

Kepler space telescope



The Kepler mission has revolutionized exoplanet science, surveying more than 150,000 stars in one region of our solar system and discovering an incredible diversity of planets orbiting other stars. This is NASA's first planet-hunting mission.

The Ball-built planet hunter has even found planets that are small, rocky worlds like our own. Now, the K2 mission is expanding its role into new and exciting astrophysical observations. Kepler was designed to survey our region of the Milky Way galaxy looking for Earth-sized planets in the habitable zone—the region in a planetary system where liquid water could exist on the surface of an orbiting planet—around sun-like stars.

Kepler's primary data collection mission concluded successfully in 2012. Following the nominal mission, the spacecraft's operations were suspended. Ball engineers, working closely with NASA, devised an innovative way to control pointing in the spacecraft by managing solar pressure and using thrusters. The spacecraft was launched on March 7, 2009.

Quick Facts...

The Kepler telescope is named after 17th-century pioneering astronomer Johannes Kepler

Kepler is a Schmidt-type telescope with a 1.4-meter (55-inch) primary mirror

The Kepler photometer features a focal plane array of 42 charge coupled devices or small cameras, that collect the photons of light observed by Kepler

The pointing precision of the spacecraft is controlled to within a few milli-arcseconds

Kepler data fueled another field of astronomy dubbed asteroseismology, the study of the interior of stars

Kepler's journey has taken it more than 53 million miles from Earth as it travels in deep space around the sun

Kepler and K2 Discoveries:

More than 5,000 planetary candidate total

More than 2,526 confirmed planets total

30 exoplanets less than twice the size of Earth in the habitable zone

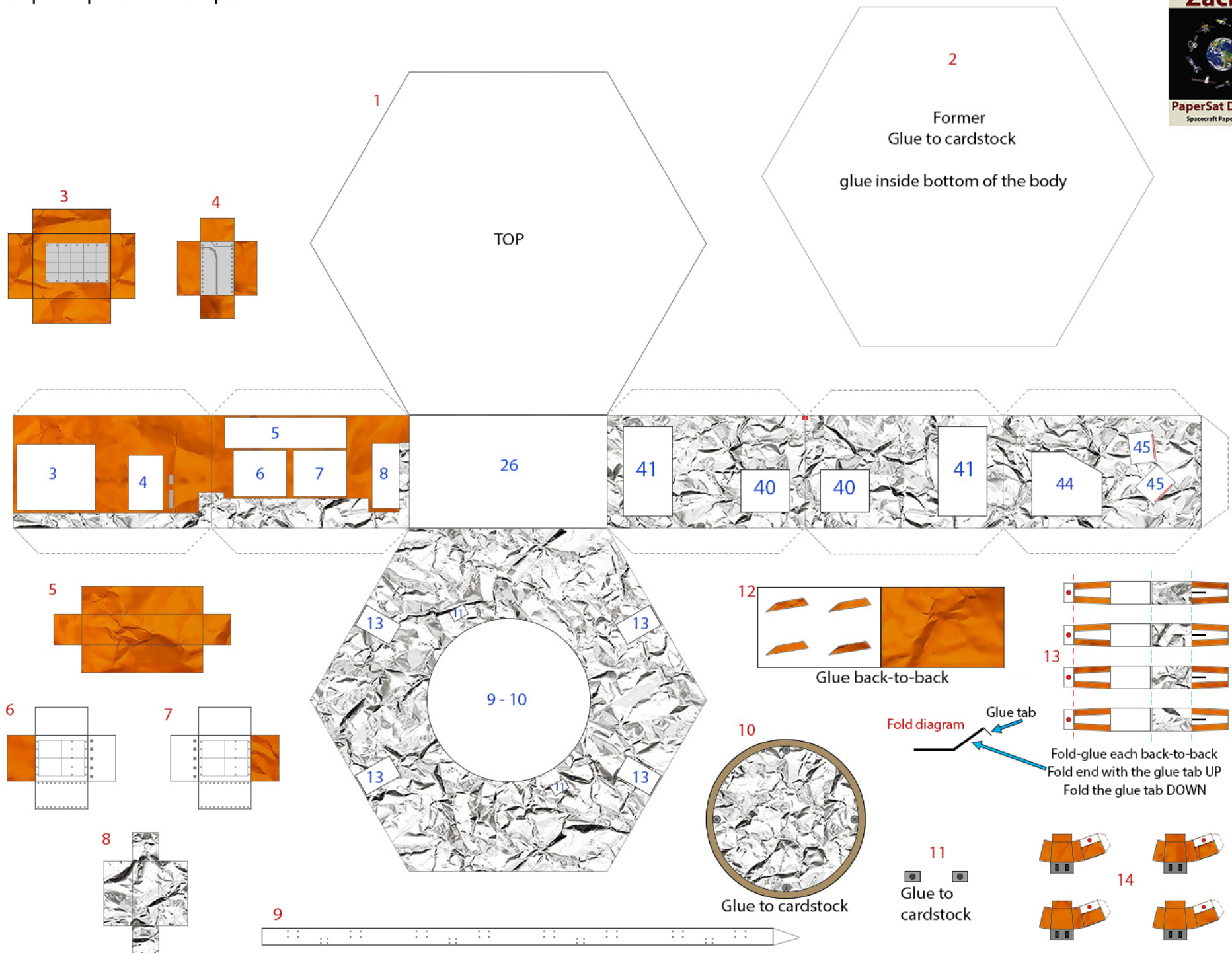
Five worlds (Kepler-16b, Kepler-34b, Kepler-35b, Kepler-47b, Kepler-47c) that orbit around two stars, establishing a new class of planetary system

