

International Ultraviolet Explorer (IUE)



The International Ultraviolet Explorer (IUE) was an astronomical observatory satellite primarily designed to take ultraviolet spectra. The satellite was a collaborative project between NASA, the UK Science Research Council and the European Space Agency (ESA).

The mission lifetime was initially set for 3 years, but in the end it lasted almost 18 years, with the satellite being shut down in 1996 (one of the longest-lived and one of the most productive satellites ever built.). The switch-off occurred for financial reasons, while the telescope was still functioning at near original efficiency.

It was the first space observatory to be operated in real time by astronomers who visited the groundstations in the United States and Europe. Astronomers made over 104,000 observations using the IUE, of objects ranging from solar system bodies to distant quasars. Among the significant scientific results from IUE data were the first large scale studies of stellar winds, accurate measurements of the way interstellar dust absorbs light, and measurements of the supernova SN1987A which showed that it defied stellar evolution theories as they then stood. When the mission ended, it was considered the most successful astronomical satellite ever.

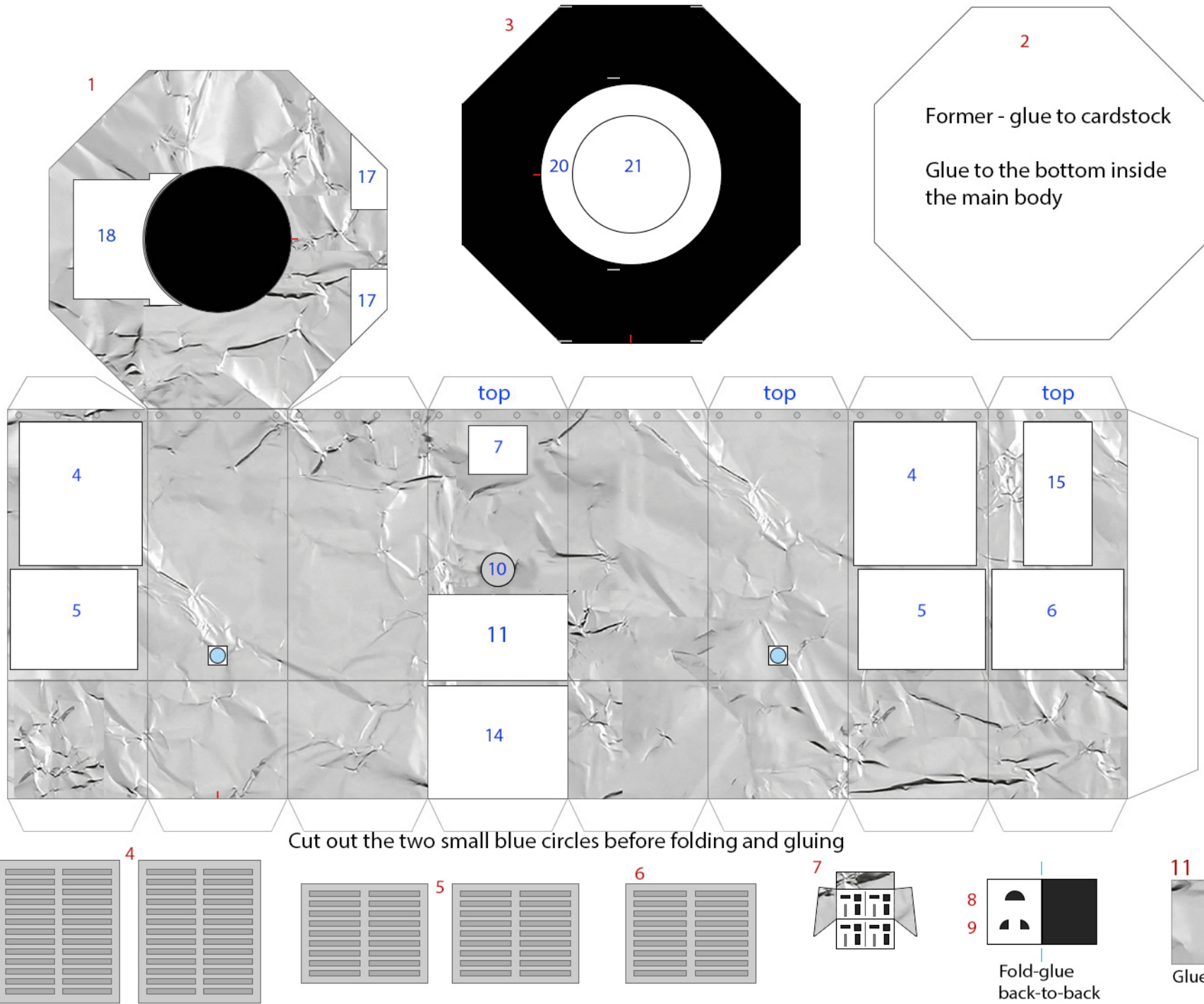
Instead of producing pictures of a planet or galaxy, IUE spread the ultraviolet radiation in a spectrum and so revealed which wavelengths are strong and which are weak. The resulting graphs look cryptic to non-experts. On average, IUE made one hour-long observation every 90 minutes, around the clock. It detected ultraviolet light that cannot reach telescopes on the ground, and everything from far-off supernovae to approaching comets came under IUE's analytical gaze. Even though its observing method (spectroscopy) was not readily understandable to the general public, the IUE mission is one of the biggest success stories in space science.

