***Internet Activity – Stellar Evolution***

*Ch. 30*

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

[“Stellar Evolution: A Journey with the Chandra Space Telescope”](http://chandra.harvard.edu/edu/formal/stellar_ev/stellar_ev_flash.html)

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1. Describe the Milky Way and summarize star formation.
2. (Click on “continue” to start the tutorial.) Start near the bottom of the image and click on “brown dwarf.” Describe what a brown dwarf star is and give an example.

What will happen over time to the brown dwarf star?

1. Click on the next star up mass-wise (“red dwarf”) and describe red dwarf stars.
2. Name the nearest star to our Sun.
3. How long will red dwarf stars live and what will eventually happen to them?
4. Describe the evolutionary path for a sun-like star and [list the time scales involved](http://en.wikipedia.org/wiki/File:Evolution_of_a_sun-like_star.png).

What is a “planetary nebula” and what does it have to do with planets?

1. Describe the three paths that a blue supergiant may take – depending on mass.

a.

b.

c.

1. What is the difference between a Type Ia and Type II supernova explosion?

Describe [Tycho Brahe’s Supernova Remnant](http://chandra.harvard.edu/photo/2002/0005/index.html) of 1572.

7. What is a “white dwarf” star and how does a star get to that evolutionary stage?

8. Describe the difference between a neutron star and a pulsar.

What is the [Crab Nebula and how was it made](http://chandra.harvard.edu/photo/2009/crab/)?

9. What is a “black hole” and how massive does a star have to be to turn into one?

10. Name the [closest black hole to Earth](http://www.universetoday.com/75723/where-is-the-nearest-black-hole/) that is thought to exist. Why do astronomers think this is actually a black hole?