Community Science Night

This coming week, SCC will host the fifth Community Science Night (CSN). CSN is an event where the teachers from Orange Unified and Yorba Linda-Placentia Unified School Districts invite hundreds of K-6 students and their families to tour SCC and get to play with various science kits that their teachers use. This year, CSN will be held in the spring.

One activity that SCC tries to put on is a star party: a time when we have our telescopes out for the K-6 students and their family can roam from telescope to telescope to see various objects in the night’s sky.

So, what's up that night??

Orion

One of the most prominent and easily found constellations in the night sky is the constellation Orion (the hunter). Large and very prominent in the early spring evening sky, the constellation Orion can be easily found by looking for Orion’s Belt: three stars that seem to form an almost straight line. The three stars are (from East to West) Alnitak, Alnilam, and Mintaka. While it may seem as though they are the same distance from us, Alnitak is 800 light years away, Alnilam is 1340 light years away, and Mintaka is 915 Light years away. North of Orion’s Belt (about the width of your fist at arms length) is the red star, Betelgeuse.

Betelgeuse is a Red Supergiant whose mass is 18 times greater than our Sun’s mass and whose radius is 936 times greater than our sun. If Betelgeuse were in the position our Sun is in, it would engulf the orbit of the planets up through Mars. It is anticipated that Betelgeuse will go super nova within the next 1000 years.

South of Orion’s Belt (again, about the width of your fist at arms length) lies the star Rigel. Rigel is a Blue Supergiant, and usually the brightest star in the Orion Constellation. It’s mass is 17 times the mass of the Sun while it is 78 times larger than the Sun.

However, the true gem in Orion, is the Orion Nebula (M42). At a distance of 1344 light years and 24 light years across, the Great Nebula in Orion is visible to the naked eye. The nebula is really a stellar nursery. Hundreds of stars are forming in that region.

Other Highlights

While Orion is very prominent, it is not the only point of interest this week. There are two very bright stars just east of Orion. They are alpha Canis Major and alpha Canis Minor: the stars Sirius and Procyon, respectively. Orion, being the hunter, has two hunting dogs with him: Canis Major (the big dog) and Canis Minor (the small dog). Sirius and Procyon are the brightest stars in their respective constellations. In fact, Sirius is the brightest star in the night sky.

Sirius is two times more massive than the Sun and is at a distance of 8.6 light years from us. Also referred to as the “Dog Star”, the rising of Sirius in the Morning (just before dawn) signified the flooding of the Nile would soon come to the ancient Egyptians. Procyon is 11 light years from the Sun and is only 1.5 times more massive than the Sun.

Another treat can be found west of Orion. The Pleiades (440 light years away) is an open cluster of stars and is visible to the naked eye. The Pleiades is also referred to as the Seven Sisters, and in Japanese, Subaru (look for the Pleiades on the Subaru nameplate). The Pleiades is a cluster of stars that only “recently” formed from the same molecular cloud.

The last big point of interest is the Planet Mars. Very nearly directly overhead during the evening this week, Mars will appear very red. One of the better studied planet in our solar system, Mars has two rovers currently on its surface (though, one rover has become stuck) and another probe is orbiting its surface. Mars has a mass 11% the mass of the Earth and is half the size of the Earth.