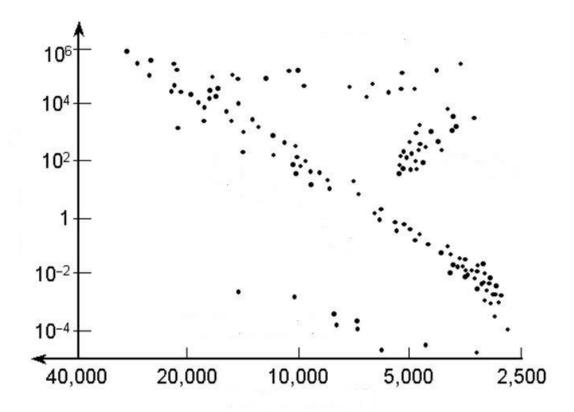
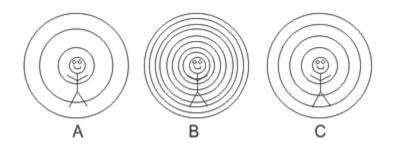
ESS 200 Name: Quiz: Stars and Universe, Part 2 (HR Diagrams, Doppler, and The Big Bang)

Complete each of the following on the diagram below...

- 1. Label a red giant
- 2. Label a blue star
- 3. Show the approximate location of our sun.
- 4. Label a white dwarf.
- 5. Show/label where the main sequence stars are located.



6. If the circles below represent sound waves, who is making noise with the highest frequency?



- 7. The sound waves on the right were produced by a moving object. What was the object's direction of travel? Use an arrow to show the object's direction of travel.
- A C E

- 8. Which smiley face hears the lowest pitch sound?
- 9. Circle the person who sees a red shift when looking at the star.
- $\begin{array}{ccc} & & & \\ &$
- 10. What is the age of the universe?
- 11. When was most of the hydrogen and helium in the Universe created?
- 12. If we could have seen it, what would the Universe have looked like 380,000 years after the Big Bang?
- 13. When did the first stars and galaxies form?
- 14. List two pieces of evidence for the Big Bang?

15. Edwin Hubble created a graph similar to the one on the right. Each dot represents a galaxy. How did Hubble measure the velocities of the galaxies on the graph?

