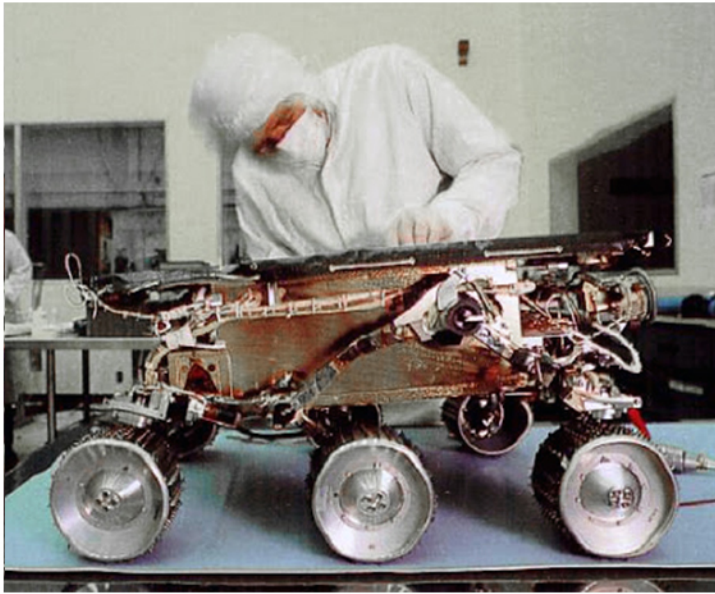


Sojourner



Sojourner is a robotic Mars rover that landed on July 4, 1997, in the Ares Vallis region. The rover was the first wheeled vehicle to rove another planet, and was part of the Mars Pathfinder mission. It had front and rear cameras and hardware to conduct several scientific experiments. Designed for a mission lasting 7 sols, with possible extension to 30 sols, it was ultimately active for 83 sols (85 Earth days). The rover communicated with Earth through the Pathfinder base station, which had its last successful communication session with Earth at 3:23 a.m. PDT on September 27, 1997. The last signal received from the rover was on the morning of October 7, 1997.

The Sojourner mission formally ended four months later on March 10, 1998, after exhausting all further options. Sojourner traveled a distance of just over 100 meters (330 ft) by the time communication was lost. Its final confirmed command was to stay stationary until October 5, 1997, (sol 91) and then drive around the lander, though there is no indication that it was able to do so.

