Carina

Grounded in shoals of stars, clusters, and nebulae is the keel of Jason's mighty vessel, *Argo*, with its crew of heroes and adventurers.

Above right The second-brightest star in the sky, Canopus (Alpha [α] Carinae) is a rare, class F, yellow-white supergiant star.

SHIPS IN THE NIGHT

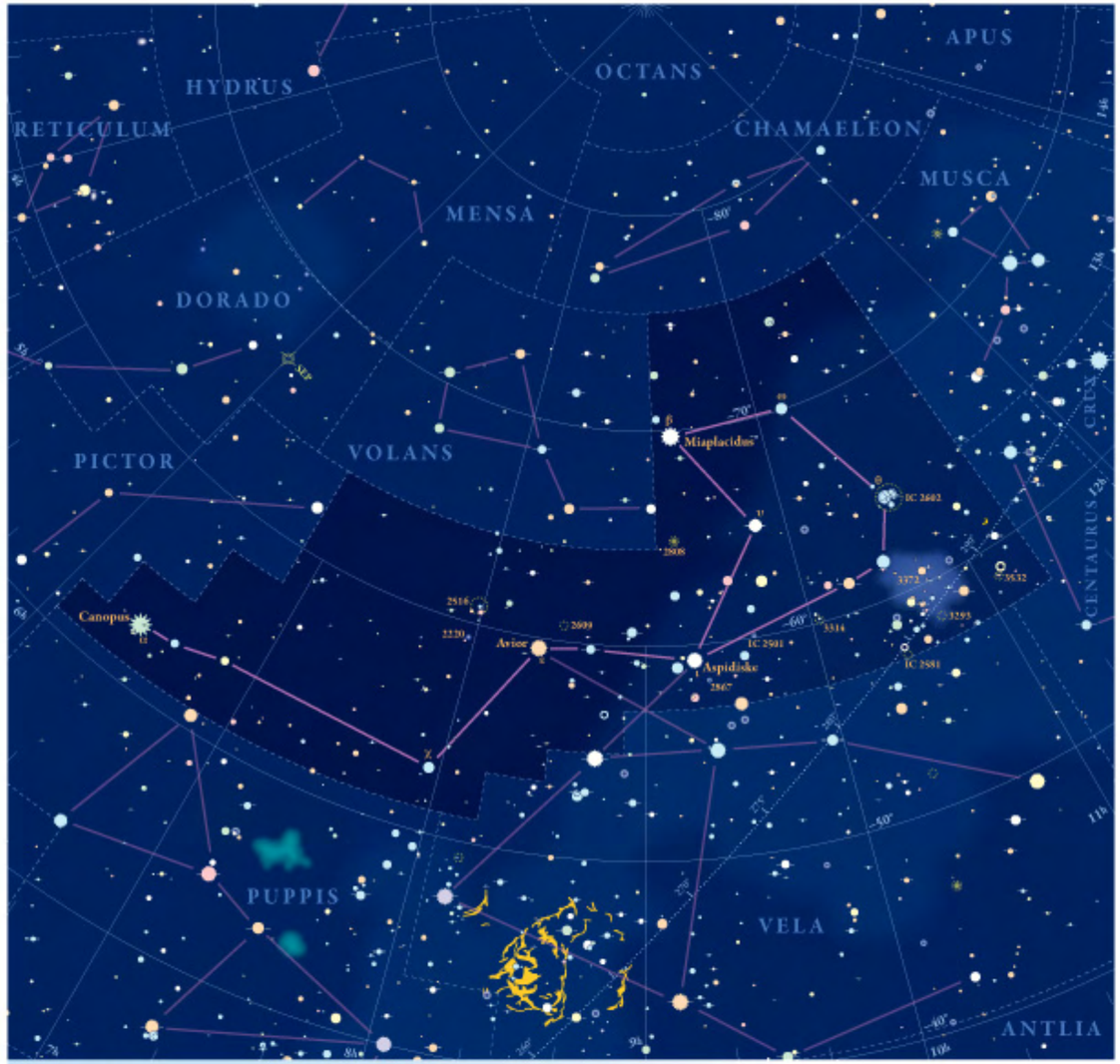
Carina ("the Keel"), Vela, and Puppis form the three sections of the mighty ship *Argo Navis*. *Argo* was built under the guidance of the goddess Athena and consecrated by the sea-god, Poseidon. Minerva, the goddess of wisdom and craft, placed a plank from the Speaking Oak of Dodona in the prow of the ship, enabling *Argo* to counsel and guide its crew. Jason, his fifty Argonauts, and many Greek heroes, including Castor and Pollux (represented by Gemini), Orpheus, Heracles (Hercules), and the helmsman Euphemus sailed to recover the Golden Fleece (represented by Aries). Jason set out from Thessaly in Greece to search for Colchis, reputed to be on the eastern coast of the Black Sea, where King Aeëtes had custody of the fleece.

