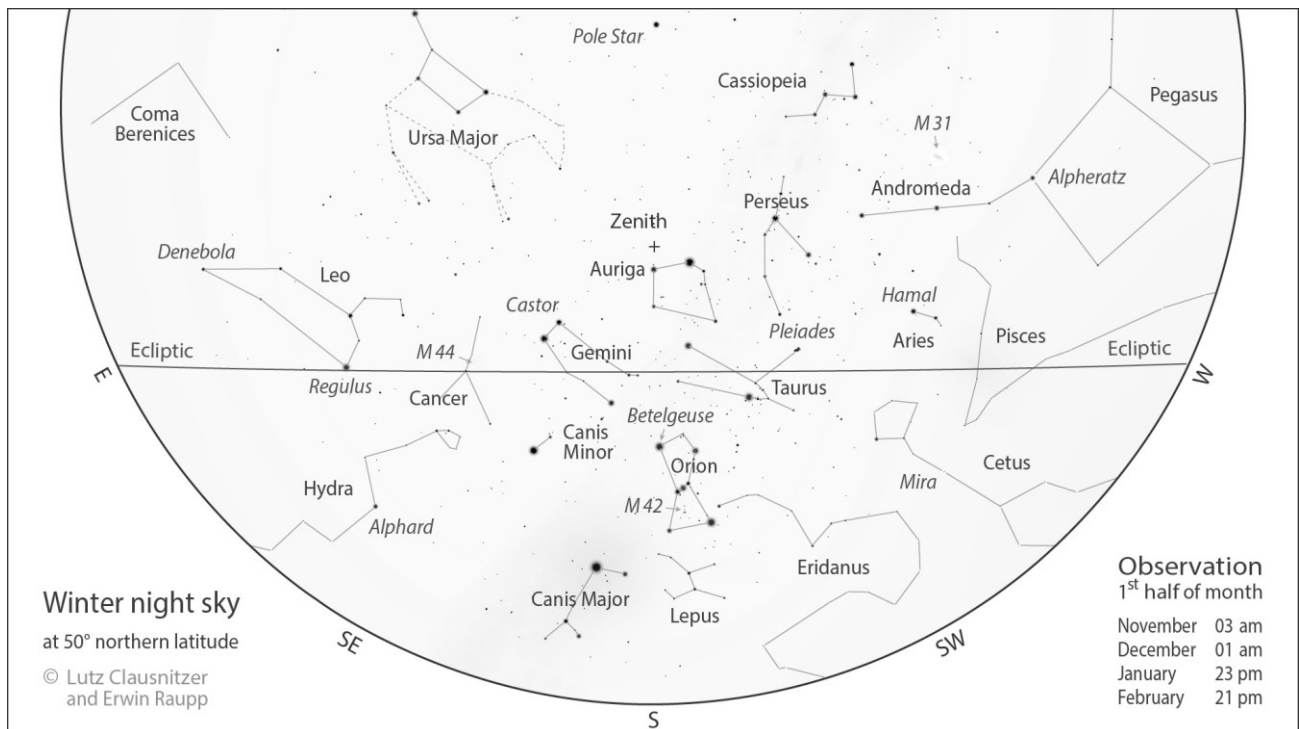


Problems to App “Audio Sky Tours”, Episode 5

The Winter Constellations



1. The sky walk of episode 5 is running along the sides of the Winter Hexagon. Draw this hexagon with a pencil into the chart and name the six corner stars.
2. Still Copernicus, Kepler and Galileo believed the starry sky to be unchanging and eternal. How this concept was disproved in episode 5?
3. How does a star in its first and longest phase of its life meet its energy demand? Name this nuclear reaction and the starting element and the end product. How are stars of this type named?
4. How does a main-sequence star start its evolution to a giant star.
5. Sirius is a double star. Though the companion Sirius B is much hotter than Sirius A its radiative power is merely a thousandth of Sirius A. How is this possible?
6. Star Y may be three times the diameter of star X. By which factor is its radiative power bigger if the surface temperatures are the same?
7. Which star type is our Sun today? Which two types are lying ahead to it?
8. Under which circumstances a star evolves to a neutron star instead to a white dwarf?
9. Under which circumstances a star ends as a black hole?
10. **Choice problems:** a) If no super novae would have occurred in the universe's history humans wouldn't exist today. Explain this.
or b) What happens inside the Orion Nebula M42?