The mission, which launched on Dec. 4, 1996

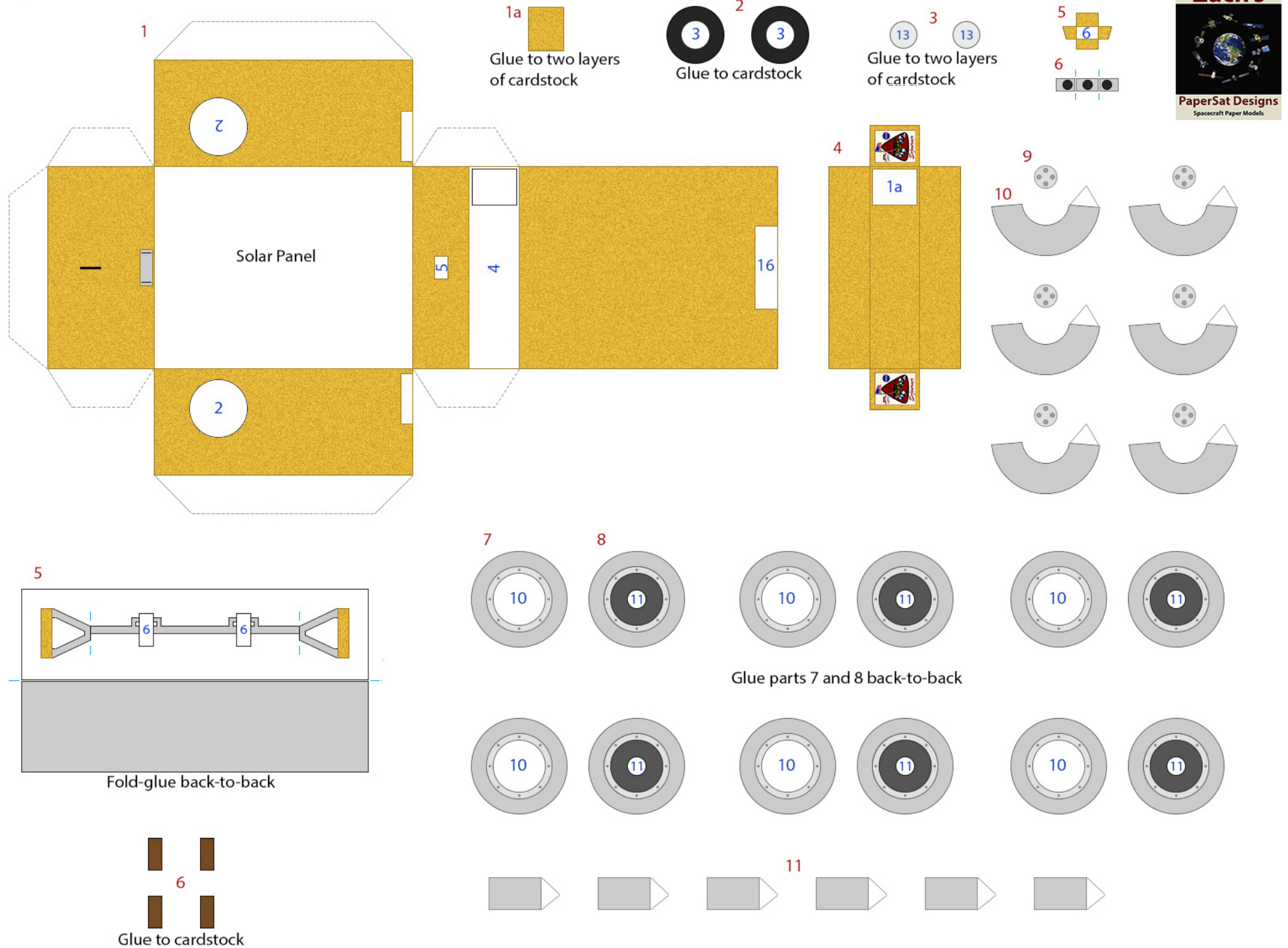
One of the mission's innovations was Pathfinder's landing system. Rather than using conventional rockets to touch down on the surface, NASA decided to use a cocoon of airbags instead. After going through the higher parts of the atmosphere, Pathfinder deployed a parachute and also shed the heat shield that protected the spacecraft from the heat that built up on the spacecraft during re-entry.

Sojourner traveled a total of about 100 meters (328 feet) in 230 commanded maneuvers, performed more than 16 chemical analyses of rocks and soil, carried out soil mechanics and technology experiments, and explored about 250 square meters (2691 square feet) of the Martian surface. During the mission, the spacecraft relayed an unprecedented 2.3 gigabits of data, including 16,500 images from the lander's camera, 550 images from the rover camera, 16 chemical analyses of rocks and soil, and 8.5 million measurements of atmospheric pressure, temperature and wind. The flight team lost communication with the Sojourner September 27, after 83 days of daily commanding and data return. In all, the small 10.5 kilogram (23 lb) Sojourner operated 12 times its expected lifetime of seven days.

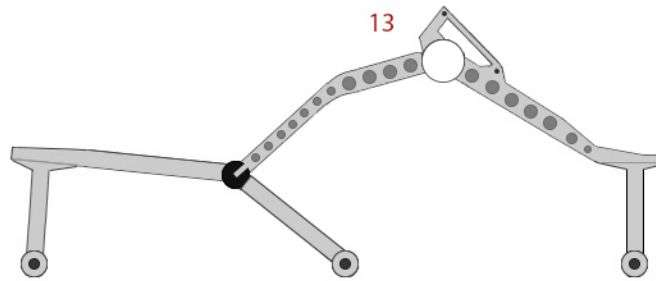
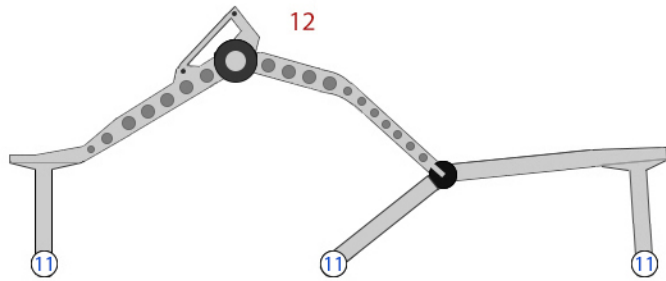
fun facts about the Pathfinder mission:

- ☒ Sojourner's top speed was two feet per minute.
- ☒ Sojourner was the first wheeled rover on any planet.
- ☒ 8.5 million temperature, pressure, and wind measurements were returned from the mission.
- ☒ This mission marked the first time the air bag technique, used to cushion the impact during landing, had been utilized.
- ☒ Pathfinder played a role in the blockbuster hit "The Martian," when astronaut Mark Watney (played by Matt Damon) digs up the old spacecraft to establish communications between his location on Mars and NASA personnel back on Earth.

