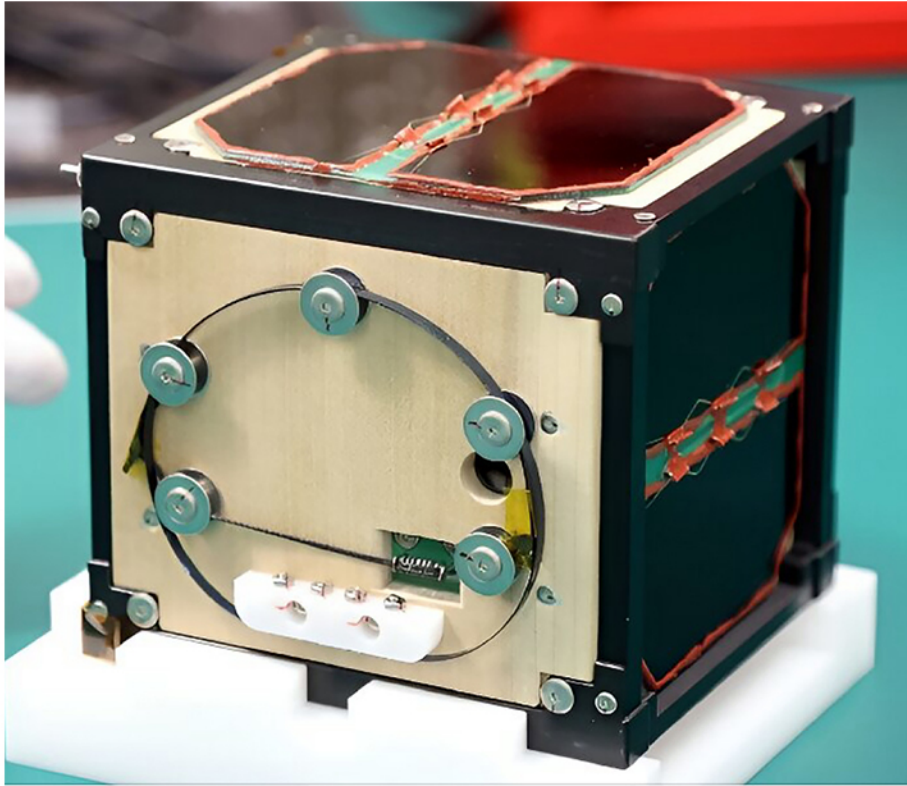


LignoSat (First wooden satellite)



On May 28, 2024, Kyoto University and Sumitomo Forestry announced the completion of the world's first wooden satellite, a project that has been years in the making. The artificial satellite is set to be handed over to the Japan Aerospace Exploration Agency (JAXA) in June. Then, it will be launched from the Kennedy Space Center by a SpaceX rocket in September, bound for the International Space Station (ISS). The primary goal of this mission is to explore the potential of using wood in space by analyzing data transmitted from the satellite.

Traditional artificial satellites are typically made of metal. However, concerns have been raised about the environmental impact of oxidized aluminum particles released during the satellites' re-entry into the atmosphere. In contrast, wooden satellites would burn up completely during re-entry. It would not release harmful substances, offering a more environmentally friendly alternative.

According to Kyodo News, "LignoSat," a blend of the words ligno, a prefix meaning wood, and satellite, is the result of about four years of development efforts by a team involving Kyoto University and Sumitomo Forestry Co. to exploit the environmental friendliness and low cost of wood in space development.

LignoSat is a 10-centimeter cube made of 4- to 5.5-millimeter-thick magnolia wood panels, with a frame partially made of aluminum. It is equipped with solar panels on some sides and weighs about 1 kilogram.

It is built using a traditional Japanese technique that does not use screws or adhesive materials.

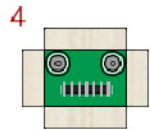
The team said they confirmed the durability of the wood material, even in the harsh environment of outer space.

The LignoSat project aims to combat space clutter and promote more environmentally friendly space activity. Current international rules mandate that satellites reenter the atmosphere after their missions to avoid them becoming space debris. Conventional satellites pose air pollution risks due to metal particles generated during reentry.