At the time of switch-off, IUE was the longest-lived and the most productive satellite in the history of space astronomy. After more than 18 years, IUE still worked 24 hours a day, harvesting new knowledge for astronomers. Key observations included Halley's Comet during its 1986 visit, the first space observations of a naked-eye visible supernova event in 300 years in the nearby galaxy LMC in 1987, and the extensive observational programme of the Jupiter atmosphere after the impact of Comet Shoemaker-Levy in 1994. Astronomers still continue to work with the wealth of data now stored in the IUE final archive.

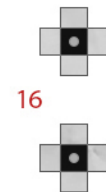
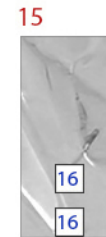
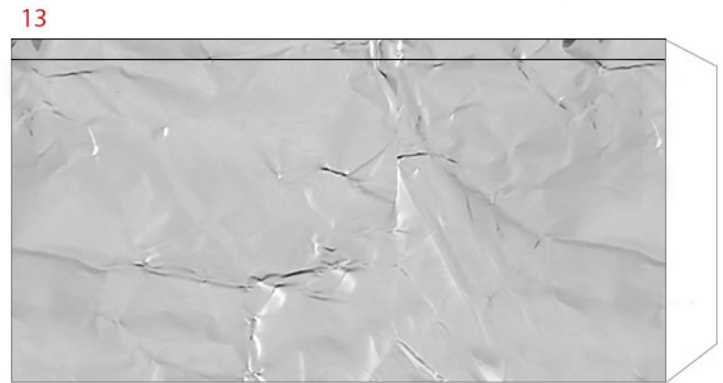
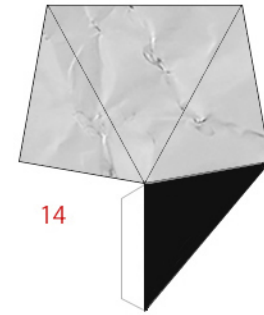
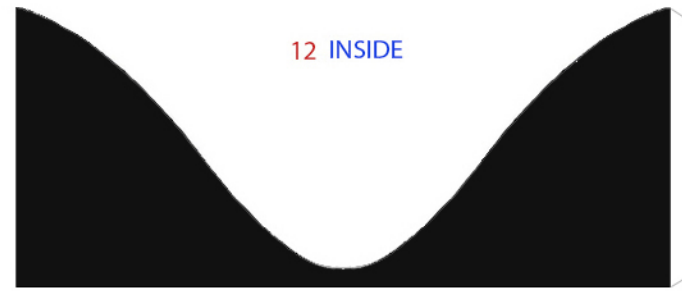
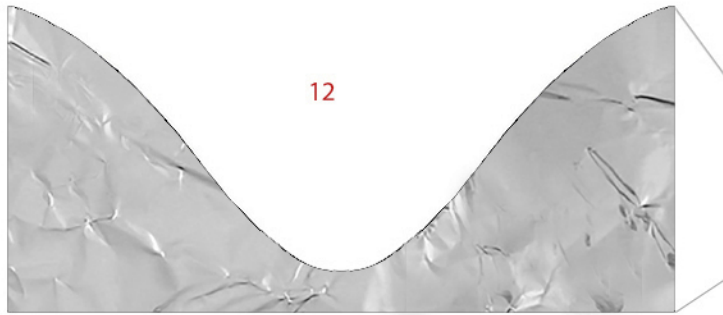
IUE data has been used in over 250 PhD projects worldwide. Almost 4,000 peer-reviewed papers have now been published based on IUE data, including some of the most cited astronomy papers of all time. The most cited paper based on IUE data is one analysing the nature of interstellar reddening, which has subsequently been cited over 5,500 times. For comparison, the Hubble Space Telescope has now been in orbit for 21 years (as of 2011) and Hubble data has been used in almost 10,000 peer-reviewed publications.