The first near-Earth-sized planet found in the habitable zone of a star like our sun (Kepler-452b)

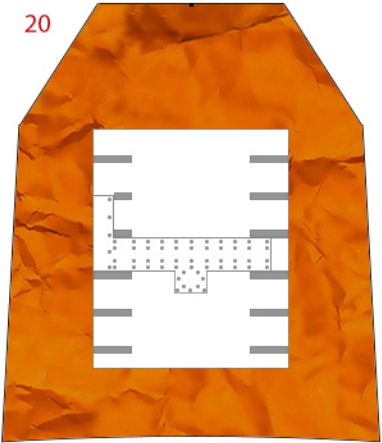
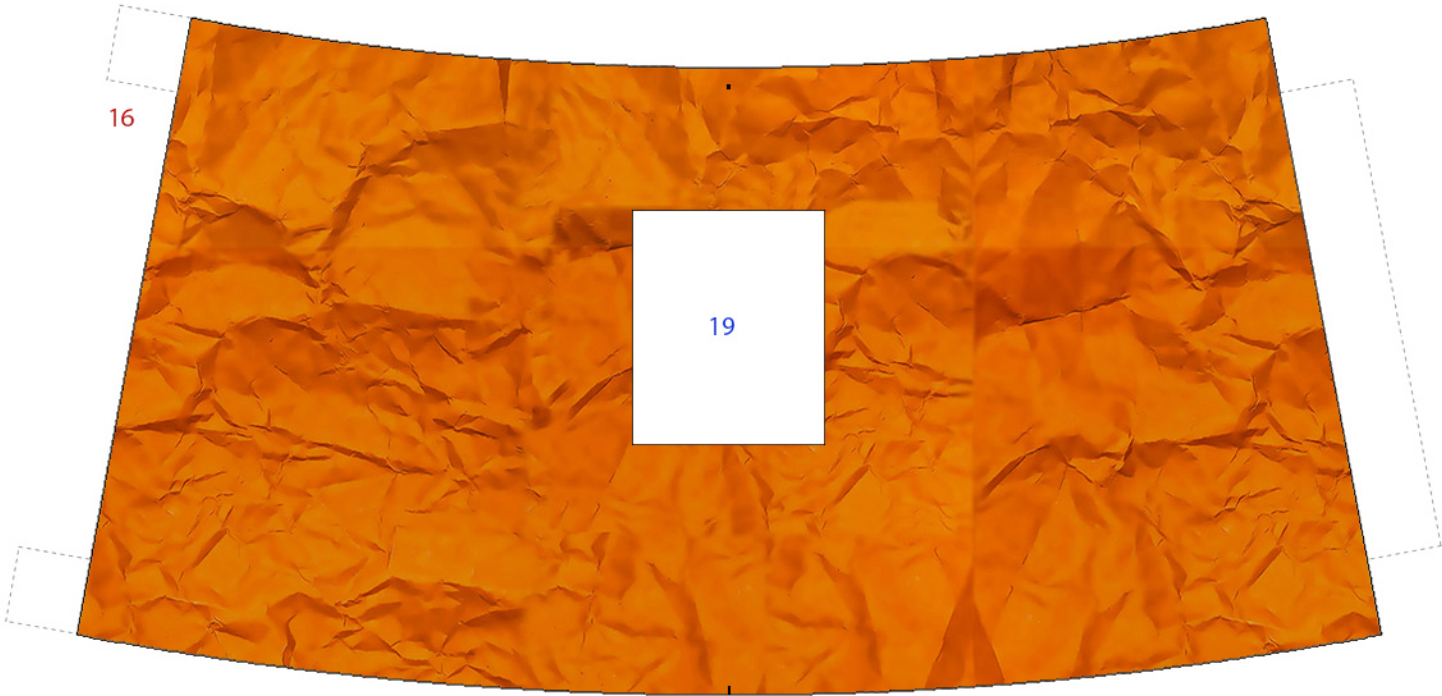
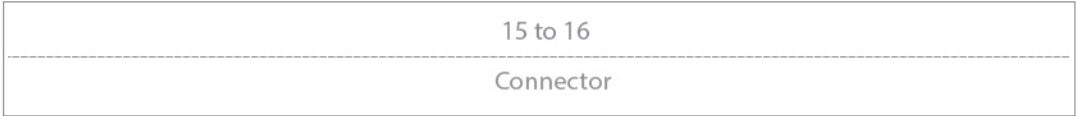
