

Firefly Aerospace Blue Ghost Lander



Firefly was selected to be part of the CLPS vendor pool in 2018 and has been awarded four task orders to complete three deliveries to the lunar surface. Firefly's Blue Ghost Mission 1 will deliver 10 NASA science investigations and first-of-their-kind technology demonstrations to the lunar surface to further our understanding of the Moon's environment and help prepare for future human missions to the lunar surface supporting the agency's Moon to Mars exploration approach.

The company's Blue Ghost lunar lander launched on January 15, 2025 and landed on the moon on March 2, 2025. After an approximately 45-day transit to the Moon, Blue Ghost landed near a volcanic feature called Mons Latreille within Mare Crisium, a large basin located in the northeast quadrant of the Moon's near side. The lander will operate on the Moon's surface for a lunar day (about 14 Earth days) and for several hours into the lunar night. Firefly will aim to capture images of the lunar sunset which could provide insight on how lunar regolith reacts to solar influences during lunar dusk conditions.

Blue Ghost — named after a rare U.S. species of fireflies — had its size and shape going for it. The squat four-legged lander stands 6-foot-6 (2 meters) tall and 11 feet (3.5 meters) wide, providing extra stability, according to the company.

It carried a vacuum to suck up moon dirt for analysis and a drill to measure temperature as deep as 10 feet (3 meters) below the surface. Also on board: a device for eliminating abrasive lunar dust — a scourge for NASA's long-ago Apollo moonwalkers, who got it caked all over their spacesuits and equipment.

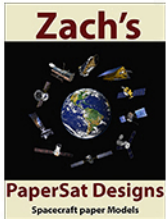
On its way to the moon, Blue Ghost beamed back exquisite pictures of the home planet. The lander continued to stun once in orbit around the moon, with detailed shots of the moon's gray pockmarked surface. At the same time, an on-board receiver tracked and acquired signals from the U.S. GPS and European Galileo constellations, an encouraging step forward in navigation for future explorers.

The landing set the stage for a fresh crush of visitors angling for a piece of lunar business.

