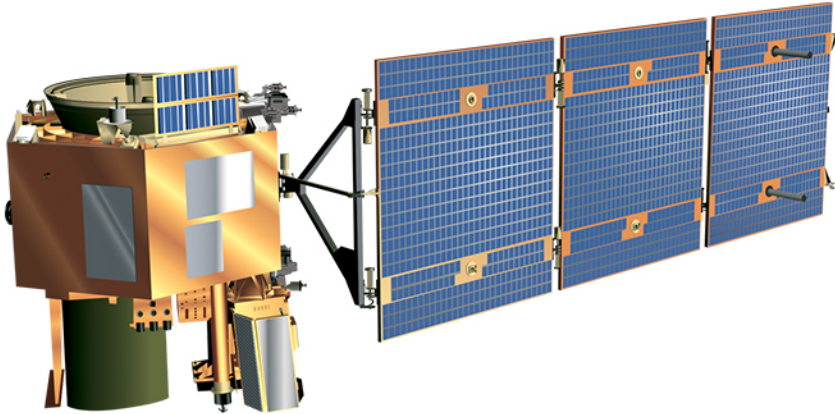


EO-1 (Earth Observation-1)



The Earth Observing-1 (EO-1) Mission was developed as part of the NASA New Millennium Program (NMP). The NMP was established in 1994 to respond to the challenge of the NASA Administrator to develop faster, better, and cheaper missions.

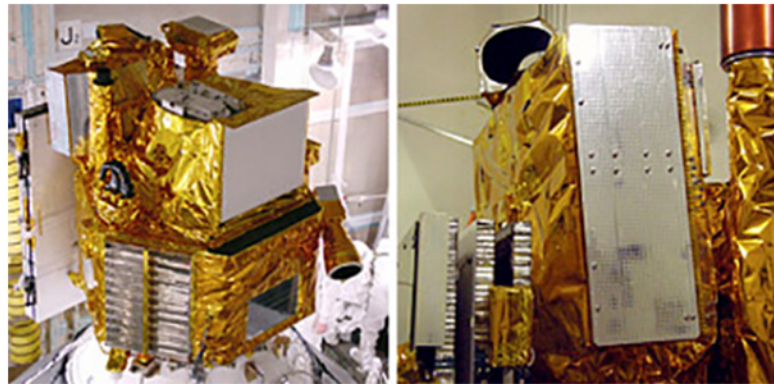
The NMP was charged to develop and flight-validate revolutionary technologies; reduce development risks and life cycle costs of future science missions; enable highly capable and autonomous space systems and, promote nationwide technology teaming and coordination.

The EO-1 spacecraft was launched from Vandenberg Air Force Base on November 21, 2000.

When considering the large number of accomplishments resulting from the EO-1 mission, a sizable number can be classed as "firsts".

First to:

1. Reduce cost of imagery 10-fold in the first 18 months of operation.
2. Generate a comprehensive space-borne hyperspectral imagery archive.
3. Implement an on-board cloud detection algorithm.
4. Experiment with adaptive algorithms coupled to a low cost ground-based scanning antenna array to dramatically lower the cost of communicating with low earth orbiting satellites.
5. Use onboard feature detection to autonomously modify onboard imagery tasking decisions.



EO-1 also was the first to map active lava flows from space, the first to measure a facility's methane leak from space and the first to track re-growth in a partially logged Amazon forest from space.

In its role as a testbed, EO-1 also became a trailblazer for artificial intelligence software, test driving the Autonomous Sciencecraft Experiment software developed by NASA's Jet Propulsion Laboratory to allow the satellite to make decisions based on the data it collects.

The software cut the number of commands needed to capture images and also implemented a smart logic to capture data of areas of interest without repeat input from the ground.

EO-1 delivered thousands of high quality images providing valuable data for the science community that included scenes from the World Trade Center attacks, flooding in New Orleans after Hurricane Katrina and volcanic eruptions. All of these results validate the cutting edge satellite and instrument technologies that performed flawlessly and exceeded mission expectations.

