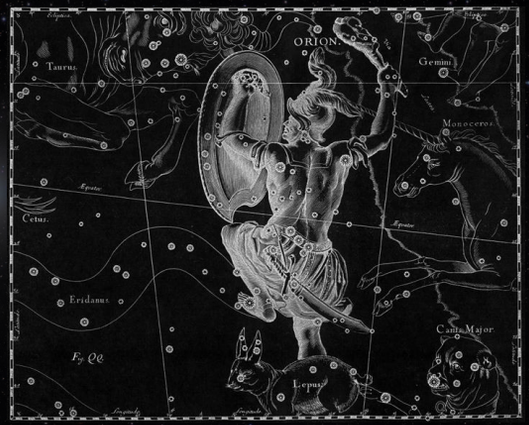
DECEMBER TĪHEMA HIGHLIGHTS

Orion, Canis Major and Canis Minor

Orion was the son of Poseidon. Considered a handsome giant and a great hunter, he retired to the island of Crete after an eventful early life, where he became a hunting companion of the goddess Artemis.

Orion has two hunting dogs in the night sky. The larger of the two, known as Canis Major, represents Laelaps, a magical dog destined to catch whatever he set out to hunt. Laelaps was set after a magical fox represented by Canis Minor. This fox was destined to never be caught, and so both creatures are now stuck in a never-ending chase across the sky.

The three constellations can be found in a triangle in the night sky. To locate Orion (highlighted in **yellow** on the star chart), first find the three stars in a row that make up his belt. From there, look south-east until you see Sirius – also known as the Dog Star – in Canis Major. This is the brightest star in the night sky. From Sirius, scan north-east to find Procyon, the brightest star in Canis Minor.



The Orion constellation from Uranographia by Johannes Hevelius. PUBLIC DOMAIN

Taurus and the Pleiades

Taurus represents the handsome Cretan Bull created by Poseidon. Queen Pasiphae fell in love with the bull and together they had a bull-headed child called Minotauros.

The great hero Heracles was commanded to catch the bull as part of his 12 labours. After being released, the bull caused havoc in a small town until it was finally killed by another hero, Theseus, and placed among the stars.

To the north-west of Taurus is a group of stars called the Pleiades (known as Matariki in New Zealand), said to represent seven nymphs, who were the daughters of the mighty titan Atlas and the sea-nymph Pleione. Pursued by Orion, the terrified nymphs begged for help from Zeus. To save them, he placed them into the sky as stars.

To find Taurus, look to the north-west of the belt of Orion until you find the large red star Aldebaran. This is the angry eye of the bull. Travel north-west of this star to find the Pleiades. Both are highlighted in **orange** on the star chart.

What's On in December?

December shows at Perpetual Guardian Planetarium, book at Museum Shop or online. See website for show times and details: otagomuseum.nz

The Sky Tonight Planetarium show.
2.30pm daily

We Are Aliens! 3D Planetarium show.
12.30pm and 3.30pm daily,
10.30am weekends/holidays

Christmas Mysteries Planetarium show.
1.30pm daily, 11.30am weekends/holidays

THE SKY TONIGHT

DECEMBER TĪHEMA SKY GUIDE

PERPETUAL GUARDIAN PLANETARIUM

OTAGOmuseum

DECEMBER TĪHEMA 2018

MOON MARAMA PHASES

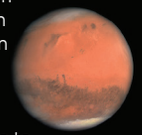
Phase	Date
New moon	Friday 7 December
1st quarter	Sunday 16 December
Full moon	Sunday 23 December
3rd quarter	Saturday 29 December