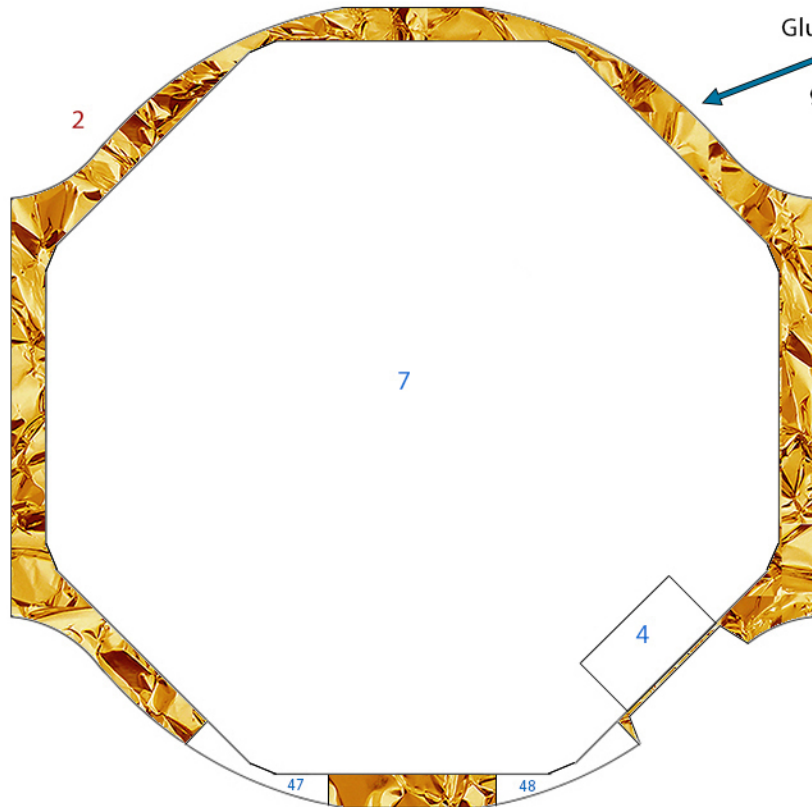
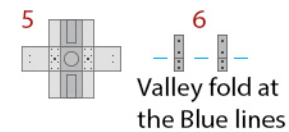
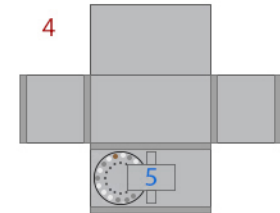
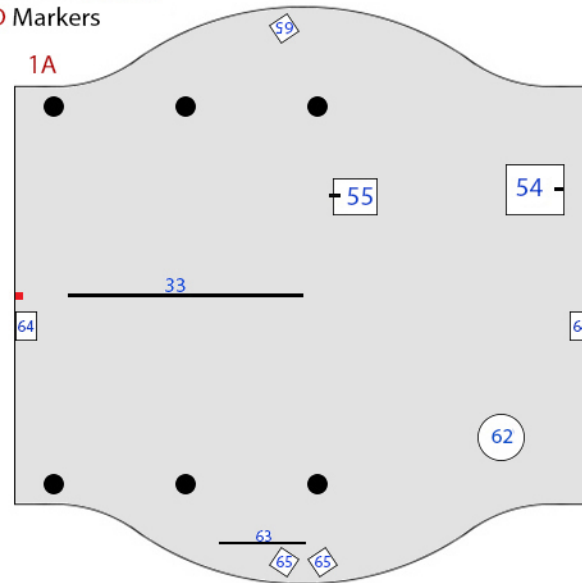
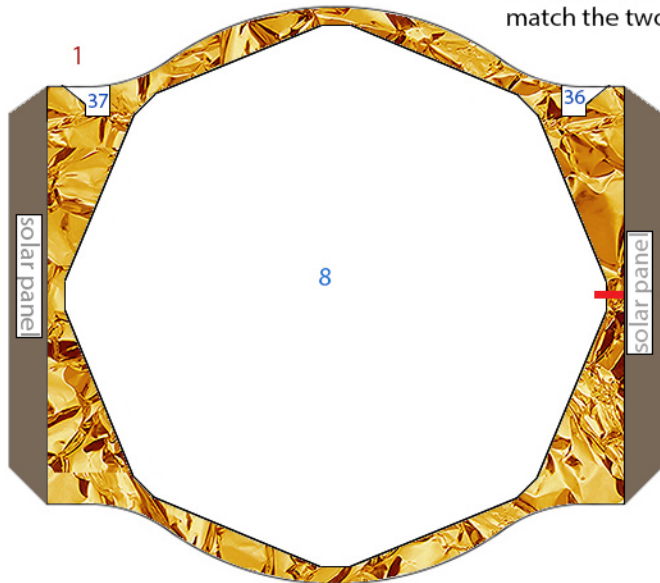
The NASA payloads on this flight will help advance lunar research and conduct several first-of-their-kind technology demonstrations, strengthening our understanding of the Moon's environment and helping prepare for human missions to the lunar surface. This includes testing a regolith sampling technology, the ability to use Earth-based global navigation satellite systems (such as GPS) enroute to and on the Moon, radiationtolerant computing, and mitigation of lunar dust. The data captured may also benefit humanity by providing insights into how space weather and other cosmic forces impact Earth.



