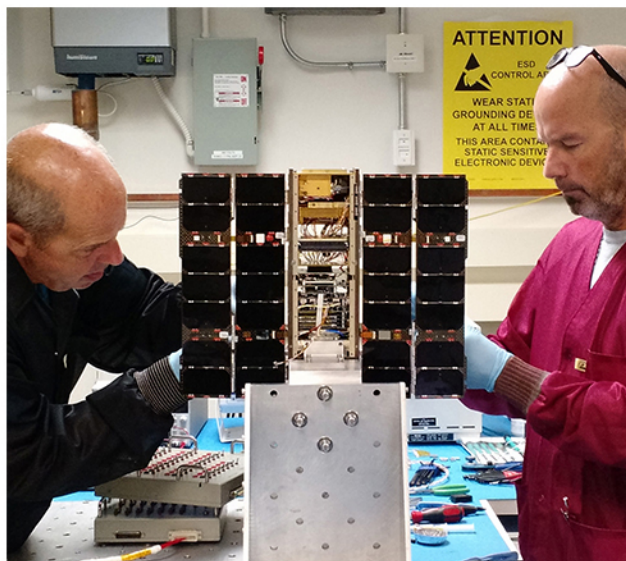




IceCube, the first small satellite project managed by Goddard Space Flight Center.

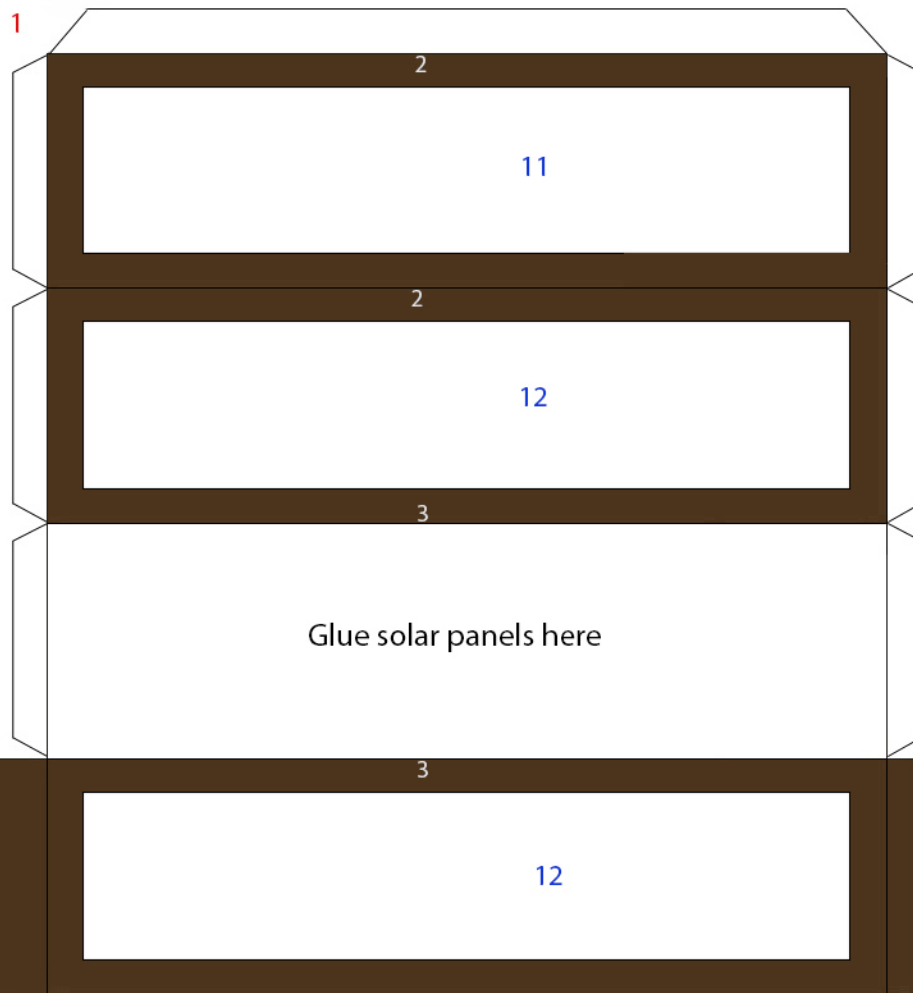
IceCube, which measures cloud ice levels using a radiometer, is the first small satellite project managed by Goddard Space Flight Center's Wallops Flight Facility. After two years in the making, the 10-pound, breadloaf-sized satellite was launched on Orbital ATK's seventh contracted commercial resupply services mission to the International Space Station, on March 19, 2017, from Cape Canaveral Air Force Station, Florida.

