River Houses Star Calendar 2022–2023

TEACHING your homeschool students the names of the major constellations and the brightest stars is one of the most enduring gifts you can give them. This simple calendar is intended for use with our monthly "Star Bright" astronomy posts on the River Houses website (riverhouses.org). Your backyard astronomy guide and the large star charts in your homeschool world atlas (riverhouses.org/books) will help you orient yourself to the night sky. Star names are given below in both their traditional vernacular and their scientific forms (a Greek letter followed by the name of the constellation in the Latin possessive case). Star magnitudes are shown in parentheses (lower is brighter).

FALL TERM (Cygnus Term)

September 2022 · Deneb (α Cygni) (1.3)
The brightest star in Cygnus the Swan, Deneb (*tail* in Arabic) is a blue-white supergiant about 2600 light-years distant and about 200 times the diameter of the sun. With Vega (our August star) and Altair (α Aquilae) it forms the Summer Triangle.

October 2022 · Alpheratz (α Andromedae) (2.1)
Although it's officially part of Andromeda, Alpheratz is most easily recognized as the top left star in the Great Square of the adjacent constellation Pegasus. A close double, Alpheratz is 97 light-years distant and only 60 million years old. Its Arabic name, from its association with Pegasus, means *the horse's navel.*

November 2022 · Algol (β Persei) (2.1–3.4)
An eclipsing variable with a period of just 2.9 days, Algol's changing brightness can be seen by careful observers with the naked eye. It represents the head of the Gorgon slain by Perseus, and its Arabic name means *the ghoul* or *the demon*. Algol is 93 light-years distant and about 570 million years old.

WINTER TERM (Orion Term)

December 2022 · Aldebaran (α Tauri) (0.8–1.0)
The red giant Aldebaran (*the follower* in Arabic) represents the eye of Taurus the Bull. About 6.4 billion years old, it is 44 times the diameter of the sun and only 67 light-years distant. Precise measurements of Aldebaran helped Edmund Halley confirm that nearby stars move against the remote stellar background.

January 2023 · Capella (α Aurigae) (0.1)
Capella is *the little goat* (in Latin) carried on the shoulder of the charioteer Auriga. Although single to the naked eye, it is actually a system of two yellow-white giants and at least two dwarf stars, about 43 light-years distant and about 600 million years old.

February 2023 · Betelgeuse (α Orionis) (0.0–1.6)
The red supergiant Betelgeuse, marking Orion's shoulder, would engulf all the planets out to Jupiter if it were at the center of our solar system. Its name is a corrupted rendering of an Arabic phrase meaning *the hand of Orion*. It is roughly 640 light-years distant (although this is disputed) and only 8 million years old.

SPRING TERM (Leo Term)

March 2023 · Sirius (α Canis Majoris) (–1.5)
Sirius is the brightest star in earth's night sky. It represents the eye of the Big Dog (Canis Major), following his master Orion across the sky. A double star with a dwarf companion, bright white Sirius is about 240 million years old and only 9 light-years distant. Its name means *burning* or *scorching* in Greek.

April 2023 · Regulus (α Leonis) (1.4)
Regulus, *the little king* in Latin, represents the heart of Leo the Lion. A bright blue-white star (actually a quadruple system), Regulus is 79 light-years distant and about 1 billion years old. The path followed by the sun, moon, and planets across the sky, the *ecliptic*, passes less than half a degree from Regulus.

May 2023 · Polaris (α Ursae Minoris) (1.9–2.1)
"I am as constant as the northern star," says Shakespeare's Julius Caesar. Polaris, the pole star at the end of the handle of the Little Dipper (Ursa Minor), is a triple system about 430 light-years distant. The primary star in the system is a yellow supergiant. The angle of Polaris above the horizon will tell you your latitude.

SUMMER TERM (Hercules Term)

June 2023 · Spica (α Virginis) (1.0)
A blue giant (actually a close double), Spica is about 260 light-years distant and it is quite young: only 12.5 million years. Precise measurements of Spica's position led the ancient Greek astronomer Hipparchus to discover the precession of the equinoxes: the 26,000-year "wobble" in the earth's rotation.

July 2023 · Arcturus (α Boötis) (–0.1)
Trace back along the handle of the Big Dipper and follow "the arc to Arcturus," the brightest star in Boötes the Herdsman. An ancient orange giant more than 7 billion years old, it is about 36 light-years distant and 25 times the diameter of the sun. With Regulus (April) and Spica (June) it forms the Spring Triangle.

August 2023 · Vega (α Lyrae) (0.0)
One of the first stars to have its distance measured by parallax, blue-white Vega is only 25 light-years distant. It is about 2.5 times the diameter of the sun and is much younger, with an estimated age of about 400 million years. Its Latin name is derived from an Arabic phrase that means *the falling eagle.*