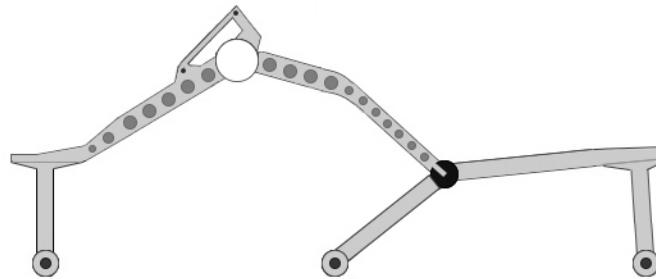
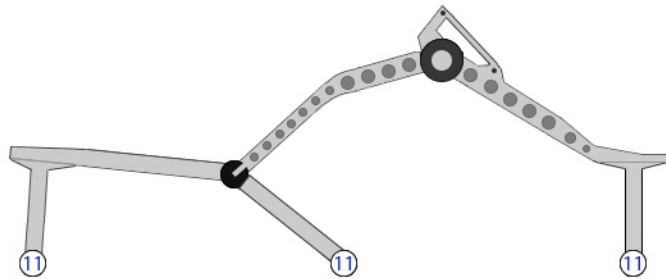
Sojourner



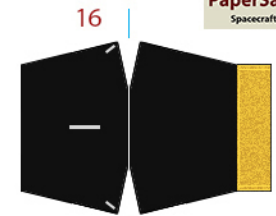
Sojourner



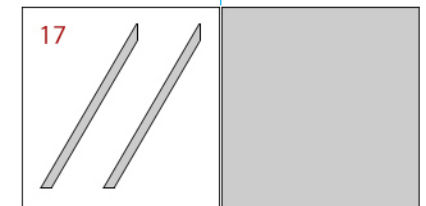
Glue both to cardstock, then back-to-back



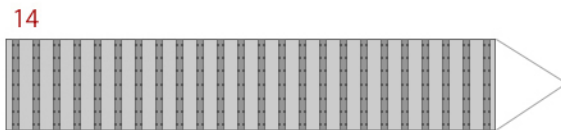
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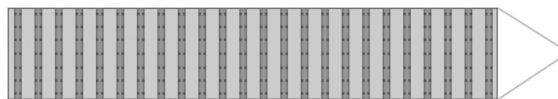
Fold-glue back-to-back



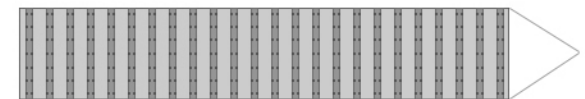
Fold-glue back-to-back



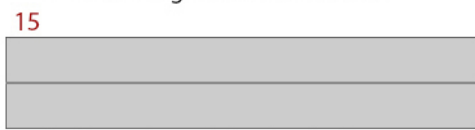
Roll to a ring with color outside



Roll to a ring with color outside



Roll to a ring with color outside



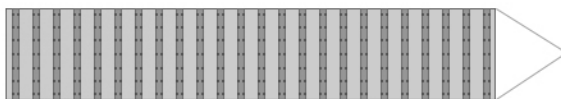
Roll to a ring with color inside



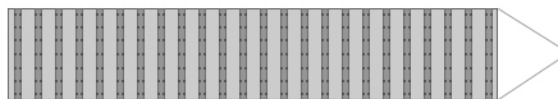
Roll to a ring with color inside



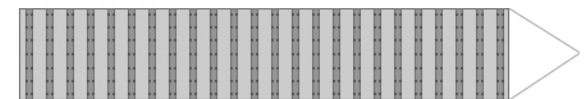
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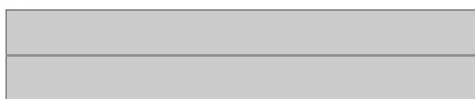
Roll to a ring with color outside