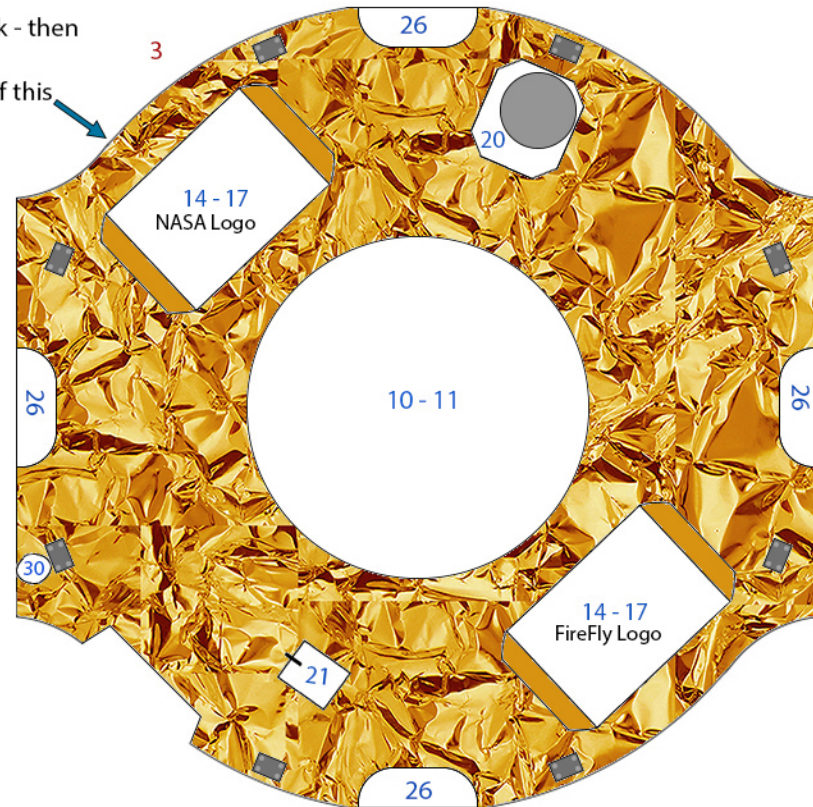
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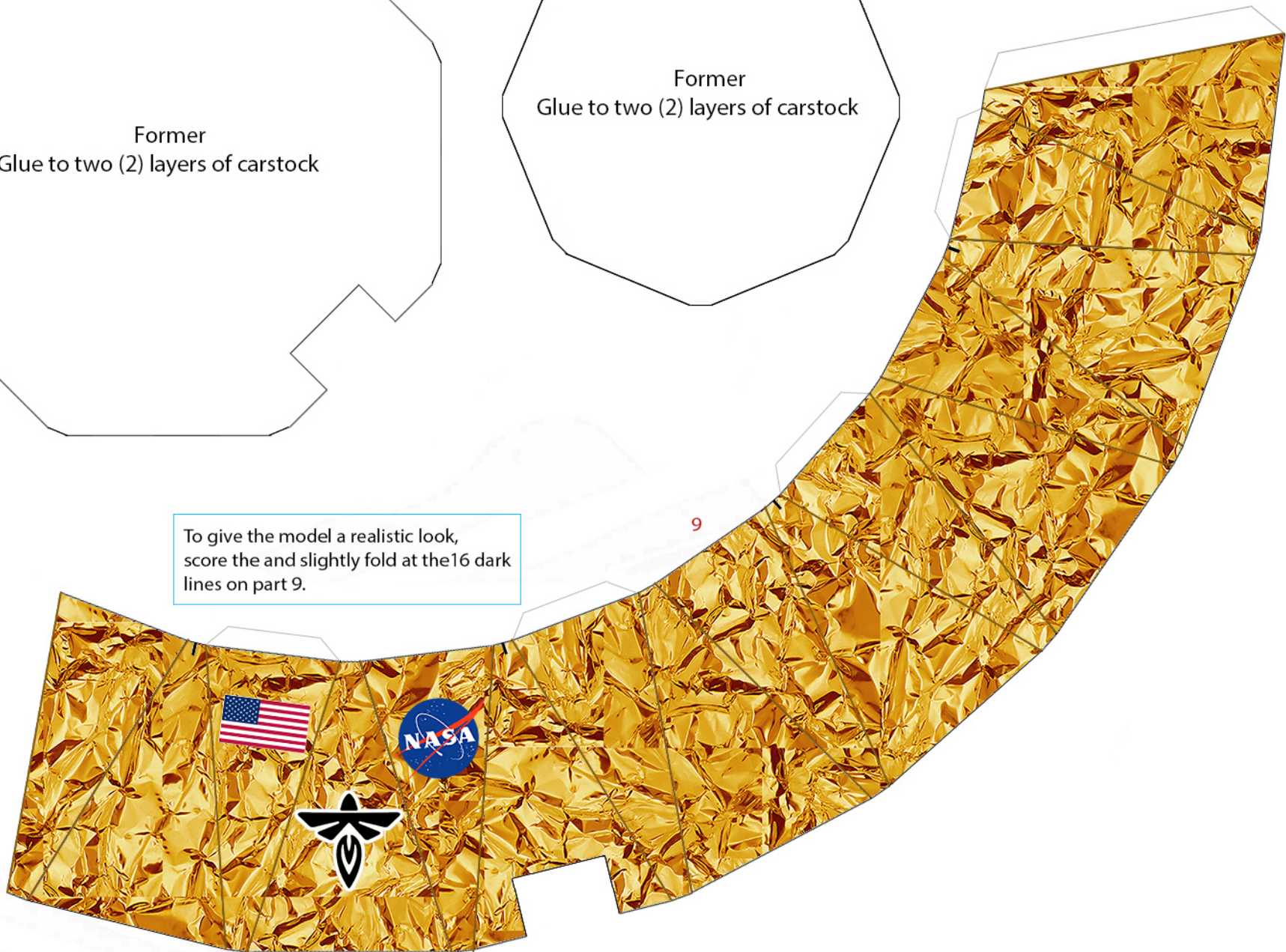
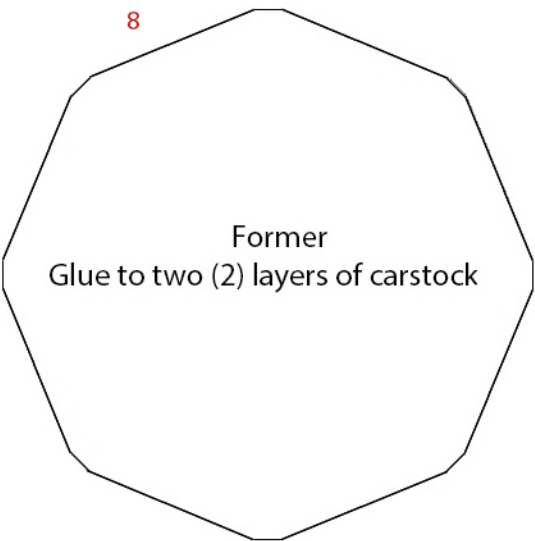