Originally, EO-1 was supposed to last one year only. Since the satellite had no major issues or breakdown, NASA extended the mission through 2011 until it hit critical fuel levels and suspended orbital maintenance, beginning a slow decline in orbital altitude.

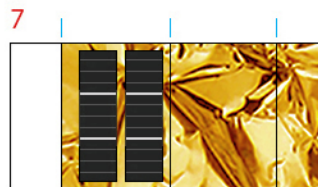
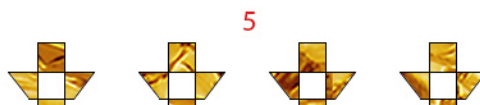
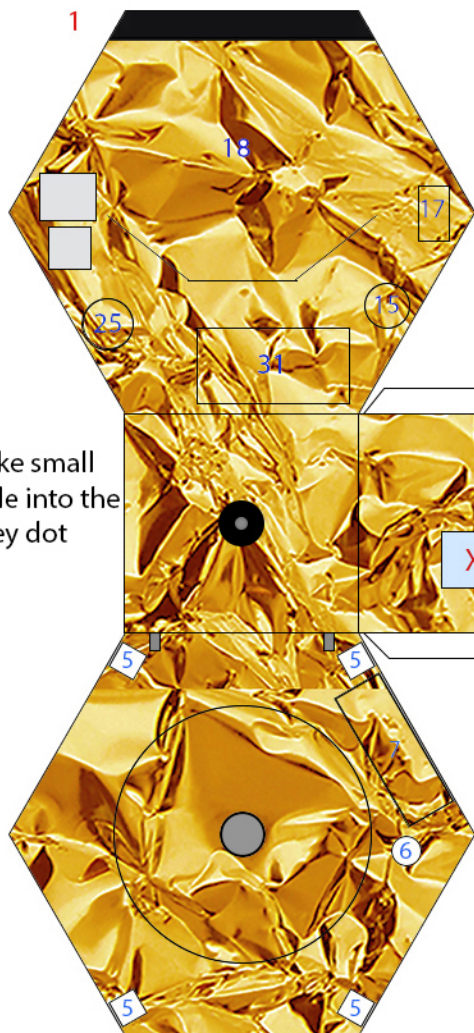
The official end of the EO-1 Mission was marked on March 30, 2017 when the satellite was transitioned into a permanently safed configuration with fully emptied propellant tanks and drained batteries. NASA forecasts the satellite's re-entry for 2056 give or take a decade due to atmospheric uncertainty. Even though EO-1 is no longer in operation, its legacy will live on in satellites systems and instruments for many years to come.



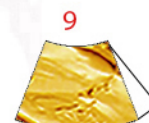
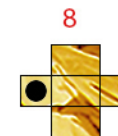
EO-1 (Earth Observation-1)



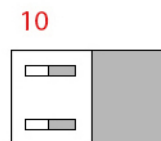
Poke small hole into the grey dot



Score along the blue lines, fold back-to-back at the middle and make an "L" shape part.



Color back black



Fold-glue back-to-back

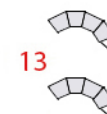
11 Glue to cardstock



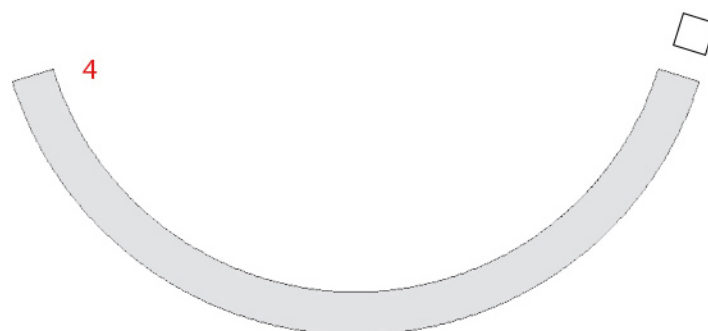
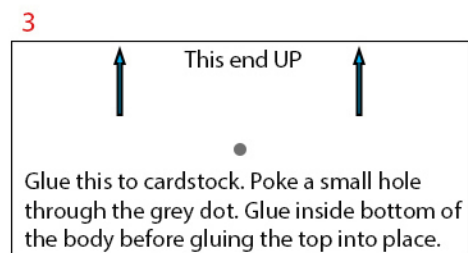
14