Their first port of call was Lemnos, an island inhabited solely by women. According to legend, the women living there had been deserted by their husbands for Thracian women. In revenge, the women murdered every man on the island. Jason and his crew (except Heracles) spent considerable time helping the women to "repopulate" Lemnos. After other adventures, they landed at the Thracian court of King Phineus, who was under punishment for revealing the deliberations of the gods to men. He was blinded by the gods and afflicted by the Harpies—large birds with women's faces—who prevented him from eating more than the barest amount necessary for survival. Jason took pity on Phineus and slew the Harpies. In return, Phineus revealed the exact location of Colchis and explained how to defeat the clashing rocks of the Symplegades.

After a successful encounter with the Symplegades (see the constellation description for Columba), Jason arrived in Colchis, but King Aeëtes demanded that Jason perform several seemingly impossible tasks before he handed over the fleece. Aeëtes's daughter Medea, a powerful sorceress, fell in love with Jason and decided to aid him against her father.

In the first task, Jason had to yoke two fire-breathing oxen and plow a field with them. Medea provided him with a balm that protected him from being burned. Aeëtes then ordered Jason to sow the field with dragon's teeth. The teeth sprouted into a throng of warriors, who began to attack him. Medea told Jason to throw a rock into their midst; in the confusion the warriors killed each other, and Jason was victorious.

Right Light and shadow interplay in the Eta [η] Carinae nebula complex, visible to the unaided eye as a bright patch in the Milky Way. Telescopes and digital imaging produce spectacular images like this one.



FACT FILE

Carina
The Keel
ka-REEN-uh

Genitive
Carinae

Abbreviation
Car

Right Ascension
9 hours

Declination
–60°

Visibility
15°N to 90°S

Notable Features
IC 2220
IC 2501
IC 2581
IC 2602
NGC 2516
NGC 2699
NGC 2808
NGC 2867
NGC 3293
NGC 3314
NGC 3532

Named Stars
Canopus (Alpha [α] Carinae)
Miaplacidus (Beta [β] Carinae)
Avior (Epsilon [ε] Carinae)
Aspidiske (Iota [ι] Carinae)

NORTHERN HEMISPHERE—as viewed from New York, USA, at 10 PM on the 15th of each month

SOUTHERN HEMISPHERE—as viewed from Sydney, Australia, at 10 PM on the 15th of each month

Introduction

If planet Earth is our home, then the Solar System is our neighborhood.

Right Dummy caption Gustave Moreau. Portrayed as a powerful and often ruthless character, Jupiter was the king of the gods in Roman mythology Jovian atmosphere would ultimately Jovian atmosphere that would ultimately.

Below Dummy caption 1995, the Galileo probe was released, plunging through Jupiter's cloud Jovian atmosphere that would ultimately layer and into the would ultimately destroy the craft Jovian atmosphere that would ultimately.

OUR CELESTIAL NEIGHBORS

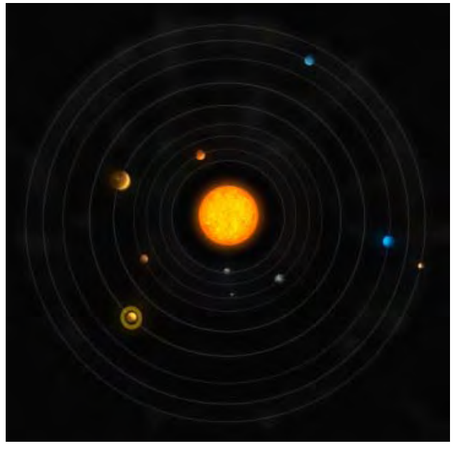
Humans have always looked up in wonder at the night sky. Filled with thousands of sparkling lights in countless patterns, it has been a source of inspiration and curiosity for countless millennia. For almost all of that time, people had no real idea of what those lights—stars—were. So they wove them into their mythologies and superstitions, connecting the sky and Earth in the only way they knew how.

Although the positions of the stars shift slightly over tens of thousands of years and more—as the stars move through space and as Earth's wobbly axis alters our perspective—the changes take place so slowly that the stars are effectively fixed in place. But it has been known since antiquity that a handful of those twinkling lights *do* move, and quite dramatically. They wander slowly from one star grouping to another, sometimes reversing direction, and often disappearing for many weeks at a time. Why are these "stars" different, and where do they fit into our carefully organized schemes for the heavens?

