

A Brief Column for the Beginning Stargazer Introducing a New Astronomical Term Each Month

Astronomy is rich with terminology. This column will help beginning stargazers ease into the world of astronomy by *briefly introducing* a new but *basic astronomical term* (word, acronym or abbreviation) each month. This list, which began January 1999 with the letter **a**, is alphabetical but uses successive letters for each month's entry. (We will return to the letter **a** after twenty-six months.)

(The February 2001 column ended with z so we are now in the second cycle of twenty-six terms. See the February 2001 issue for a cumulative index.)

Word of the Month for July 2001

early-type star (also see **late-type star**) A term applied to any of the *hottest* types of stars, usually those of spectral class **O**, **B** and **A**. (See spectral class note at end.)

This term is also used to refer to the *hotter* end of any given spectral class. For example, **G3** is *earlier* (i.e., hotter) than **G7**.

late-type star A term applied to any of the *coolest* types of stars, usually those of spectral class **K** and **M** (also types **C**, **S**, **L** and **T**).

This term is also used to refer to the *cooler* end of any given spectral class. For example, **G7** is *later* (i.e., cooler) than **G2**.

Thus, the terms early and late are synonymous with “hot” and “cool” and can be used comparatively in the sense of hotter or cooler. For example, spectral class **O** is earlier than type **B**, type **B** is earlier than type **A**, type **A** is earlier than type **F**, type **G** is earlier than type **F**, etc.

The designations “early” and “late” derive from times about a century ago when astronomers (wrongly) thought stars evolved (aged) from being hot when young or “early in their lives” to cool when old or

“late in their lives.” Although the terms early and late can mislead, the use of these expressions remains widespread.

Thus, it is important that this nomenclature *not be taken to have anything to do with the evolution or age of stars* but only to designate the positions of stars in the spectral sequence (i.e., hot or cool). ☼

Spectral Class Note: Astronomers classify stars by the appearance of their *absorption (dark) lines* in their spectra. Principal spectral types are given the letters **O**, **B**, **A**, **F**, **G**, **K** and **M**. (Additional classes include **C** and **S**, and more recently **L** and **T**). These spectral types represent a temperature sequence from the *hottest* stars (**O**) to the *coolest* (**M**). Each main class is also subdivided into *numbered subdivisions* running from zero (hottest) to nine (coolest).

The following table gives example spectral types for some familiar stars ranked from *earliest* or *hottest* (*Rigel* in top left in table) to *latest* or *coolest* (*Betelgeuse* in bottom right in table).

Name	Spectral Class	Name	Spectral Class
Mintaka	O9	Canopus	A9
Spica	B1	Procyon	F5
Rigel	B8	Sun	G2
Sirius	A0	Pollux	K0
Deneb	A2	Aldebaran	K5
Altair	A7	Betelgeuse	M2

References. J. Mitton 1991, *Concise Dictionary of Astronomy* (Oxford Univ. Press); I. Ridpath 1997, *A Dictionary of Astronomy* (Oxford Univ. Press).