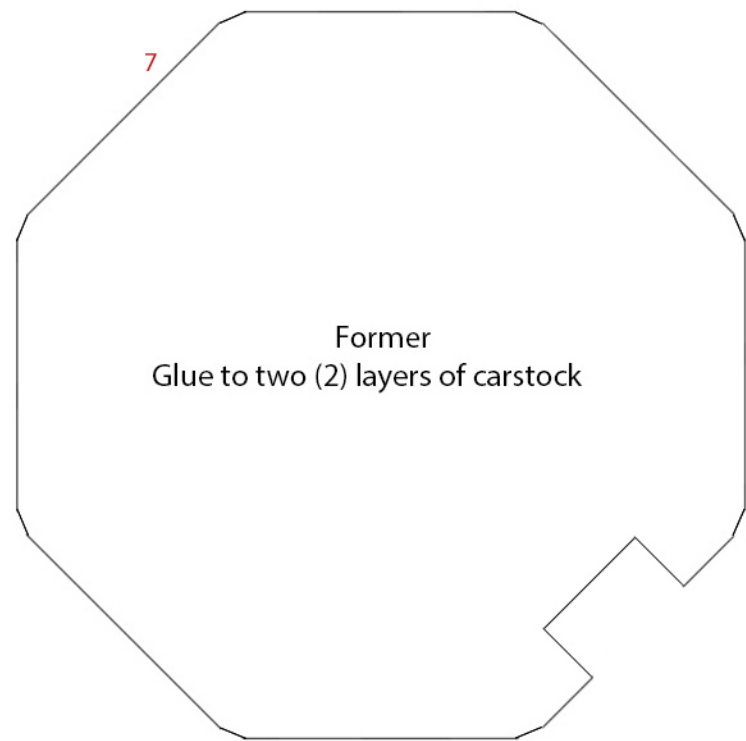
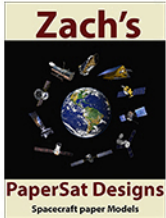
Glue **Part 1** to backside of **Part 1A** -
match the two **RED** Markers



