

# GLOBAL FRIENDSHIP THROUGH SPACE EDUCATION

Year 08 - Vol. 04 - February 17, 2015

# ASTRO NEWSLETTER

## New Horizons Spacecraft

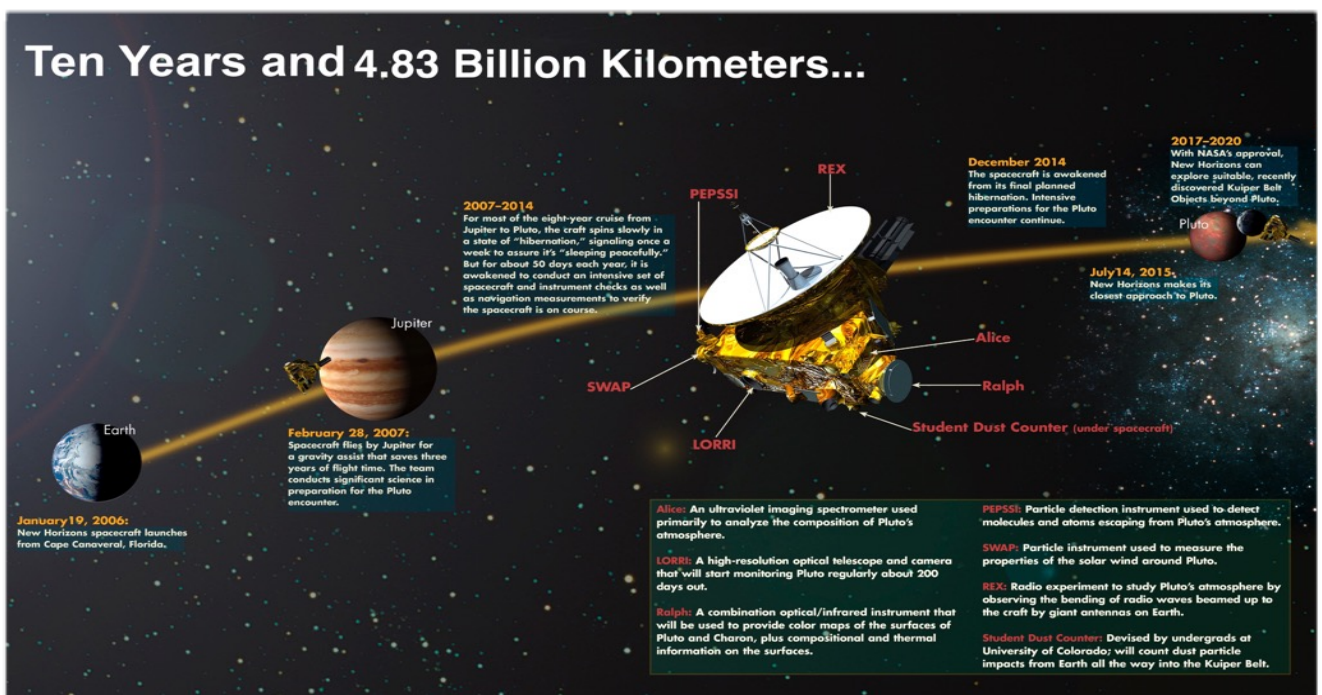
Staying True to its Name - Exploration of Pluto

In mid-July 2015 - a huge milestone in the exploration of our Solar System will be achieved with the close flyby (about 10,000 km from surface) and thorough observation of the [Dwarf Planet Pluto](#). Many scientists are comparing this moment to the [Mariner 4 close approach to Mars in 1965](#) because we learned so much about the surface of Mars in such a short amount of time. Until Mariner 4 flew close to Mars and took some high detailed photos, some people actually believed that Mars could have lakes and rivers of water on the surface and possibly even support life similar to Earth. Of course the pictures Mariner 4 sent back to Earth showed us the cold, bare, and rocky surface of Mars that we know today. Even with today's modern technology and techniques studying our Solar System - little is known about the icy world Pluto, discovered in 1930 by American Astronomer, [Clyde Tombaugh](#). This lack of information is the result of Pluto being on average an astonishing [6 Billion Kilometers away](#) from the Sun! That translates into about 40 times further away from the Sun than Earth.

We do know that Pluto has a strange, tilted, and very oval-like orbit around the Sun which takes the Dwarf Planet into a region of millions of icy objects that is just outside our Solar System called the [Kuiper Belt](#) (pronounced Ky-per). We know that Pluto has a spherical shape, is really cold, and has [5 Moons](#): Charon (largest and about half the size of Pluto), Styx, Kerberos, Nix, and Hydra.

Besides these few facts, little is known about the icy [Dwarf Planet](#). There are many exciting things to learn as some people think Pluto might have geysers, frozen lakes and even its own rings stuck in its orbit. New Horizons will definitely help with these following points of interest about Pluto: Find out what Pluto is made of; Why such a mysterious orbit?; What other objects have effect on it?; and about other objects in the Kuiper Belt that surrounds our Solar System. Armed with these questions and more - New Horizons is there now getting closer everyday, ready to change our understanding of a large piece of the puzzle of our Outer Solar System.

## Ten Years and 4.83 Billion Kilometers...







**Starting with Top Left and working Clockwise:** Distance Learning Specialist, Joe Payne teaching students about the International Space Station Expedition 42 Mission Patch, Cakabey School proudly displays their Mission Patch, and children from Bahcesehir School in Izmir, Turkey show their Mission Patches to their PSSP Partner School Middle School 206 in New York City, U.S.A.



## Photo of the Week

This beautiful flower-like ball is actually the exhaust cloud from one of the most dangerous and explosive phenomena known to humans. This is what is left of [Supernova G299.2-2.9](#) or just [G299](#). It appears to be a special Type Ia supernova - at the heart of these types of explosions is thermonuclear fusion. Astronomers believe that a Type Ia Supernova occurs when a white dwarf star becomes unstable after taking in energy from a nearby companion star, causing it to overload and explode into a Supernova. These are known to be some of the brightest objects in their host galaxies. This particular Supernova was inside of our Milky Way galaxy, but much too far from our Solar System for us to worry!





# GFTSE NEWS

## Mission Patch Videoconferences are a Huge Success!

Most of the first initial round of videoconferences are finished for this year, and we are ready and set for our second round - with "Toys in Space" as the next topic. With all of these schools already participating in at least one videoconference this season so far:

- Izmir Bilim Doga College, Izmir, Turkey
- Cayyolu Doga College, Ankara, Turkey
- Cukurambar Doga, Ankara, Turkey
- Batikent Doga College, Ankara, Turkey
- Kurtkoy Doga College, Ankara, Turkey and School4Child, Lodz, Poland
- Children's World Academy, Qubec, Canada and METU College, Ankara, Turkey
- Cekmekoy Doga College, Istanbul, Turkey
- Bahcesehir College, Izmir, Turkey and MS206, New York City, USA
- Ismail Kaymak College, Canakkale, Turkey
- Cayyolu Doga College, Ankara, Turkey
- Cakabey College, Izmir, Turkey
- Cekmekoy Doga College, Istanbul, Turkey

Next up for the second round of videoconferences will be the "Toys in Space" videoconference. This is a very hands-on and thought provoking lesson, to begin the process of understanding the differences, difficulties, and challenges that Astronauts have to face while traveling in outer space. This is a great follow-up to our introduction and promises to be one of the favorites throughout the whole season!

