

Astronomy Learning Goals (Standard 4)

- 1. I can describe the differences between the relative sizes of various bodies in space (planetary systems, stars, star clusters, galaxies).
- 2. I can recall that the universe is made up of interacting bodies (planets, stars, etc.) that behave in a predictable way.
- 3. I can recall that our solar system is a star system and one of many other star systems in the universe.
- 4. I can list the types of galaxies (especially our galaxy!) and an example of each.
- 5. I can describe how the solar system was formed.
- 6. I can describe planet types and give examples.
- 7. I can describe what a habitable zone is.
- 8. I can explain the Big Bang theory and the evidence for this theory.
- 9. I can recall that the Big Bang theory is the most scientifically accepted theory to explain the formation of the Universe.
- 10. I can describe the life cycle of a star.
- 11. I can recall that the formation of elements comes from the life cycle of a star.
- 12. I can compare how stars evolved based on their mass (examples black hole, neutron star and white dwarf).
- 13. I can recall why the length of a star's life depends on its mass.
- 14. I can recall that parallax and the inverse square law are used to determine distance of stars and galaxies.
- 15. I can recall when the best times to take parallax data are.
- 16. I can describe how telescopes on Earth and in space are used to expand our knowledge of the universe AND the difference between these two types.
- 17. I can explain the history of stars in terms of their luminosity, size and temperature.
- 18. I can compare the age, temperature and size of our Sun to other stars.
- 19. I can list the main ways that the Sun influences the Earth (the role of gravity, coronal mass ejections, and electromagnetic radiation).
- 20. I can define solar flare, solar radiation and solar wind.
- 21. I can recall that spectroscopy is used to determine the composition of stars.
- 22. I can describe the relationship between satellite placement and its purpose.
- 23. I can explain why satellites are important.
- 24. I can discuss the purpose of space probes.