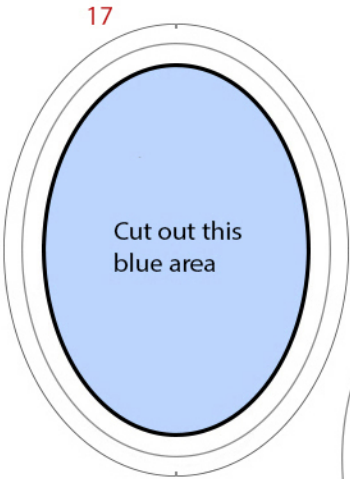
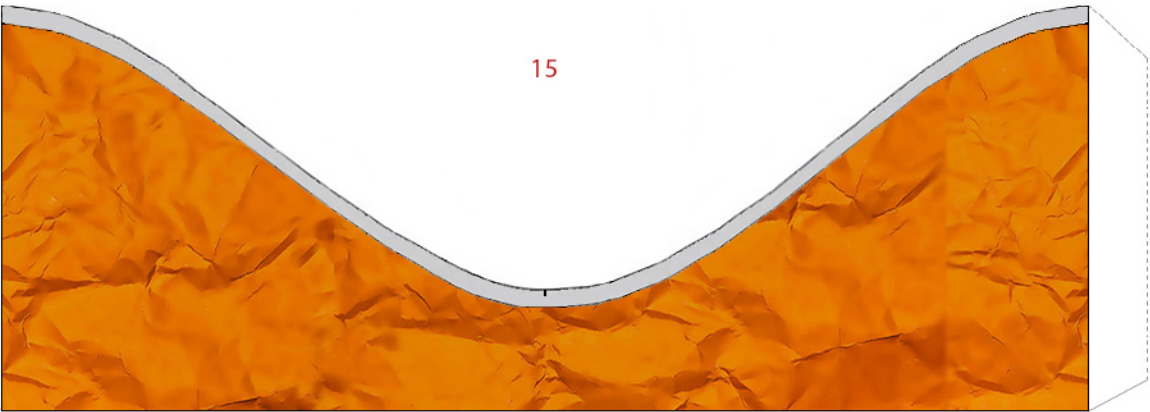
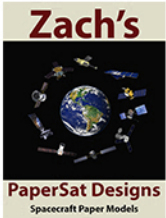
On October 30, 2018, NASA announced that the spacecraft was out of fuel and its mission was officially ended.



