been studying the volume of various shapes, it seemed entirely appropriate to examine the volume of a cylinder on this special day.

It always intrigues pupils that  $\pi$  goes on forever, as a decimal, without a pattern, a type of number known as an irrational. Hence, it is common for examination questions to either round answers to a certain degree of accuracy or to give answers exactly in terms of  $\pi$ , the symbol introduced in 1706 by the Welsh mathematician William Jones but popularised by the great Swiss mathematician Leonard Euler.

Lower 5 made great progress with this topic, practising their rounding to both decimal places and significant figures. In addition, they moved on to more challenging questions where the volume of the cylinder is given and the formula must be re-arranged to find the height or the radius. The  $\pi$  theme is set to continue for a few more lessons as we move on to the volume and surface area of cones and spheres.

**Dr Phil Watson**