13



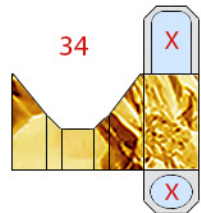
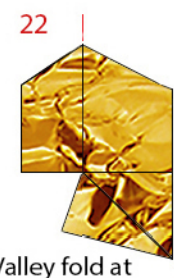
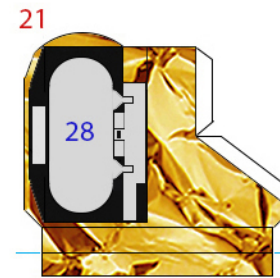
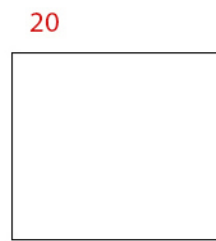
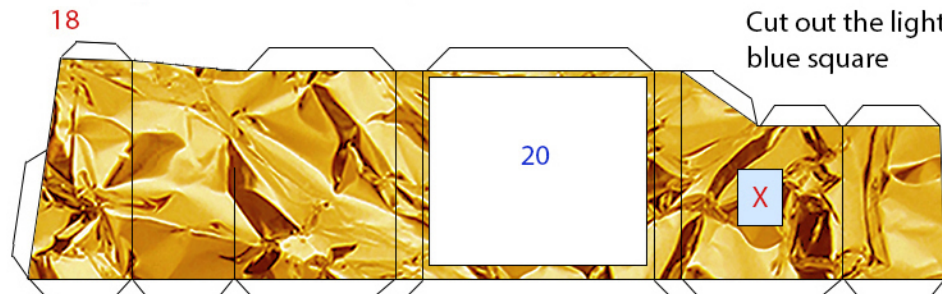
17



Color back light grey or silver



EO-1 (Earth Observation-1)

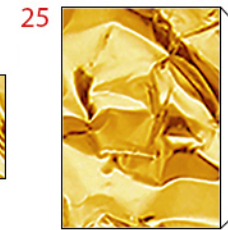
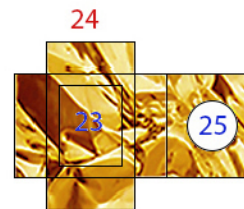


Color back black, cut out light blue areas



23

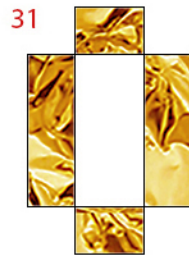
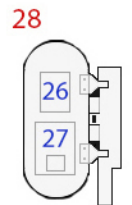
Glue to two layers of cardstock