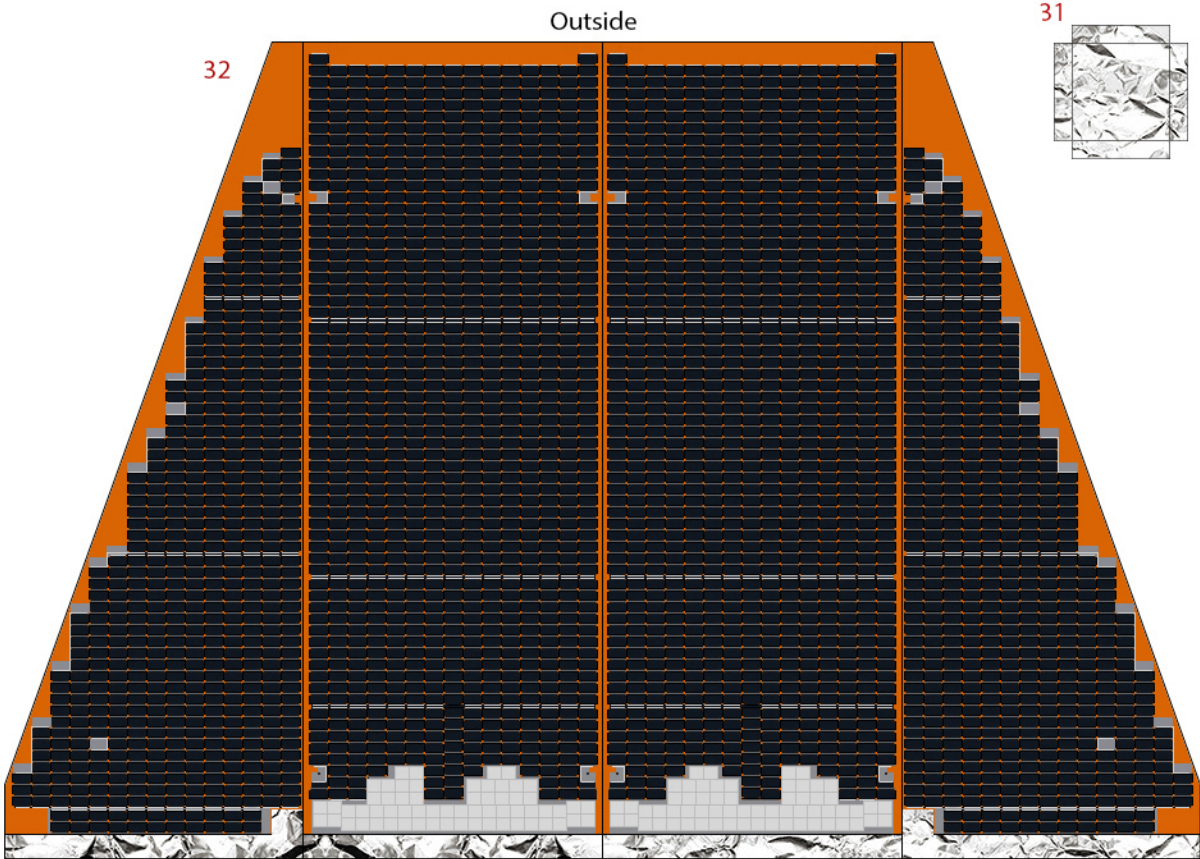
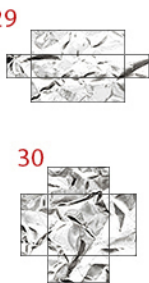
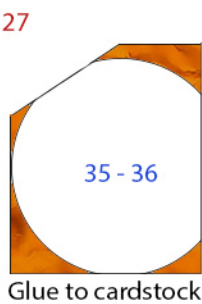
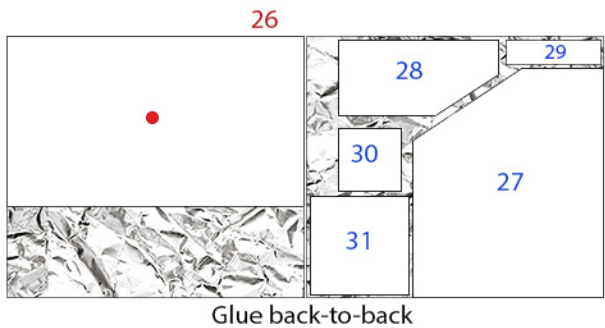