IceCube is a type of smallsat known as a cubesat, and more specifically, it's a 3U cubesat. Each "U" is a cubic of 10 centimeters in size; as a 3U cubesat, IceCube measures 10 by 10 by 34 centimeters. Despite its relatively small size, IceCube is a bonafide spacecraft complete with three-axis attitude control, deployable solar arrays and a deployable UHF communications antenna.

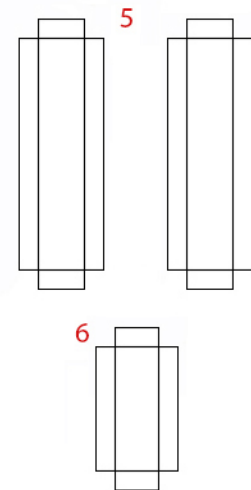
Once launched and deployed from the ISS, the IceCube team will spend about two weeks conducting various check-outs on the satellite before starting the spacecraft's operational mission, which is to perform cloud ice measurements using an 883-Gigahertz radiometer.

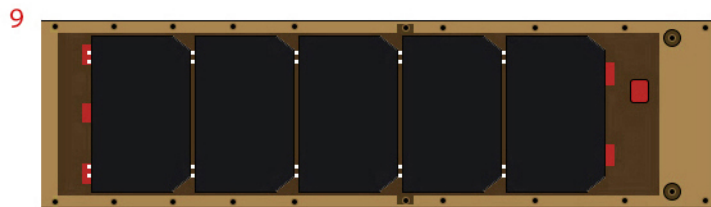
Cloud ice properties are key variables used in weather and climate models. Currently, there's a large uncertainty in measuring cloud ice in the atmosphere at altitudes between 5 to 15 kilometers. IceCube will collect the first global map of cloud-induced radiances at 883-Gigahertz.

The overall objective of IceCube is to raise the technology readiness level (TRL) of the radiometer to measure cloud ice levels. NASA uses nine TRLs to assess the maturity level of a particular technology ranging from TRL 1, meaning basic principles have been observed, expanding up to TRL 9, which means a particular technology or system is flight-proven and successful. The radiometer capability for intermediate altitude cloud ice measurements is currently at TRL 6; the goal is to get to TRL 9 with IceCube.



color edges brown



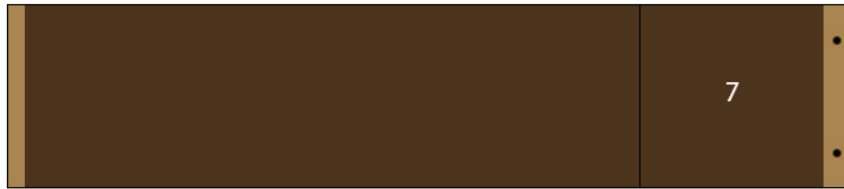


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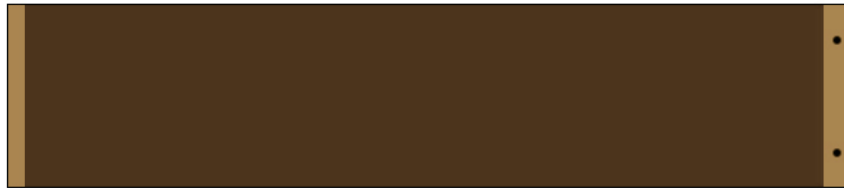
IceCube

11

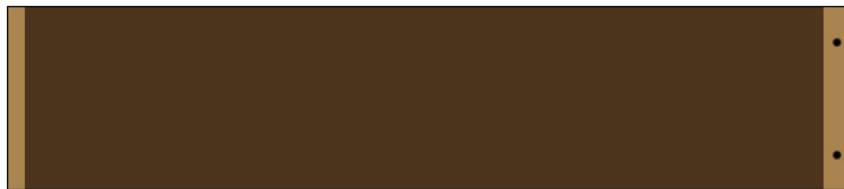
Glue these to cardstock, color edges brown



12



12



Optional Detail parts,
cut out each solar cell, glue over the matching solar cells.

