

# The Analemma Shape in the Landscape



**Johannes Kepler was one of the most important scientists who discovered the three laws of planetary motion. These describe the elliptical path all planets follow as they orbit around a star such as in our solar system.**

The Analemma is an unequal figure-of-eight shape, created by tracking the sun's position in the sky at the same time each day over a period of one year.

Why do we see an unequal figure of eight?

- The earth is tilted at  $23^\circ$
- Earth's orbit is an ellipse
- The orbital speed changes

The monthly shadows cast by the sun have been marked into the landscape, inverting the analemma shape, because the sun's shadows that are cast here.



It helps us to understand the importance of the sun's influence on seasons and for life on this planet here in Dundee.

Visible in the stone plinth is a timeline of scientists from history who have contributed to the development of Astronomy. Each scientist has built upon the knowledge of those who have gone before. Kepler's Ellipses, in bronze, centrally placed on the plinth, show the visible solar system in Kepler's day, the early 17th century.

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