These moving stars are, of course, the *planets*. The name comes from a Greek word meaning "wanderers," aptly describing their antics in the sky. For a long time it was assumed that these non-fixed stars were circling Earth, a notion that fit in nicely with many of the religious and superstitious ideas of the ancients. But gradually superstition gave way to fact and evidence, and we came to see the wanderers for what they really are—other worlds, orbiting the Sun like Earth does, and each with its own unique characteristics and mysteries.

Planets come in many different sizes, and their location in the Solar System has a lot to do with how they came to be as big or as small as they are, and how they came to made of rock, gas, or ice, or a combination of the three. In this chapter, we'll look at each planet in turn, revealing what we know about its history, its structure and atmosphere, moons, rings, and more. We'll come to see how incredible each different world is, and learn to appreciate why Earth is so special.

We'll also examine the other bodies that populate the Solar



Left Dummy caption shows Jupiter accompanied by the Galilean moons in their relative positions. Io, Europa, Ganymede, and Callisto are known as the Galilean moons in honor of their discoverer, Galileo.

Above Dummy caption 1995, the Galileo probe was released, plunging through Jupiter's cloud layer and into the Jovian atmosphere that would ultimately destroy the craft Jupiter's cloud layer and.

Below Dummy caption 1995, the Galileo probe was released, plunging through Jupiter's cloud layer and into the Jovian atmosphere that would ultimately destroy the craft Jovian that would ultimately.

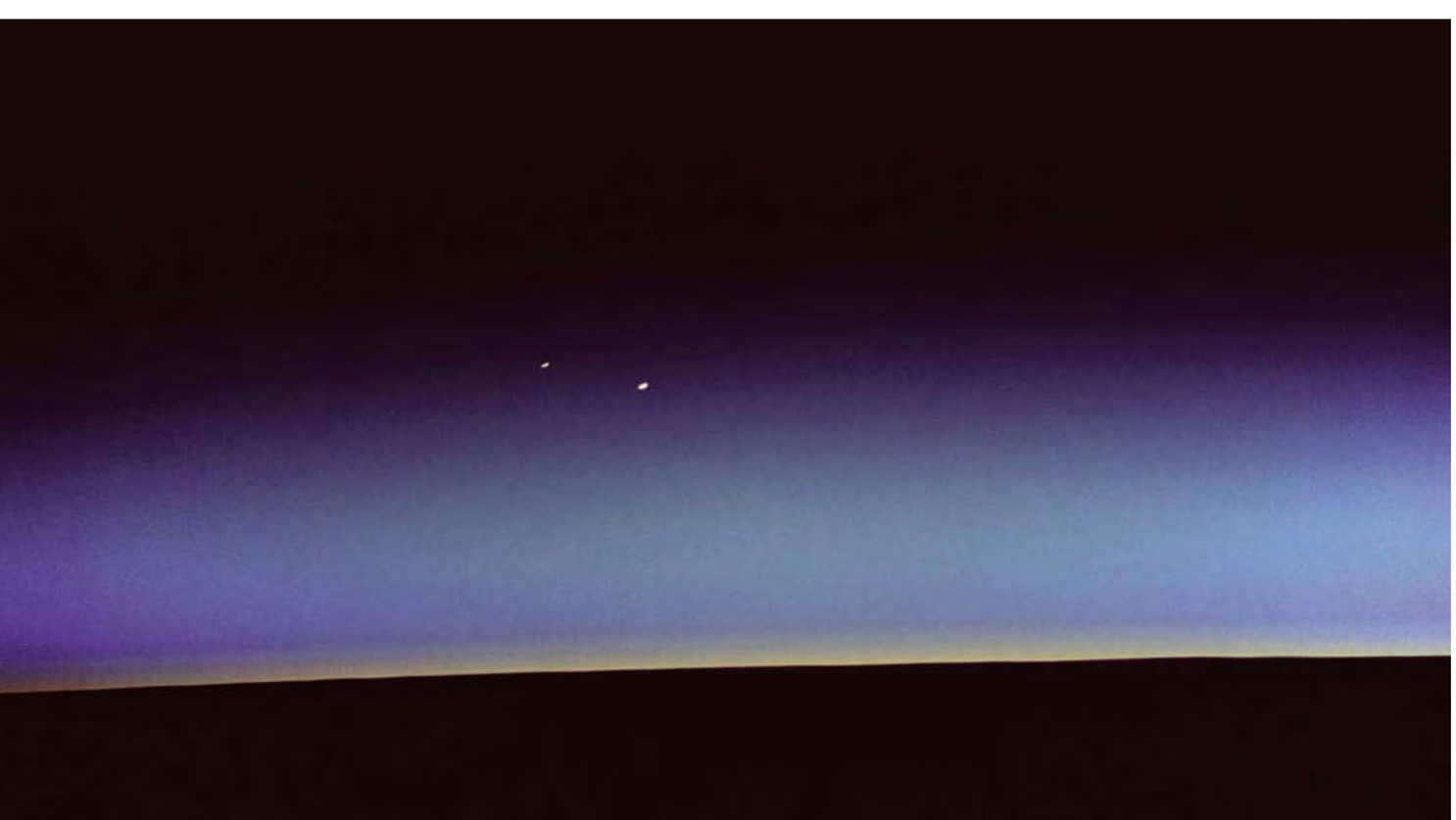
System—comets, asteroids, and the controversial new category of dwarf planets. We'll learn where each of these families of objects lives, and what scientists are doing to find out more about them.

