



Hopatcong Borough Schools

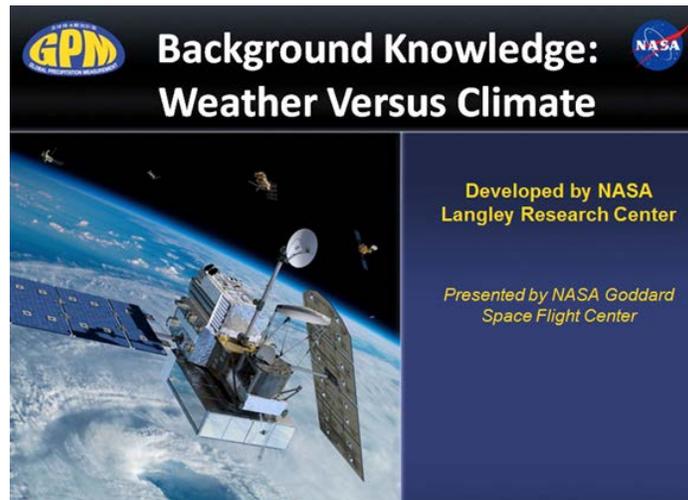
Press Release

Learning Today. Leading Tomorrow.

## Hopatcong STEAM: Teachers Learn With NASA

FOR IMMEDIATE RELEASE, June 20, 2017

Dr. Joanne Mullane, Hopatcong Acting Superintendent of Schools, Announces



Monday through Friday, May 15<sup>th</sup>-19<sup>th</sup>, Hopatcong Science teachers participated in a series of “Webshops” provided remotely by scientists and educators from NASA’s Goddard Space Flight Center in Greenbelt, Maryland.

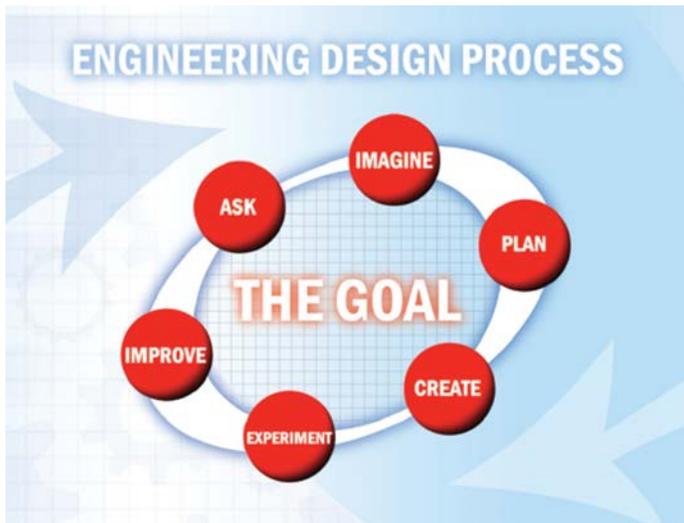
The professional development was part of a multi-year partnership of Hopatcong District with NASA, in which all K-12 science teachers had the opportunity to see NASA science presentations, on grade-level Next Generation Science Standards by the agency’s experts, and ask questions. The topics included, among others, NASA’s Global Precipitation Measurement mission. The GPM is an international satellite mission that uses multiple satellites orbiting Earth to collect rain, snow and other precipitation data worldwide. Teachers were introduced to multiple teaching resources and science discussion subjects, such as understanding of climate sensitivity and predicting extreme weather events.

Additionally, NASA engineers, educators, and scientists were available to facilitate several hands-on short breakout sessions.

The teachers had the opportunity to work with NASA’s B.E.S.T. (Beginning Engineering, Science and Technology) educators to learn about Engineering Design Process. The Engineering Design Process is a series of steps engineers use to guide them in problem solving. What made NASA training different from others was - there were no specific instructions for building the items and there were no given drawings. The emphasis was for teachers to be able to facilitate student understanding that engineers must imagine and plan before they begin to build and experiment.

In addition, problem-based learning was addressed through NASA activities using application of science standards addressed in morning sessions. In grade-level teams teachers built precipitation towers, explored NASA web resources, built hurricane-resistant structures, and constructed simple devices, based on the phase change of water from ice to liquid, to investigate the effectiveness of different shading materials, as well as the cost-effectiveness of different designs. The entire NASA week was filled with teacher collaboration, creativity, and modelling of specific engaging student hands-on activities, supported by excellent resources, and easily transferable to classroom.

NASA partnership is a part of Hopatcong's K-12 STEAM Initiative, which provides teaching and learning that focus on imagination, engineering design, inquiry, and interdisciplinary problem solving.



Hopatcong Middle School teachers design, build, and test Exploration Vehicles that fit within certain constraints.

Objective: To demonstrate understandings of the Engineering Design Process while utilizing each stage to successfully complete a team challenge.