Wooden satellites, which burn up upon reentry, are expected to mitigate this effect.

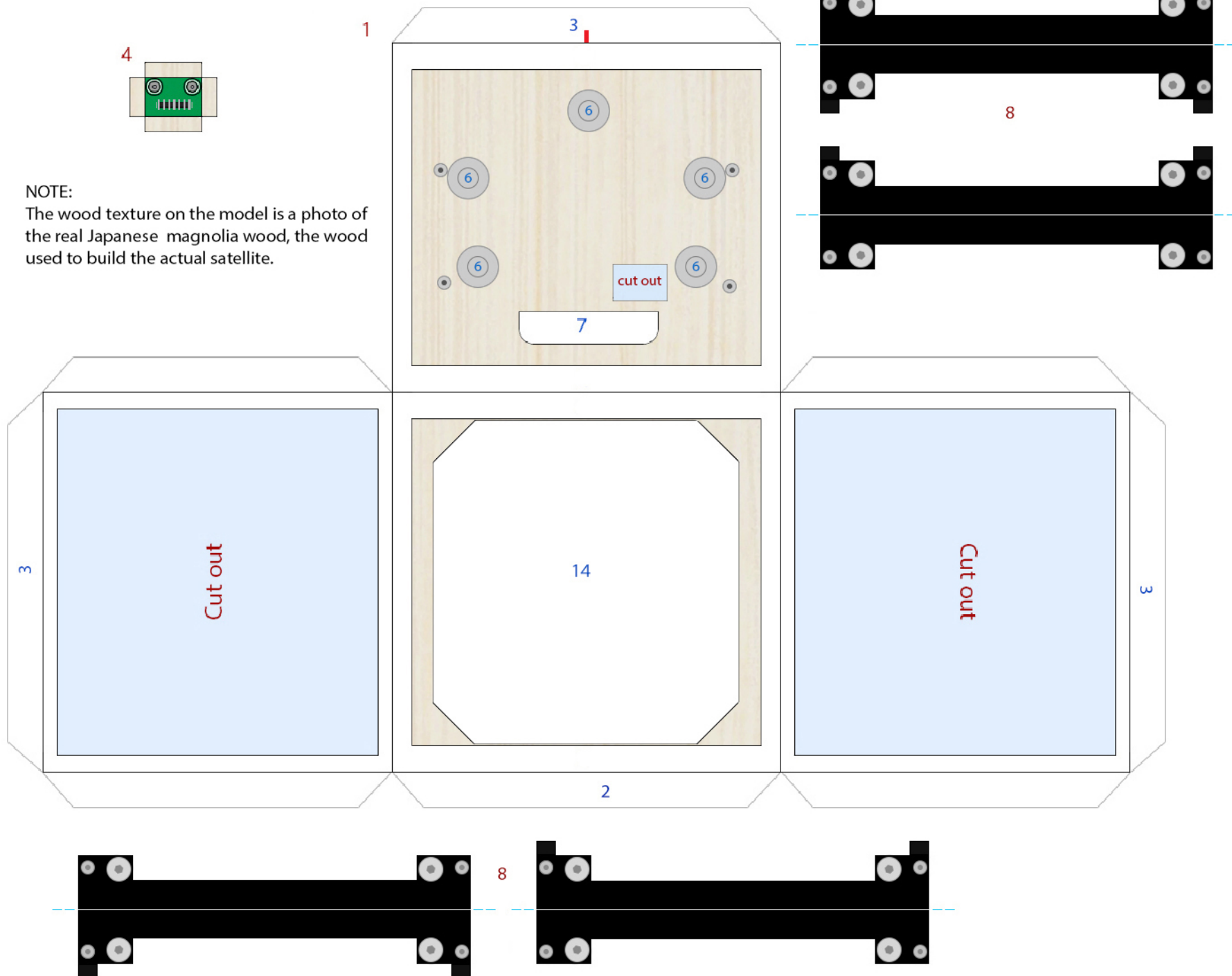


LignoSat - (First wooden satellite)

