Astronaut Mixes Fluids in Microgravity On Board Space Station

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Astronaut John Phillips recently conducted an experiment on board the International Space Station to study how mixable fluids interact without the interference of gravity.

Expedition 11 NASA Space Station Science Officer John Phillips conducted the Miscible Fluids in Microgravity, or MFMG experiment this week. This experiment studies how miscible, or mixable fluids interact without the interference of gravity. Studying the interactions between molecules that make up liquids is important for improving numerous processes ranging from making plastics to manufacturing medicines.

For the first part of the experiment, Phillips used a syringe to inject dyed water into honey. Investigators want to see if they merge into one stream of honey. Under normal gravity, the stream would sink. In weightlessness, the stream can be formed but it is not known if the stream will break up like a stream of oil in water.

For the second part, Phillips injected an aspherical drop of water into the honey. The process was videotaped for 30 to 40 minutes and digital images were taken for two hours. Investigators on the ground were able to watch video of the experiments as they were conducted in space. The results will be compared to computer simulations performed by the payload developers.

Focused human physiological and biological Space Station research on

astronaut health and the development of countermeasures to protect crews from the space environment will allow for long duration missions to explore beyond low Earth orbit.

Source: NASA