IUE was launched into orbit in January 26, 1978.

International Ultraviolet Explorer (IUE)

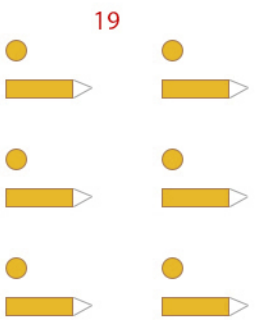
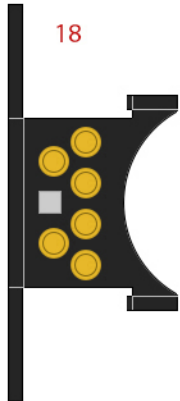


International Ultraviolet Explorer (IUE)

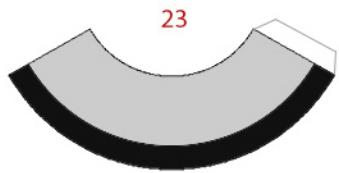
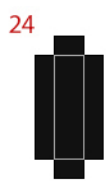


Glue to two layers of cardstock

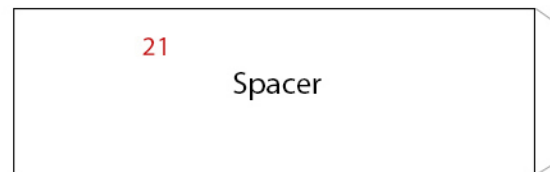
Roll these two with color inside



Color back light grey or silver, poke small holes on the black dots in the grey rectangles

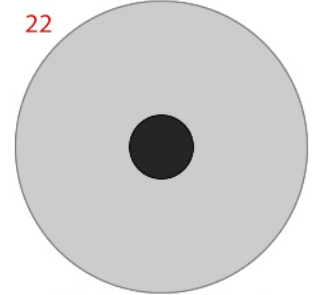


Color back light grey or silver



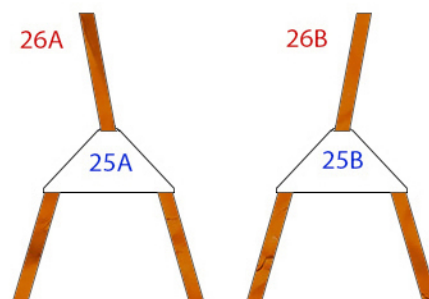
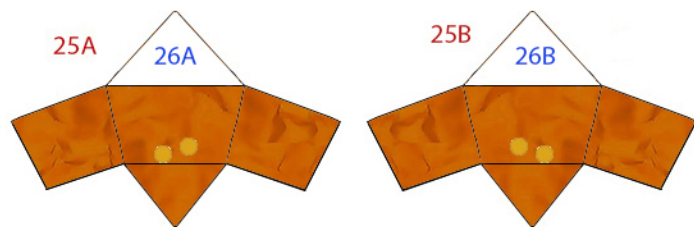
Spacer