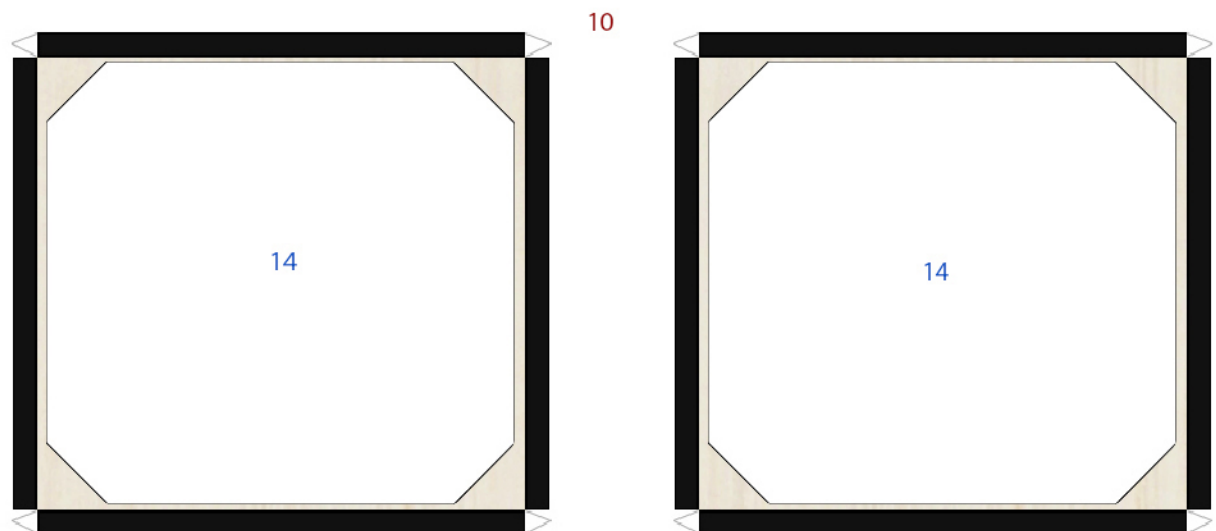
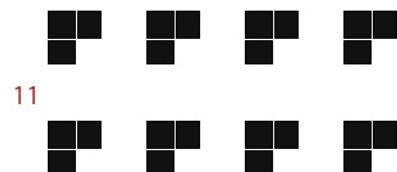
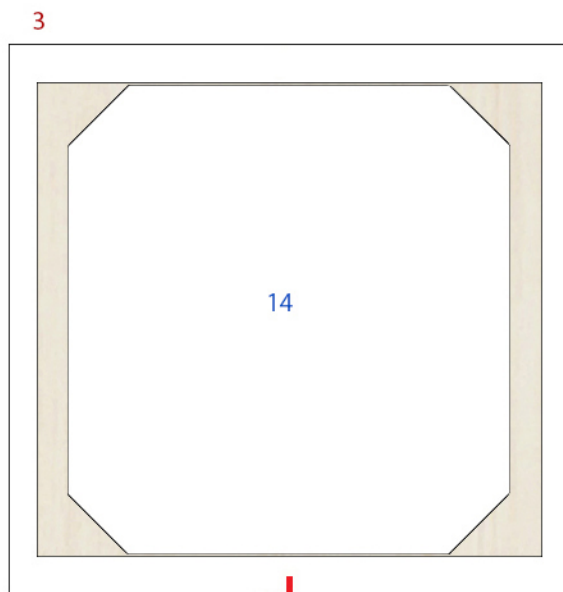
