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PHYS 115 - Anatomy
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The Mars Rover 'Perseverance' is a ten foot long, car sized rover with six wheels and includes many instruments that would resemble the needs which a living being would have to stay alive and continue to explore. It uses PIXL (Planetary Instrument for X-ray Lithochemistry) to determine the composting of Martian surface materials. PIXL can also analyze chemical elements in greater detail than ever before. Perseverance includes SHERLOC (Scanning Habitable environments with Raman & Luminescence for Organics and Chemicals) which uses an ultraviolet laser to detect organic compounds.

Each of these state-of-the-art scientific instruments are included on the Perseverance rover in an attempt to determine the organismal and chemical compounds within the Jezero Crater which is where it will be landing.

Perseverance aids in the natural science inquiry of whether life can be sustained on the Martian surface. By the year of 2030, NASA astronomers seek to have human life not only land on mars, but be sustained. This includes growing organismal life such as plants on the surface to create natural life.

With Perseverance on Mars, this can lead to an abundance of major contributions of science to our culture and heritage. Perseverance will determine if one of the largest Martian craters is secure. This mission will pilot future human expeditions to Mars. Collecting chemical makeups through the Perseverance Rover, astronomers and scientists will be able to test methods to produce oxygen from the Martian atmosphere. An attached drill on Perseverance will attempt to locate subsurface water. This is a new step that will be taken on the planet.

The data and collections of information the Perseverance will accumulate can be used in so many ways. Not only will scientists be able to find a way to create oxygen in the atmosphere of Mars, but this will also better our own planet Earth as well. Steps will be taken to find ways to create oxygen in new ways with the denaturalization of our planet occurring.

Natural science of air quality found on Mars can produce a chain reaction that trickles back to Earth. This will then lead to contemporary research and how we can change the idea of how we can save our oxygen.

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The major obstacle that the directors of Perseverance must overcome is the landing of the Rover. The landing is crucial not only to keep Perseverance safe, but also to determine how a shuttle will need to enter Mars' atmosphere and land when humans are onboard. Perseverance rover will land on Mars on the 18th of February in the Jezero crater where it will first search for past life. It will need to make multiple maneuvers to land. This sequence is known as "seven minutes of terror." This is because there is a difference in time between the rover collecting information and NASA receiving the material. In other words, NASA will not know if perseverance survives the landing until it's cameras and microphones have sent the footage back minutes later.

The travel of Perseverance is a popular topic that gained the attention of many at the time of its Atlas capsule launch in July of 2020. Now though that landing time is approaching, eyes need to be turned back towards what will be collected by the rover. Perseverance can determine if there has or if there can ever be life on the surface of Mars.

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