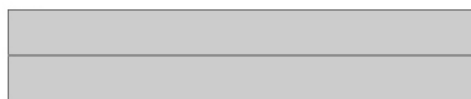
Roll to a ring with color outside



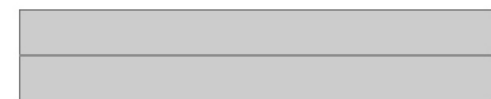
Roll to a ring with color outside



Roll to a ring with color inside



Roll to a ring with color inside

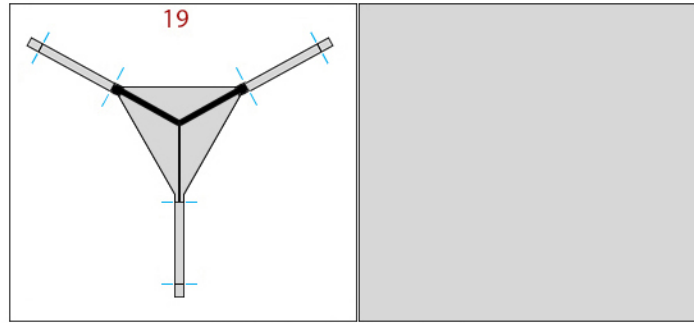


Roll to a ring with color inside

Sojourner



Glue to cardstock, color back and edges black, cut out the blue area



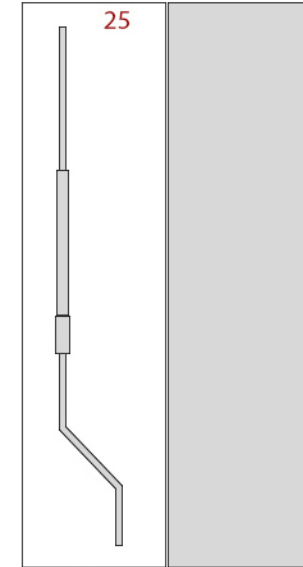
Fold-glue back-to-back
Score-fold at the blue lines



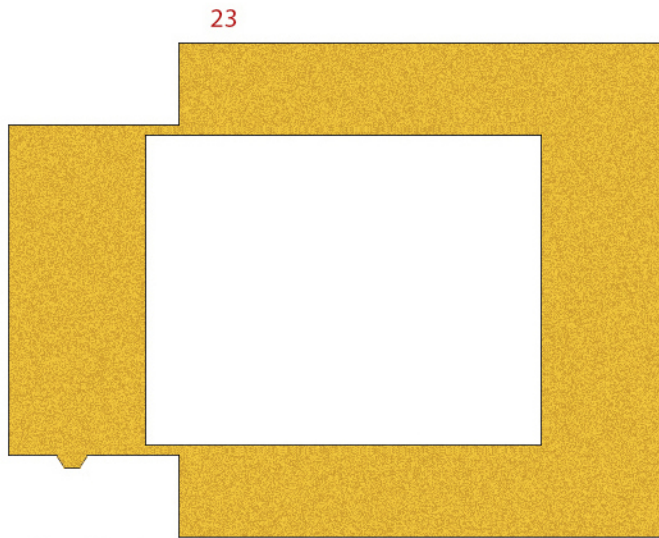
Cut out the blue area



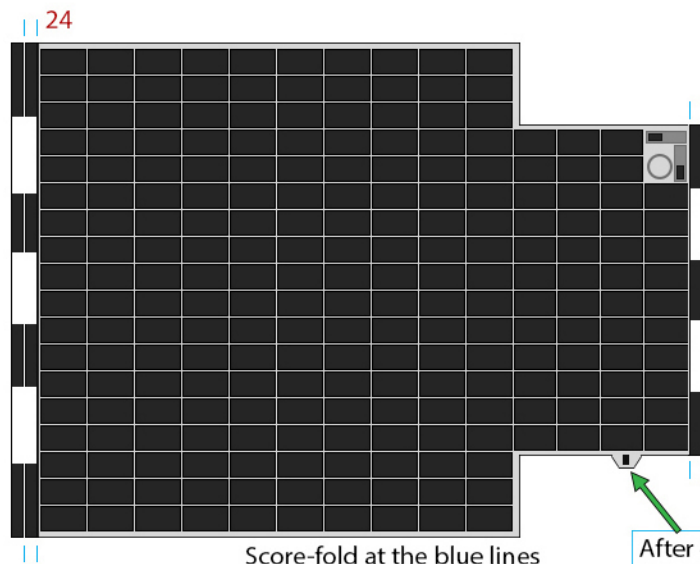
Color back light grey or silver



Fold-glue back-to-back



Glue this to cardstock, then glue back-to-back with part 24



Score-fold at the blue lines

After gluing 23 and 24 back-to-back, cut out this black rectangle for the antenna.