

Exercise 1 - Done

1. Yes
2. Nothing
3. N/A

Exercise 2 - Done

Exercise 3 - Done

Exercise 4 - Done

Exercise 5 - Done

4. Where on the color-color diagram are the bluer galaxies? Where on the diagram are the redder galaxies?
The bluer galaxies are closer to the left side of the diagram and redder galaxies are closer to the right side.
5. Look at your graph along with the graph you made in Exercise 4. Which part of the graph corresponds to the early (elliptical) galaxies? Which part corresponds to the late (spiral) galaxies? Note: Irregular galaxies are difficult to classify by colors and may be scattered on your diagram. But only 3% of observed galaxies are irregular, so this should not be a problem.
Upper part - Elliptical
Lower part - Spiral

Exercise 6 - Done

6. In the observable universe, 77% of galaxies are spiral (late) and 20% of galaxies are elliptical (early). How does your percentage of early and late galaxies compare to the universe? Would you say the galaxies in the vicinity of Abell 2255 are representative of the universe as a whole?
My percentage is fairly similar but the percentage in the vicinity of Abell 2255 is not representative of the whole universe.

Exercise 7 - Done

7. Red
8. Elliptical or Spiral or Irregular or Lenticular
9. Red, orange, and blue

10. Based on a galaxy's age, its color and spectra will be different. For example, elliptical galaxies are more likely to be redder while spiral galaxies are more likely to be bluer.