

# Life of Stars

## Week 1

This is an overview of the night sky "tonight" and how to use the freely-provided class star map to navigate the celestial sphere. This will help you become familiar with our night sky and the appearance of stars. We will discuss how the sky appears to change from evening to morning, from season to season, and even from year to year.

## Week 2

We are aware of our Sun, but few people know that it has a "personality". It's too awesome to intuitively grasp its properties, but we will describe and discuss it as the centre of our solar system and how it affects the planets. We will then change our perspective and view it as a star. As the closest star it's an easy target to study. We'll use the Sun as an example to discuss many of the important features of typical stars in their "middle age".

## Week 3

The stars in our night sky are ALL different. In order to understand them, we need to render down their individuality to make the work more manageable. We will look for patterns in our observations of stars that are both easy to measure and strategically important to their evolution, and final fate. This exercise will open windows on why stars differ. We will describe what is needed for stars to form and will discuss the natural laws that limit how stars form.

## Week 4

Star birth "lights up the sky". This makes star-forming regions relatively easy to see - even with only a pair of binoculars. We will discuss where to look to see stars forming and the evidence for star formation in the past. But this raises a question, "Why didn't all the stars form long ago? Why are they still forming today? Let's explore these questions.

## Week 5

Stars don't live forever. Life is only one state in the cycle of life. How do stars fit into this cycle of "life"? How do they age and die? We will discuss what causes stars to end their lives, and how the Universe benefits from their demise.

## Week 6

Stars are the luminaires of the Universe. As stars evolve, so does the Universe. We will discuss what the early Universe was like, and how it will change over time. What is the fate of the Universe, and how can we know this?