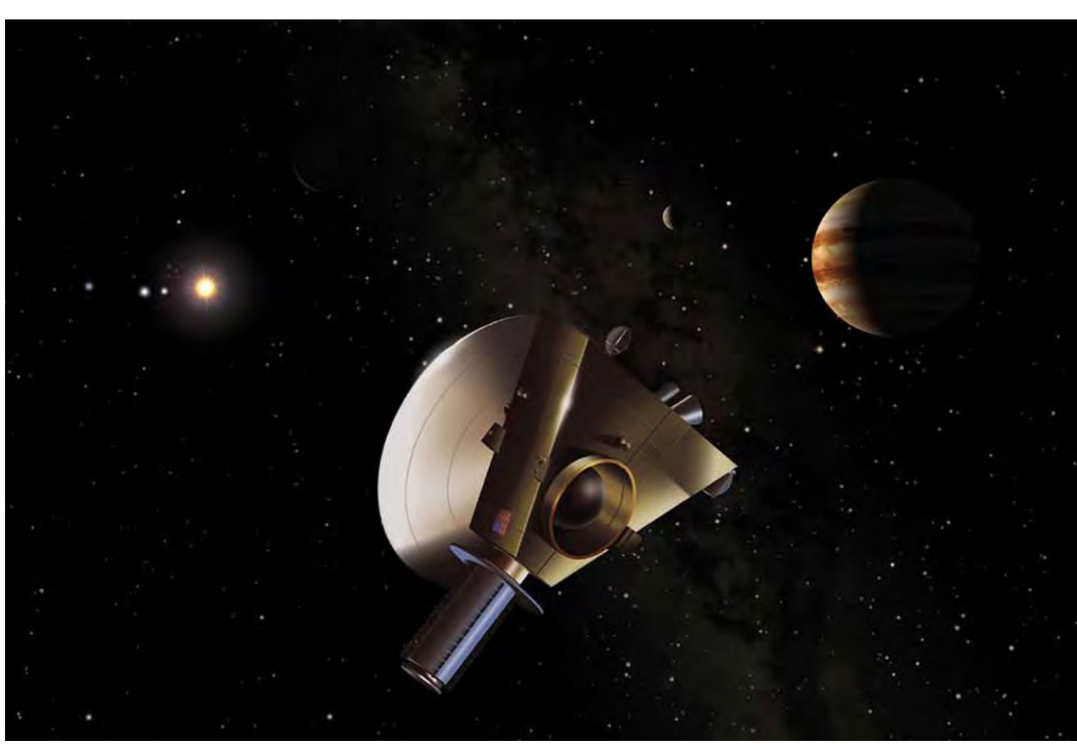
Planets and their smaller siblings are special. They are the only places beyond our Earth that we are able to reach with our spacecraft—the stars are too far away. Planets are our laboratories for examining different geological and climatological processes, and for comparing those processes with what occurs on Earth. Can other planets help us face our challenges here? And what clues can they give us about why Earth is so different...and especially, why our planet is filled with abundant life yet our neighbors seemingly are not?

And in this modern age of exploration, the search for life on other planets—if it exists—is one of the prime driving forces behind space science. As research has progressed in recent decades, it has become more and more apparent that the conditions for simple life may, just may, exist in certain niches throughout the Solar System. Whether it is in underground water deposits on Mars, or a subsurface ocean on Jupiter's moon Europa, the more we learn, the more we realize the potential for life to exist elsewhere—if not in our Solar System, then perhaps in planetary systems around other stars.

We've only made a small start on the road to discovery in our Solar System, and there is so much still to learn. Why are Venus and Mars so different to Earth? What role did comets play in developing life on our planet? How did Saturn get its rings? And how many icy worlds like Pluto are there still to be found in the dark, distant reaches beyond Neptune? The questions are endless.

The Solar System is our neighborhood, and we should take the time to get to know it, find our way around. On pages that follow we'll take a look at each member of the Solar System and try to uncover its secrets.





The Solar System