

## Astronomy Webquest...Exploring the Universe!

**Directions:** Go to my website to pull up this document & have access to the links below. You will use the suggested websites listed for each section to answer the questions about the universe.



### A. General Astronomy

<http://starchild.gsfc.nasa.gov/docs/StarChild/questions/question19.html>

1. What is a light year?
2. Light moves at a velocity of about \_\_\_\_\_ each second. So in one year, it can travel about \_\_\_\_\_.
3. Why is using kilometers a problem in space?
4. What is an astronomical unit?

### B. Formation of Stars

[http://burro.astr.cwru.edu/stu/stars\\_birth.html](http://burro.astr.cwru.edu/stu/stars_birth.html)

1. What is a nebula?
2. Describe the process of accretion in your own words.
3. The "piles" of matter continue to group together in the nebula until they are gigantic clumps of dust and \_\_\_\_\_. At this stage, the clump is called a \_\_\_\_\_.
4. When gas compresses, what happens to the temperature?

5. When does fusion occur?

### C. Lifecycle of a Star

[http://imagine.gsfc.nasa.gov/docs/teachers/lessons/xray\\_spectra/background-lifecycles.html](http://imagine.gsfc.nasa.gov/docs/teachers/lessons/xray_spectra/background-lifecycles.html)

1. The larger the mass of a star, the \_\_\_\_\_ its life cycle.
2. Our sun is in which phase of it's life cycle?
3. Nuclear fusion converts \_\_\_\_\_ to \_\_\_\_\_ in the stars' core.
4. Why are stars red in the red giant phase?
5. What kind of stars become dwarfs?
6. Fusion in the core stops when it is essentially just \_\_\_\_\_.
7. What is a supernova explosion?
8. What does the leftover core of the exploded star produce?

### D. Universe

[http://starchild.gsfc.nasa.gov/docs/StarChild/universe\\_level2/universe.html](http://starchild.gsfc.nasa.gov/docs/StarChild/universe_level2/universe.html)

1. Why do scientists believe the universe is still expanding?
2. How do scientists determine if an object is moving away from Earth or towards Earth?
3. An object moving away from Earth gives off light seen in \_\_\_\_\_ wavelengths.
4. What determines the amount of shift in an object's spectrum?

## E. Further Exploration

Check out the following articles. Choose the one that interests you most.

1. *What Does A Real Astronaut Think Of 'Gravity'?*

<http://www.forbes.com/sites/quora/2013/10/17/what-does-a-real-astronaut-think-of-gravity/>

2. *Is That Someone's House? What Astronauts Can See Looking Down*

<http://www.npr.org/blogs/krulwich/2014/03/05/285315313/is-that-someones-house-what-astronauts-can-see-looking-down>

3. *Did Dark Matter Kill the Dinosaurs?*

<http://www.scientificamerican.com/article/did-dark-matter-kill-the-dinosaurs/>

4. *Neil deGrasse Tyson on Cosmos and Integrating Science into Pop Culture*

<http://www.scientificamerican.com/article/neil-degrasse-tyson-on-cosmos-and-integrating-science-into-pop-culture/>

Identify the article that you chose by circling it above. Read the article, and then write a paragraph (4-5 sentences) summarizing the article below.