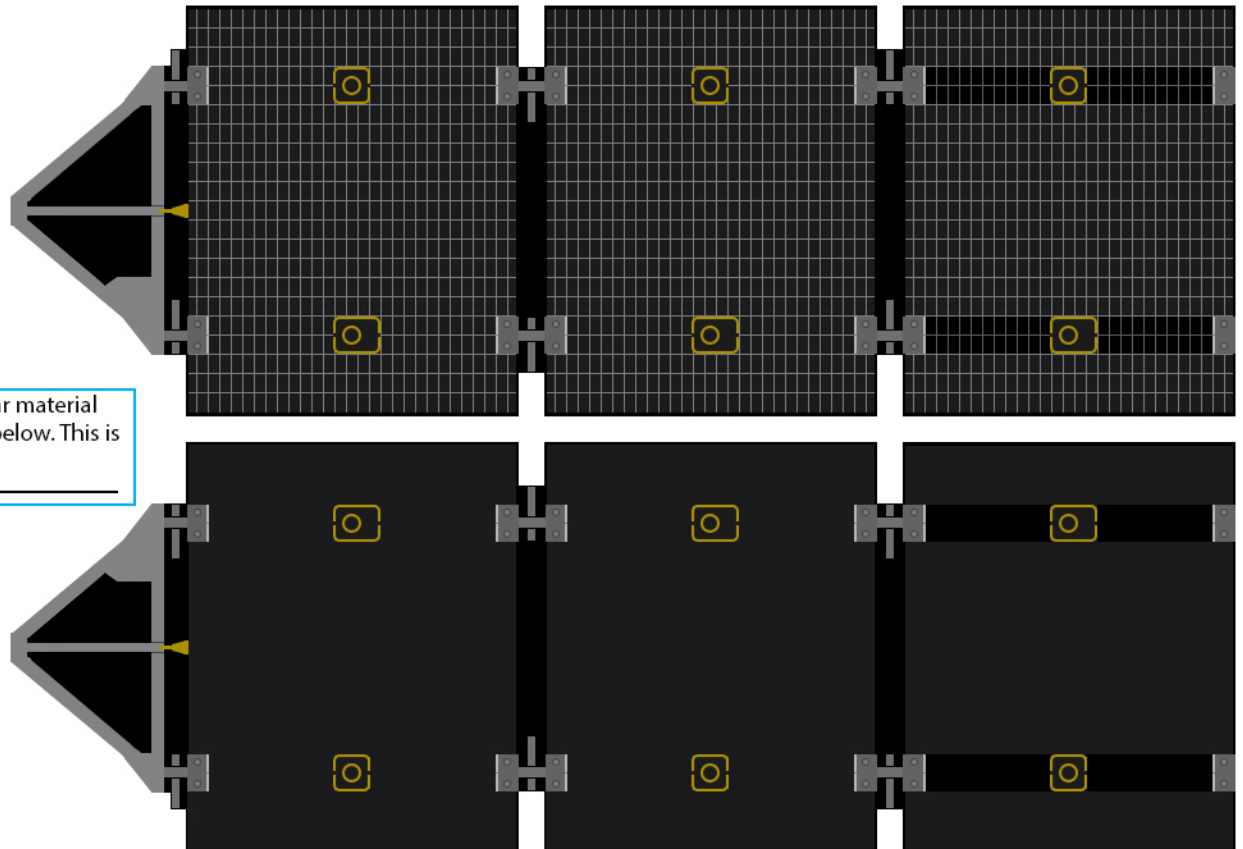
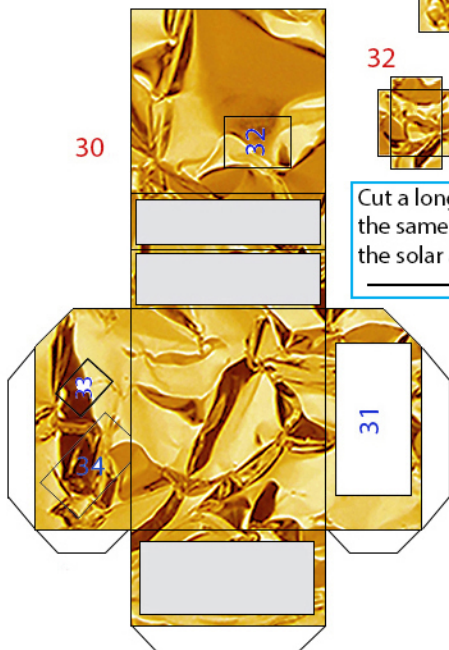
26

27

Glue these to cardstock



Cut a long tooth pic or similar material the same length as the line below. This is the solar array support rod.



EO-1 (Earth Observation-1)

1

Glue to foam board, cardboard or wood.