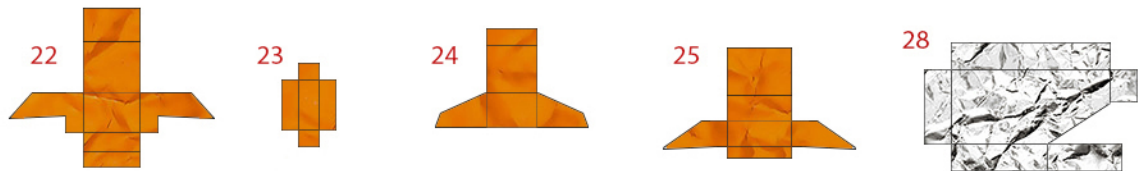
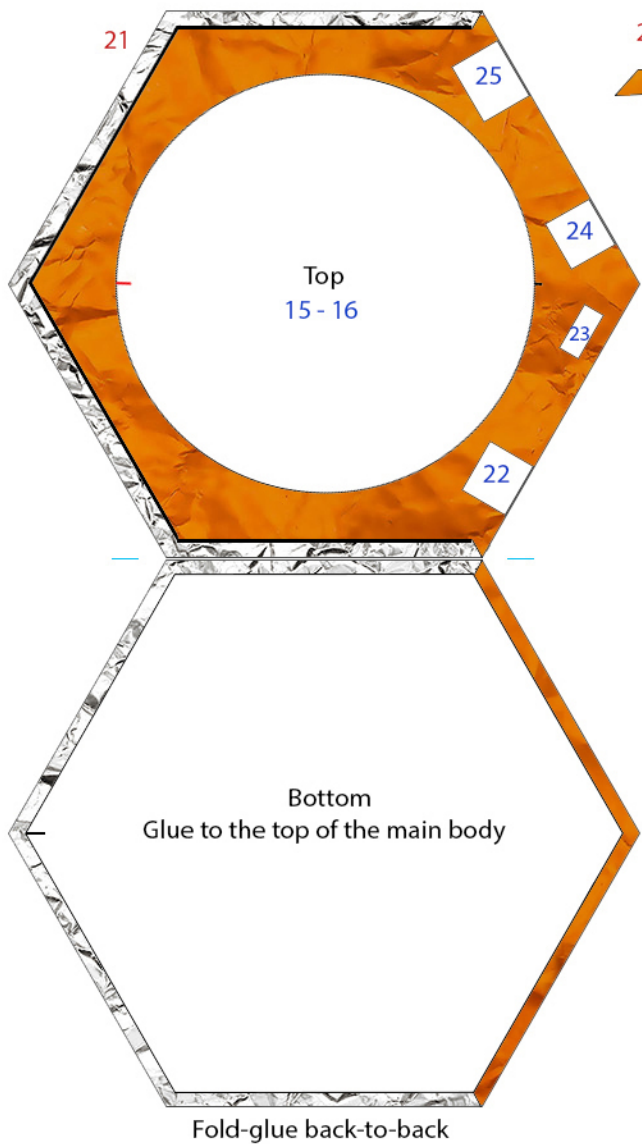
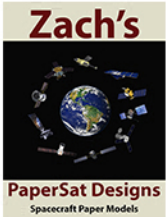
