

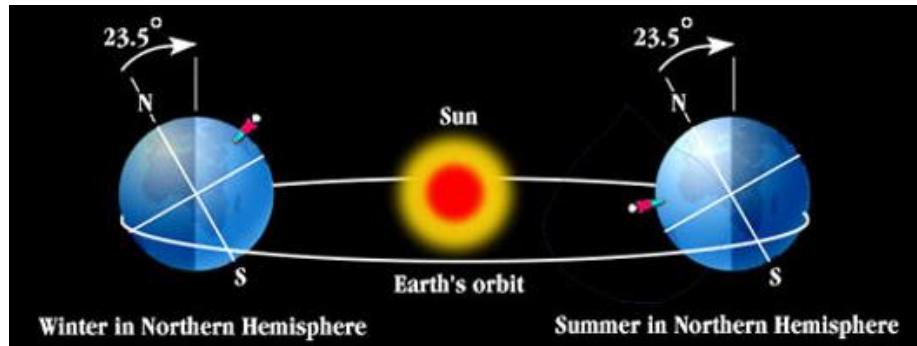


Lake Erie Nature & Science Center

ASTRONOMY CLUB

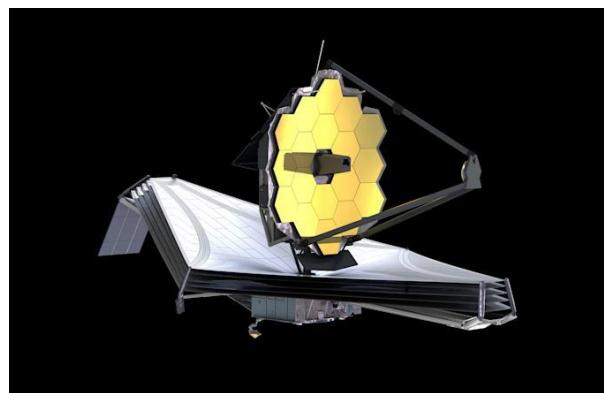
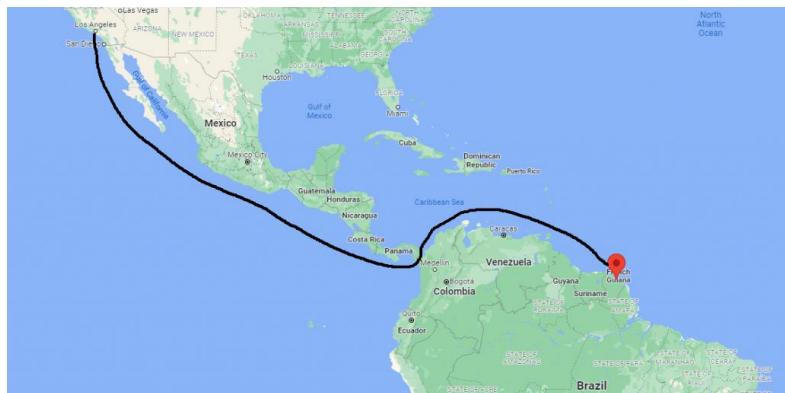
Shorter days

As we slip further into fall, the leaves are changing, and the days are getting much shorter. Why does this happen? You can thank the fact that the Earth is tilted 23.5 degrees on its axis. As Earth moves around the Sun, different parts of the planet are tilted towards the Sun. When it's summer for us here in Northeast Ohio, the northern part of the Earth is tilted towards the Sun. This part of the Earth gets the most direct light from the Sun. This makes it hotter. At the same time, the southern part of the Earth is tilted away from the Sun. It gets less direct light from the Sun. This produces the winter season South of the Equator.



News and Current Events – What is going on in the world of space and astronomy

JWST COMPLETES 1ST LEG OF A VERY LONG JOURNEY – NASA's James Webb Space Telescope successfully arrived in French Guiana ON October 12th, after a 16-day journey at sea. The 5,800-mile voyage took the space telescope from Southern California through the Panama Canal to Port de Pariacabo on the Kourou River in French Guiana, on the northeastern coast of South America. NASA has also set a launch date for their newest, most powerful telescope. The James Webb Space Telescope (JWST) will be launched into space on December 18 aboard a European Space Agency (ESA) Ariane 5 rocket. The orbiting infrared observatory will be the largest telescope ever launched into space.





