

Name \_\_\_\_\_

## The Sparkling Secrets of Stars

### Open-Ended Response Answer Key

1. Answers may vary but could include descriptions of approaching a bright, glowing sphere, feeling intense heat, and using specialized equipment to study the star's radiation and surface characteristics.
2. Small stars like our sun become white dwarfs, while large stars can undergo supernovae and collapse into black holes or leave behind neutron stars. Both types of stars ultimately recycle elements into space, but the paths they take differ due to their mass.
3. Understanding a star's temperature is crucial for astronomers because it provides valuable information about the star's energy output, life stage, and potential habitability for planets orbiting it. Temperature affects the star's color, spectral lines, and luminosity, all of which help astronomers make important observations and predictions.
4. Examples could include the story of the North Star guiding travelers, the Greek myth of Orion and the Pleiades, or the role of stars in astrology. Each story or belief reflects the cultural significance of stars in human history, often related to navigation, timekeeping, or storytelling.