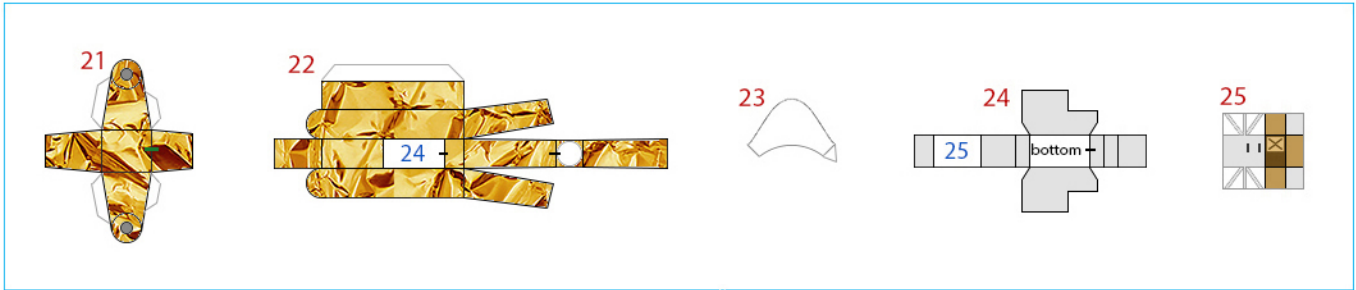
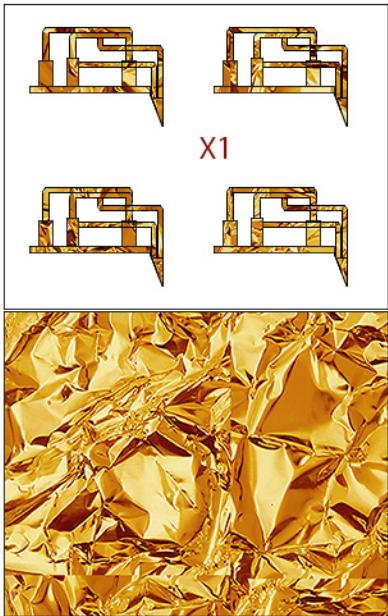
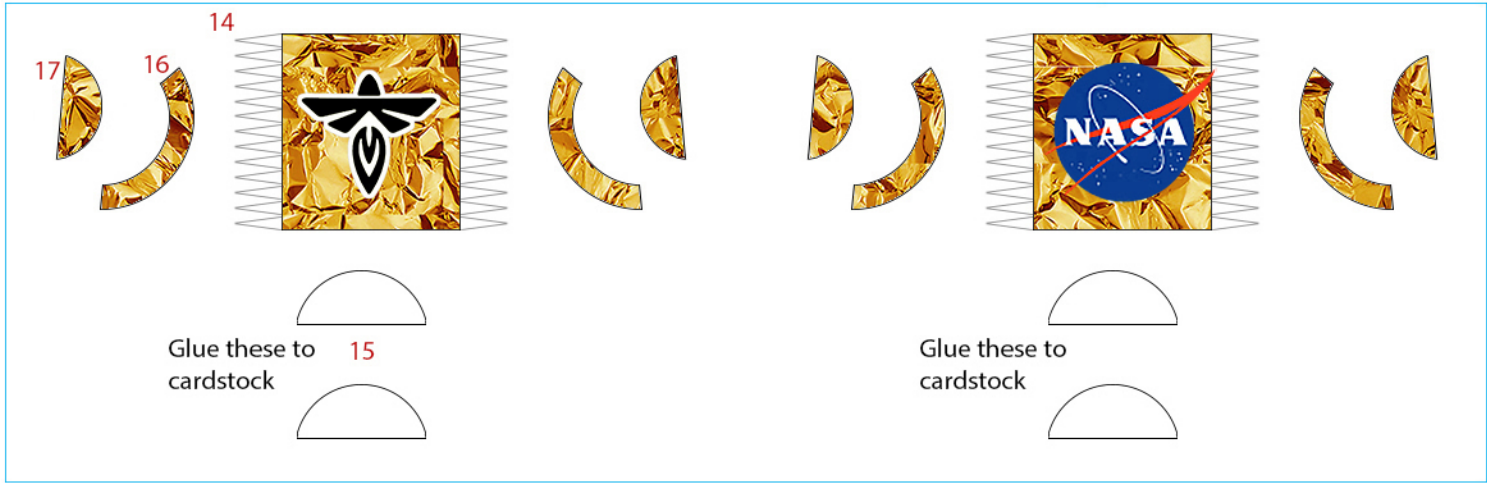
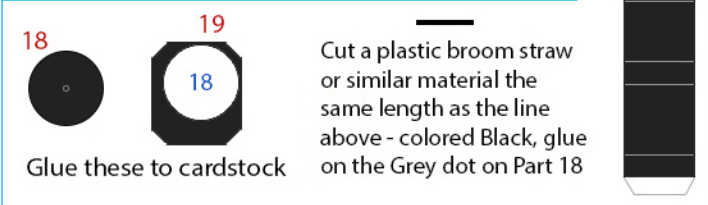
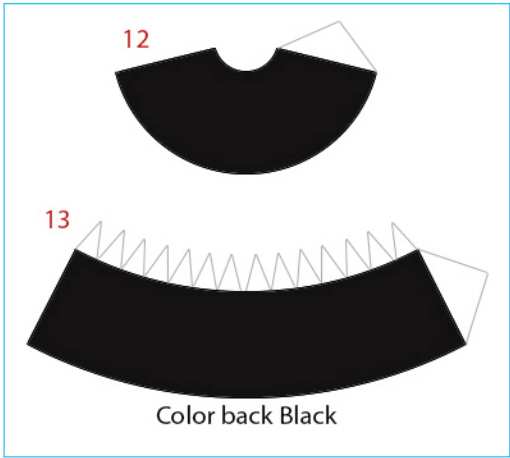
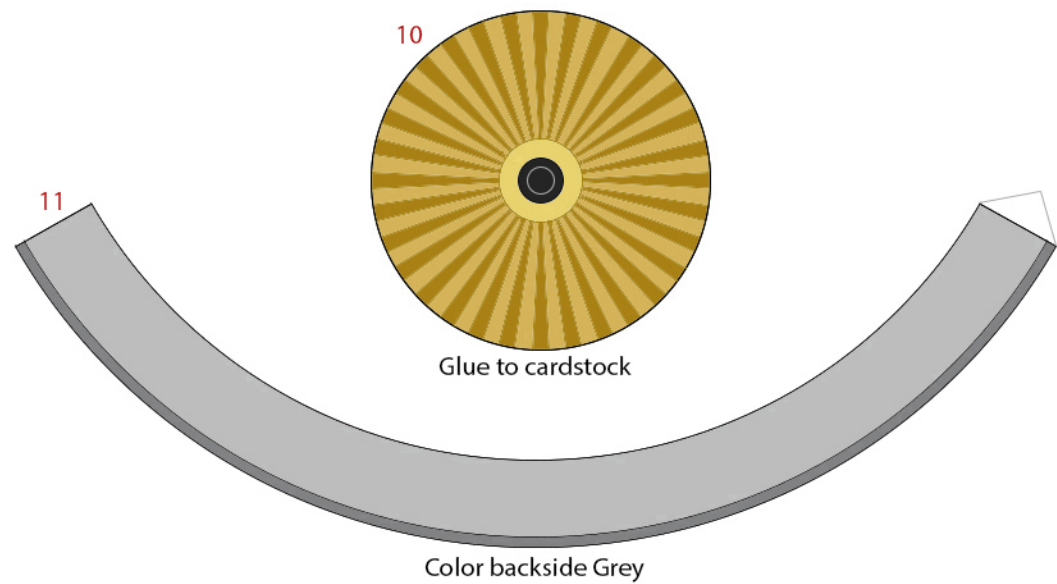
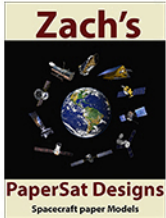
Glue this to cardstock - then
glue to backside of this