Need plastic 4 broom straws cut at the same length as the line below, colored light grey or silver

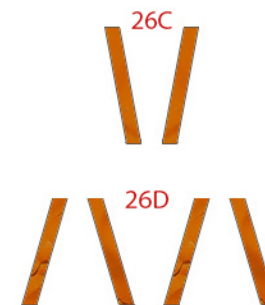


Glue to cardstock

International Ultraviolet Explorer (IUE)



Color the back side the same color



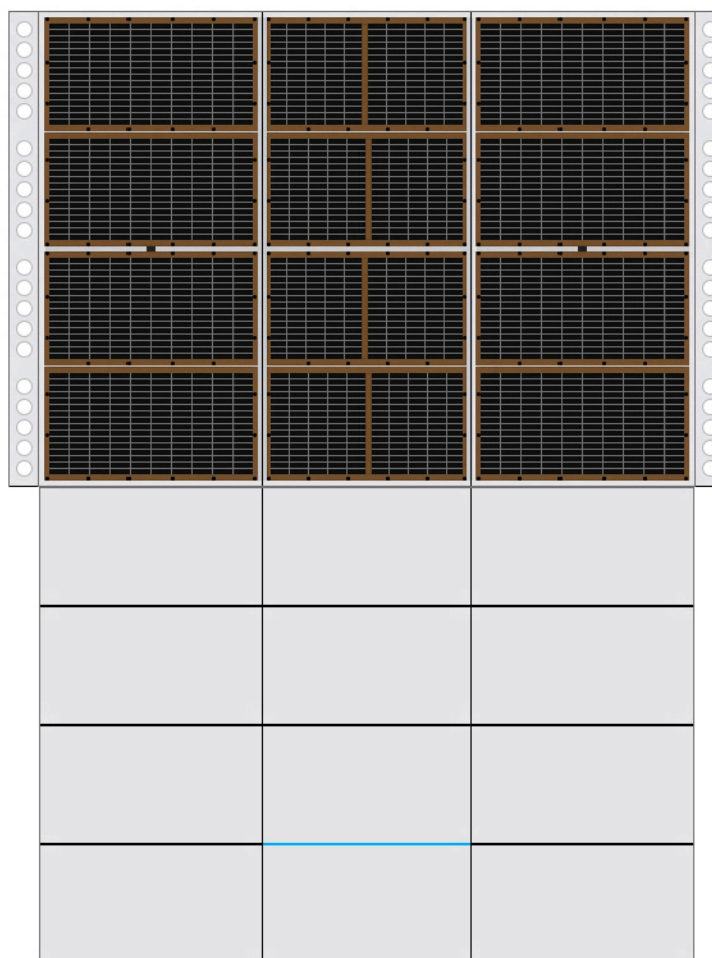
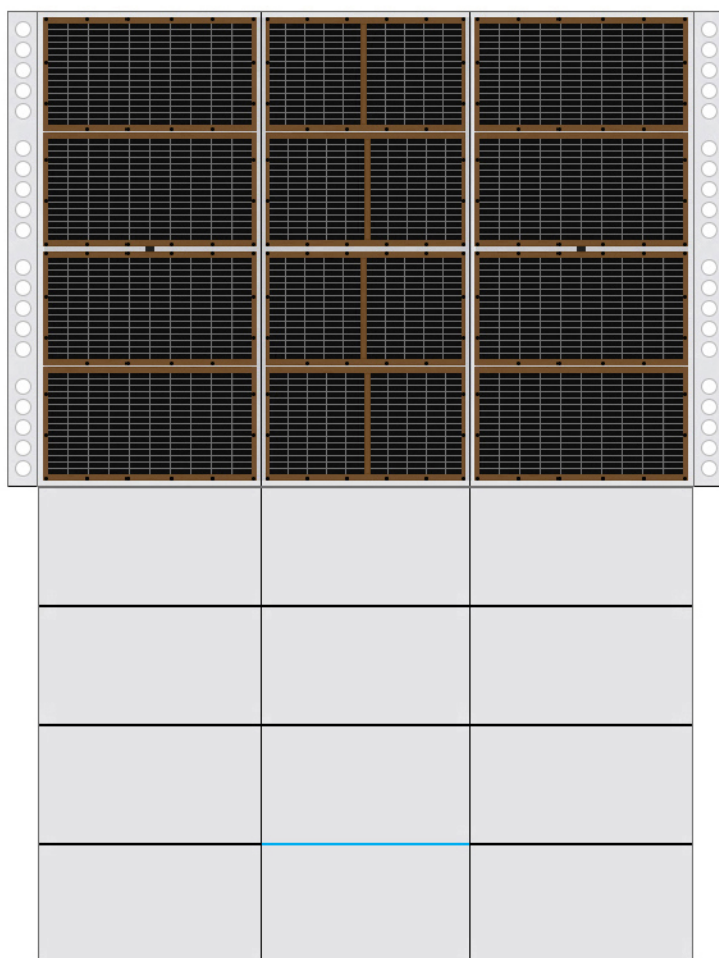
Glue to the back side of the legs on parts 26A and 26B



