



Virtual Learning

# Aerospace Engineering

**Career Exploration - Astronomer**

May 8, 2020



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## Lesson: May 8, 2020

### **Objective/Learning Target:**

Students will learn about the career of an astronomer and what requirements are needed to become an one.



## **Bell Work:**

What do you think are the requirements for someone to become an astronomer?



## Let's Get Started:

### Watch Videos:

- [What Astronomers Actually Do](#)
- [Introduction to Astronomy: Crash Course Astronomy #1](#)



Astronomers are scientists that study our Universe and everything that's in it. There are so many different objects and other things in our Universe that astronomers often specialize on specific focuses such as galaxies, stars, planets, star-formations, the Sun, the search for life, or the origin of the Universe as a whole. Astronomers help plan and support space missions. However some astronomers are also professors at universities or colleges and spend time teaching along with doing research.



Astronomy itself is the science that studies outer space, celestial objects and phenomena. Astronomy uses mathematics, physics, and chemistry in order to explain their origin and evolution. Objects that could be studied in astronomy include planets, moons, stars, nebulae, galaxies, and comets.



Astronomers help inform our understanding of the universe, and our place in it. Photos of Earth and of our solar system taken from space show the isolation of our planet, and the importance of sustainability. Space missions have helped increase our technological innovations including global positioning systems (GPS), advances in weather forecasting, solar energy, and even cancer treatments that benefit many of us here on earth. Astronomers might watch for and warn us of solar storms that may affect power grids, whereas others monitor space debris to prevent damage to satellites.



Almost all astronomers have a Ph.D. in astronomy or physics. Doctorates in these areas are required for faculty and research positions. However, in some cases, doctorates in certain areas of engineering are also allowed. Ph.D. candidates should have a solid understanding of physics, calculus, statistics, and other types of mathematics. Computer skills are also extremely important for analyzing and modeling data.





# Astronomer Understanding

Use the internet to research the following questions:

1. Description of the occupation including main duties and responsibilities.
2. What are the education and training requirements for the occupation?
3. List other required qualifications such as licensing, certifications, etc.
4. What field of Engineering works closely with Astronomers?
5. List the name of one person that you know of who is in an Astronomer (someone famous, use Google).