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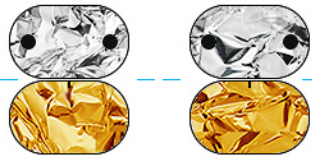


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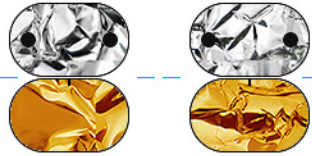


Fold, glue back-to-back

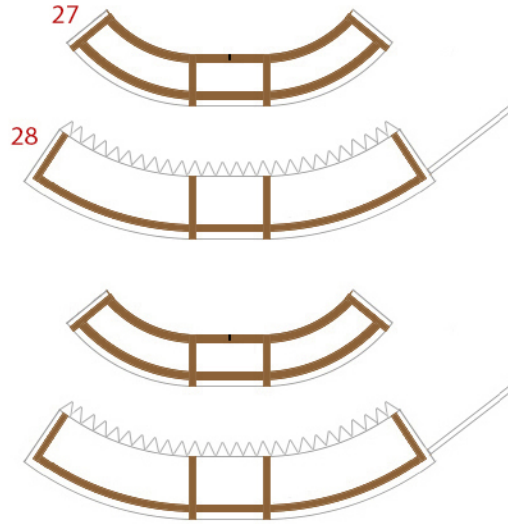
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26