PLANETS WHETŪ AO

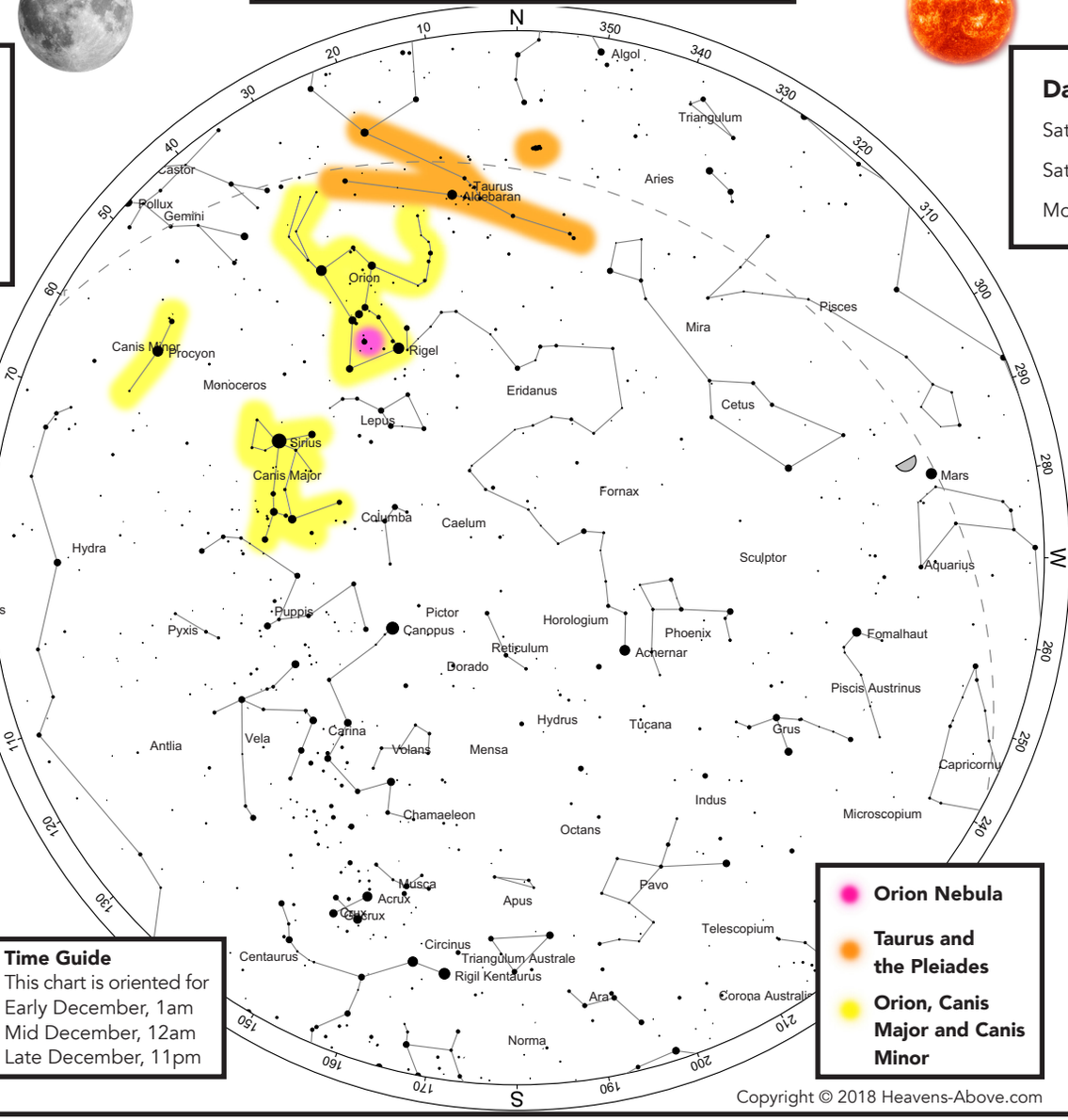
Venus
Meremere-tū-ahiahi
Early December before sunrise
Mid December before sunrise
Late December before sunrise
In Libra

Venus is the hottest planet in our solar system. Its thick atmosphere holds in heat, making the surface temperature 471°C all year round. Venus doesn't tilt on its axis so it has no seasons like we have here on Earth.

Mars
Matawhero
Early December before 2.30am
Mid December before 2.00am
Late December before 1.00am
In Aquarius



Despite being the second smallest planet, Mars is home to the largest volcano in our solar system. Called Olympus Mons, it is 27 km high – three times higher than Mount Everest!



Time Guide
This chart is oriented for
Early December, 1am
Mid December, 12am
Late December, 11pm

Orion Nebula

Taurus and the Pleiades

Orion, Canis Major and Canis Minor

SUN RĀ RISE / SUNSET

Date	Rise	Set
Saturday 1	5.44AM	9.10PM
Saturday 15	5.41AM	9.24PM
Monday 31	5.50AM	9.31PM

ORION NEBULA

The Orion Nebula is a massive star-forming cloud of gas located in the Orion constellation (cover image). Although visible to the naked eye today, there is no mention of it before 1610. This might mean that its luminosity is a recent phenomenon caused by newly formed stars in the region. Many of these stars have discs of debris surrounding them, which is an indicator of early planet formation.

The Orion Nebula is easy to find and can be seen in more detail with a pair of binoculars or a telescope. Locate the three bright stars that make up Orion's Belt and look south to find three fainter stars in a vertical line (which make up Orion's Sword). The middle star of these three is the Orion Nebula (highlighted in **pink** on the star chart). The first nebula to ever be photographed (in 1880), it's a good starting place for budding astrophotographers.

How to use this chart: Hold the chart up to the sky and rotate it, so the direction you are looking matches the direction printed on the bottom. For example, if you are looking south, place "S" at the lower edge. Stars rise in the east and set in the west like the sun. As the Earth turns, the sky appears to rotate clockwise around the south celestial pole. The sky makes a small shift to the west every night, as the Earth rotates around the sun.