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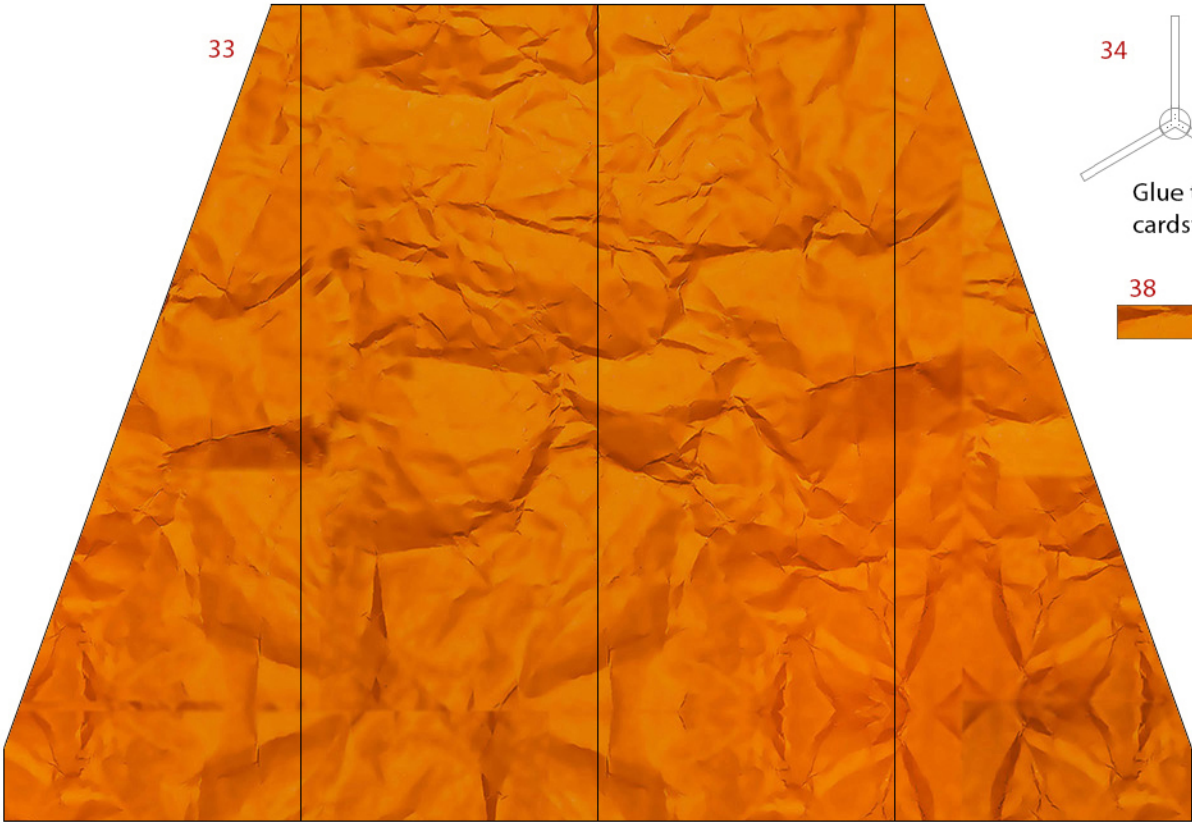
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