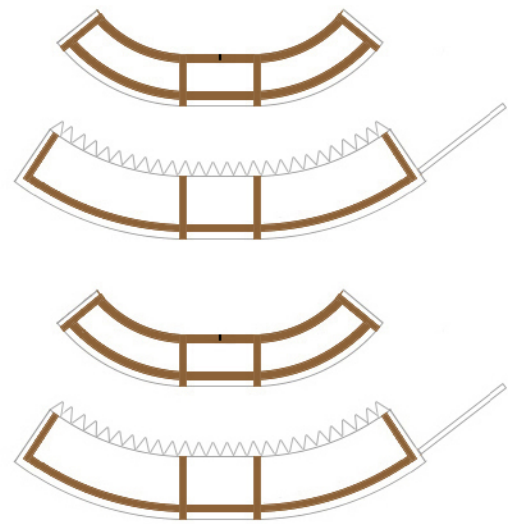


Score, then fold and glue each back-to-back



27

28



Fold, glue back-to-back

Fold, glue back-to-back

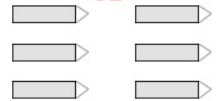
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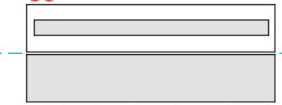
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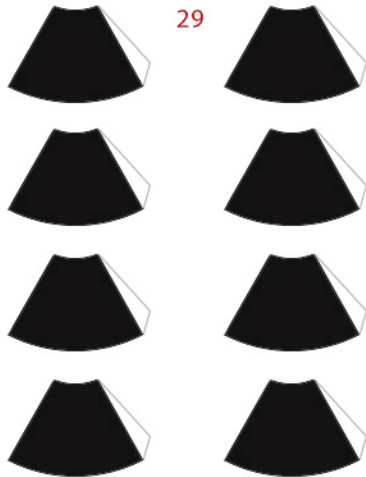
32