Astro-tainment – Space and Media

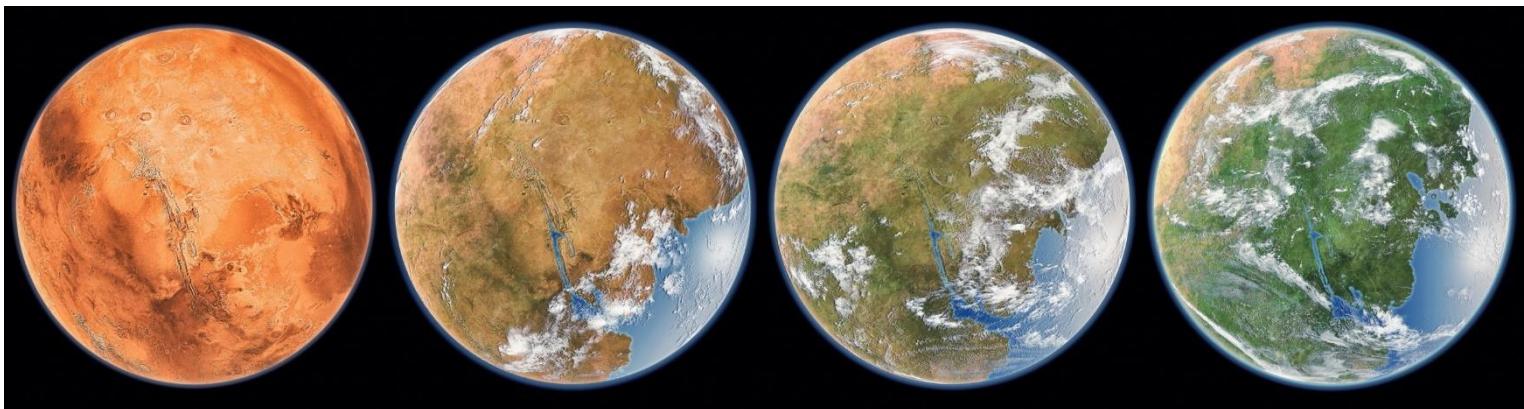
This month we reviewed the movie "***Stowaway***" directed by Joe Penna

A three-person crew on a mission to Mars faces an impossible choice when an unplanned passenger jeopardizes the lives of everyone on board.

Available for streaming on Netflix, this small budget film might be worth 2 hours of your time. That is, if there is absolutely nothing else you could be doing. A bit predictable, this movie tries to be scientifically earnest, but the pacing drags you to a pay-off that isn't quite worth the effort.

Wrap your brain around this... - Mind blowing facts

Is Mars the future of Humankind? – Terraforming is the hypothetical process of deliberately modifying the atmosphere, temperature, surface topography or ecology of a planet, moon, or other body to be similar to the environment of Earth to make it habitable by Earth-like life. Science Fiction writers for years have written about using technology to convert a planet with a hostile environment to some a bit more habitable for humans. Now that we are making a more serious push to land humans on Mars, some of these terraforming methods are being revisited, at least on paper. The major challenge would be to heat up the atmosphere and in doing so, raise the atmospheric pressure so that liquid water could be sustained on the surface of the planet. Methods have been discussed, such as seeding the planet's surface with cyanobacteria to produce oxygen. This would be to offset the 96% carbon dioxide in current atmosphere. There is also a concept of using giant orbital mirrors to melt the ice caps and warm the surface. Elon Musk has also suggesting bombarding the planet with nuclear weapons to accomplish the same goal. To be sure, while terraforming could create another world for humans to thrive upon, it is something for the far future as humans are not even close to having the technology for this feat. Even if we did, it could take hundreds if not thousands of years to create another Earth-like planet.



Become a member of the Astronomy Club!

Benefits include:

- Monthly Meetings
- Telescope Night Presentations
- Movie Nights
- Telescope Training and Loan Program

\$60/year per family

Contributors And Volunteers Needed!

Have something you would like to talk about? We are looking for folks to contribute to our monthly meeting. Any and all content remotely related to space or space science is welcome. No experience required, just enthusiasm. Please contact me at:

billr@lensc.org

Upcoming Events

Astronomy Club Meeting
November 17th @ 6:30 pm

To become a member, please call 440-871-2900 or visit www.lensc.org/visit/planetarium/