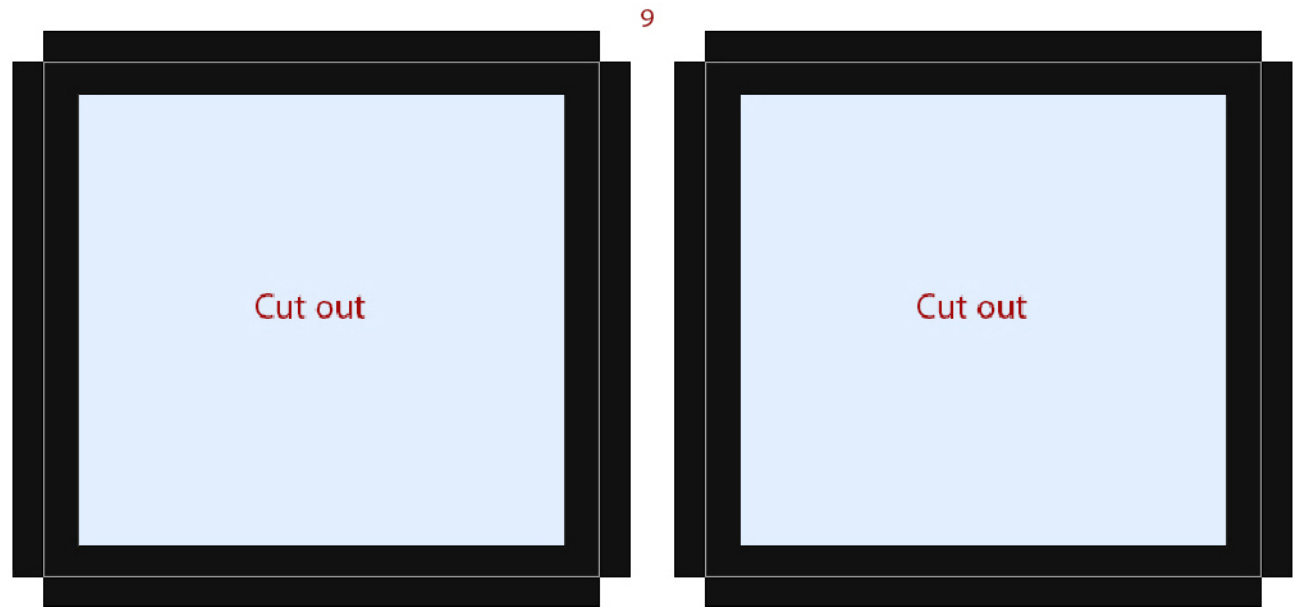
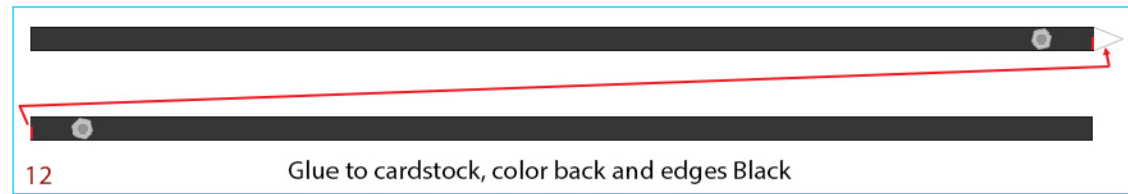
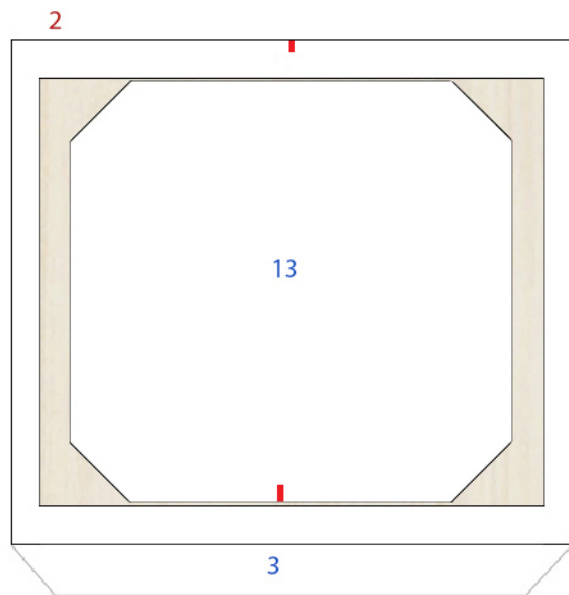