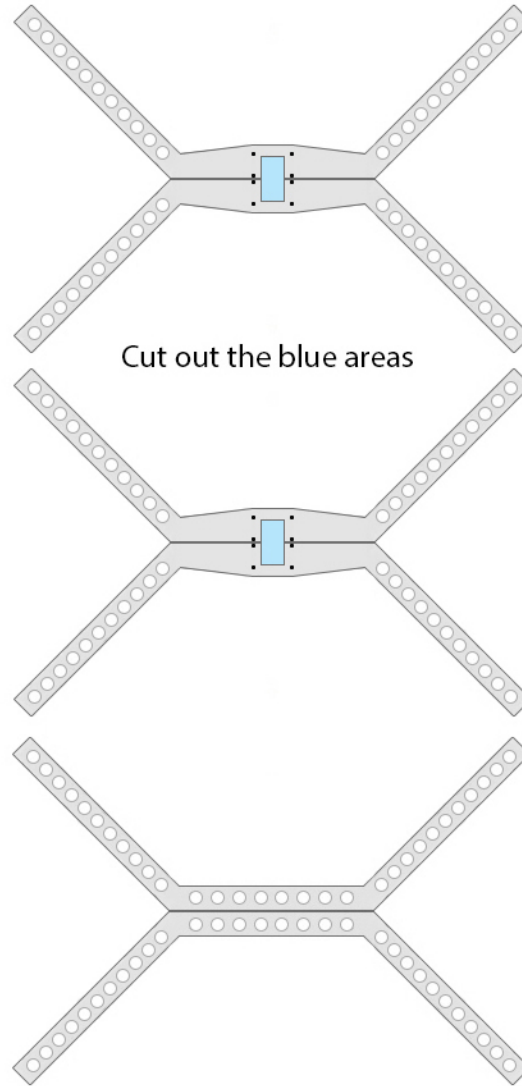
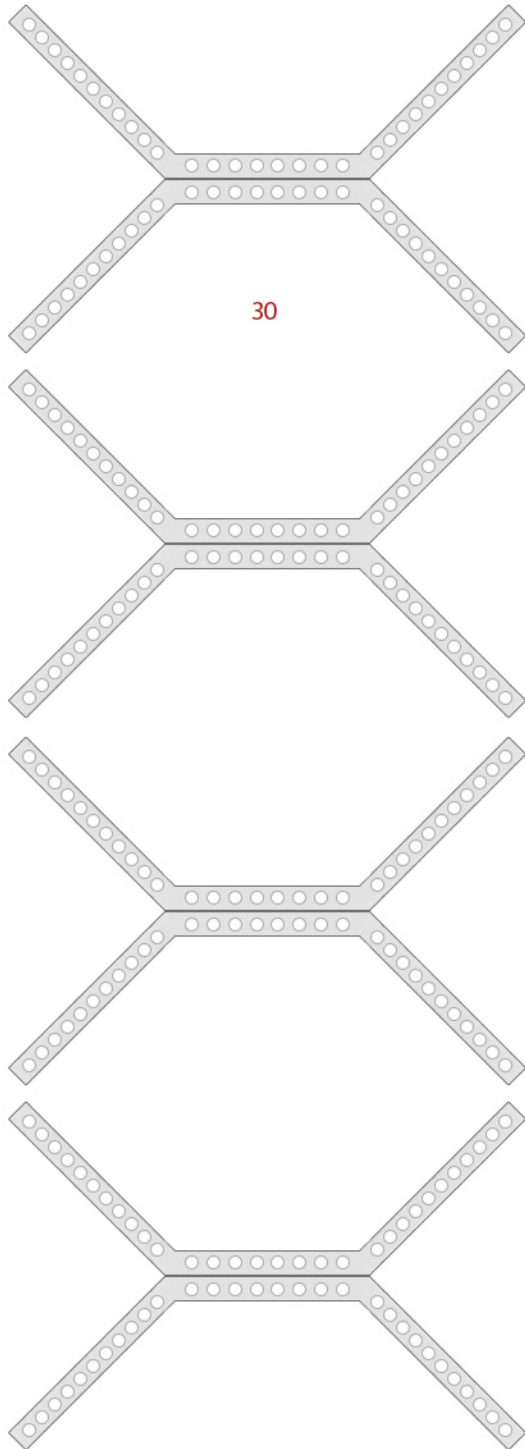
Glue each pair back-to-back