NOTE:

The wood texture on the model is a photo of the real Japanese magnolia wood, the wood used to build the actual satellite.



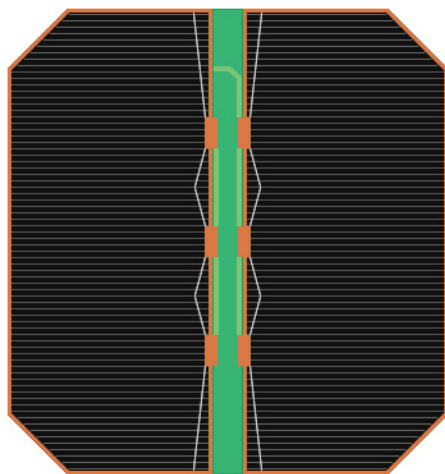
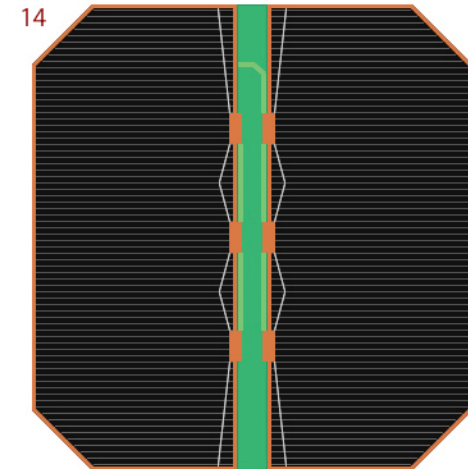
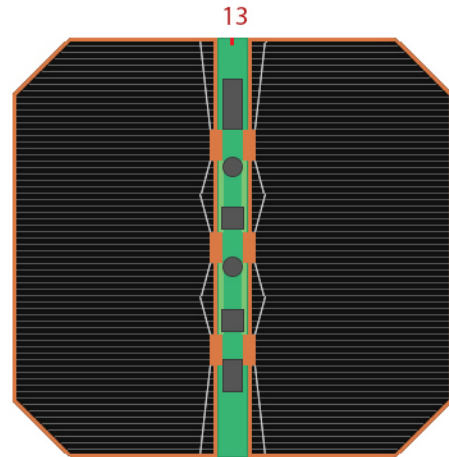
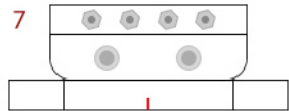
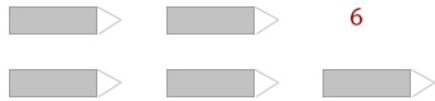
LignoSat - (First wooden satellite)



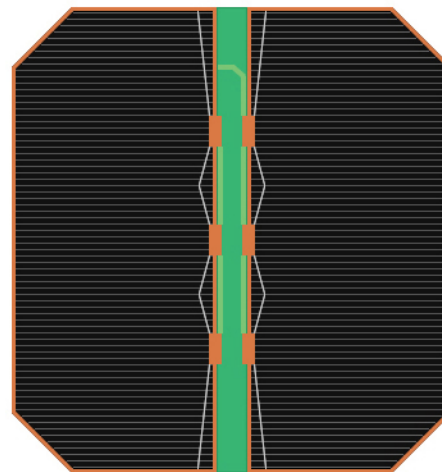
LignoSat - (First wooden satellite)



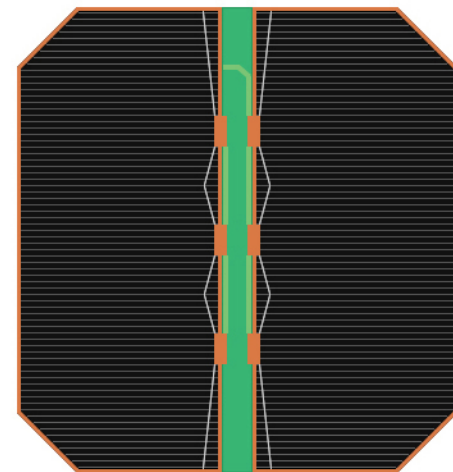
5 Fold, glue each back-to-back



14



14



Glue all to two layers of cardstock