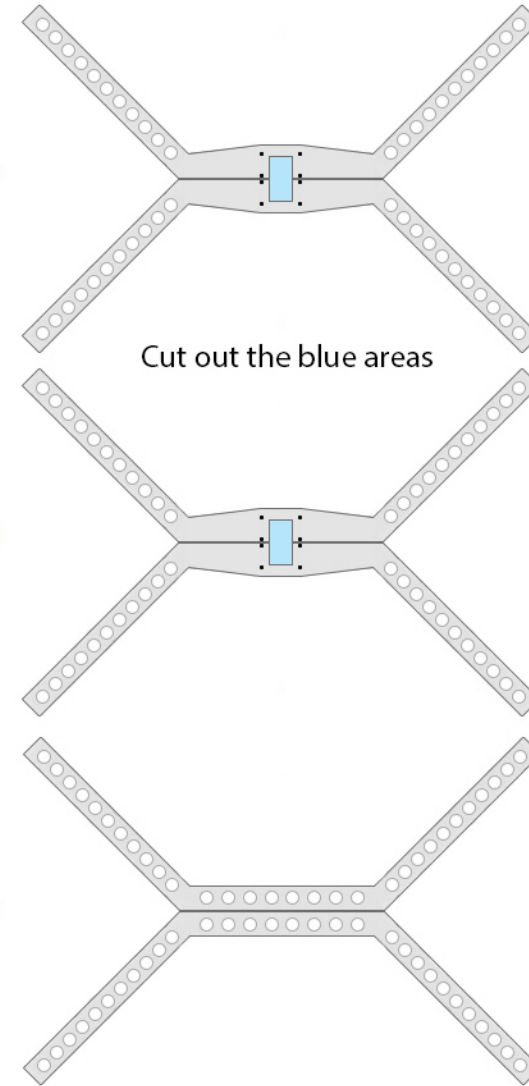
28



International Ultraviolet Explorer (IUE)



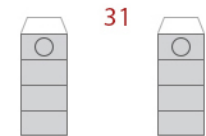
29



29

30

Need wood or bamboo skewer close to 3mm diameter (.12 inches or .3 mm diameter) cut at the same length as the line below - colored light grey or silver to use as the solar panel support rod.



31



32