33



Fold, glue back-to-back



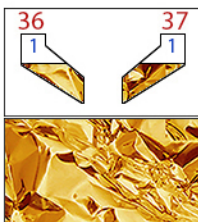
29

Color back Black

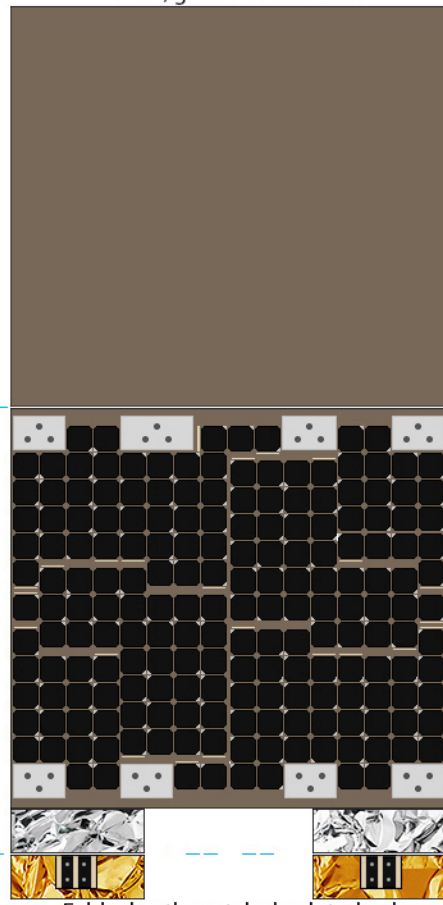
34-35



Fold, Glue each back-to-back

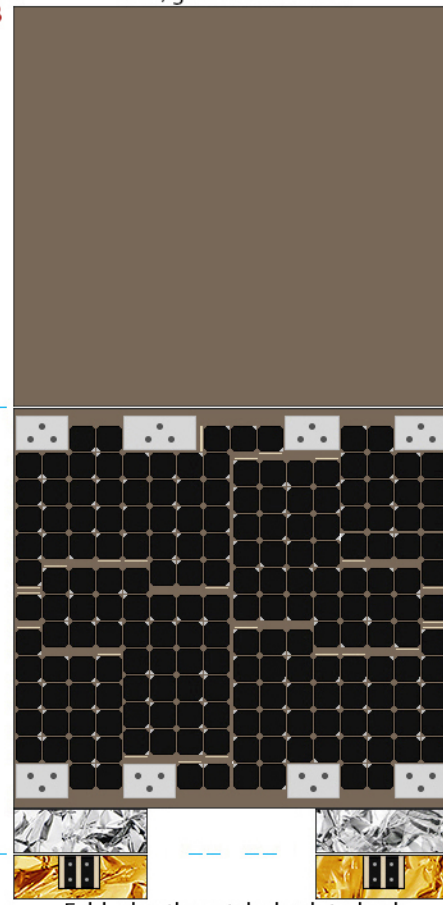


Fold, glue back-to-back



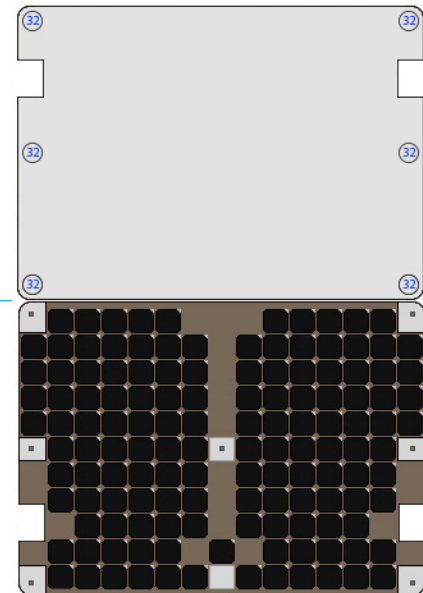
38

Fold, glue these tabs back-to-back



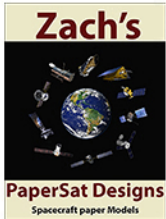
Fold, glue these tabs back-to-back

39 Fold, glue back-to-back



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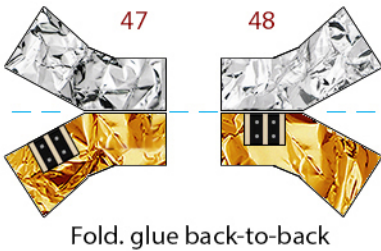
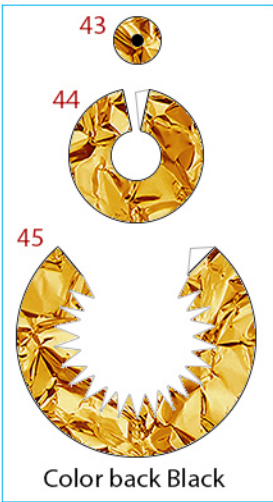
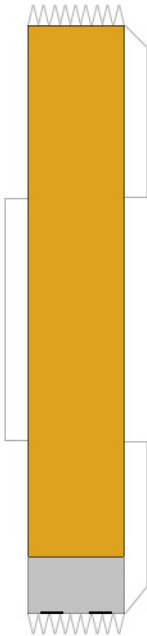
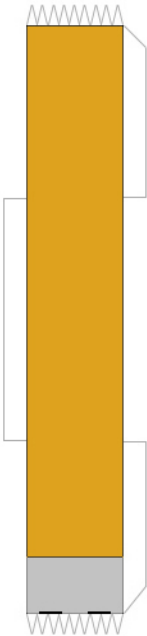
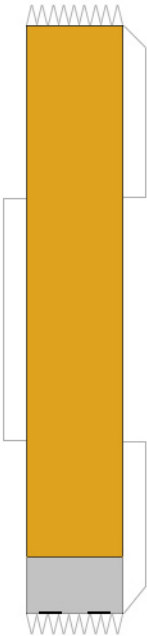
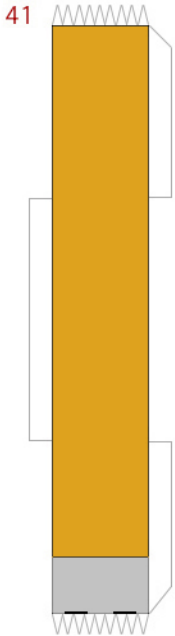
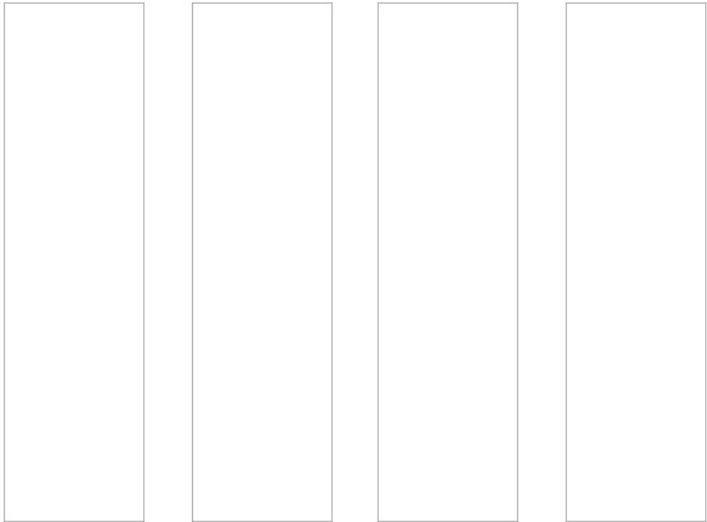
Legs - detail version



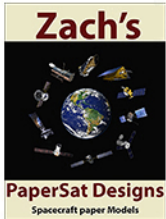
OR you can use the East Version of the legs on page 8

Moisten just a little at the backside, then carefully using your fingers to wrap around a toothpick (wooden rod around 3mm dia works best) several times, then glue together.

Roll into tubes and insert inside the legs for added strength.



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46a

46b

Glue these to cardstock - then to the backside of these

49

52

Score, fold and glue back-to-back at the blue lines

50

51

52

51

Fold, glue back-to-back

57

56

58

59

57

59

58

Color back of all these Black

53

54

55

60

61

62

49

1A

60

60

63

64

65

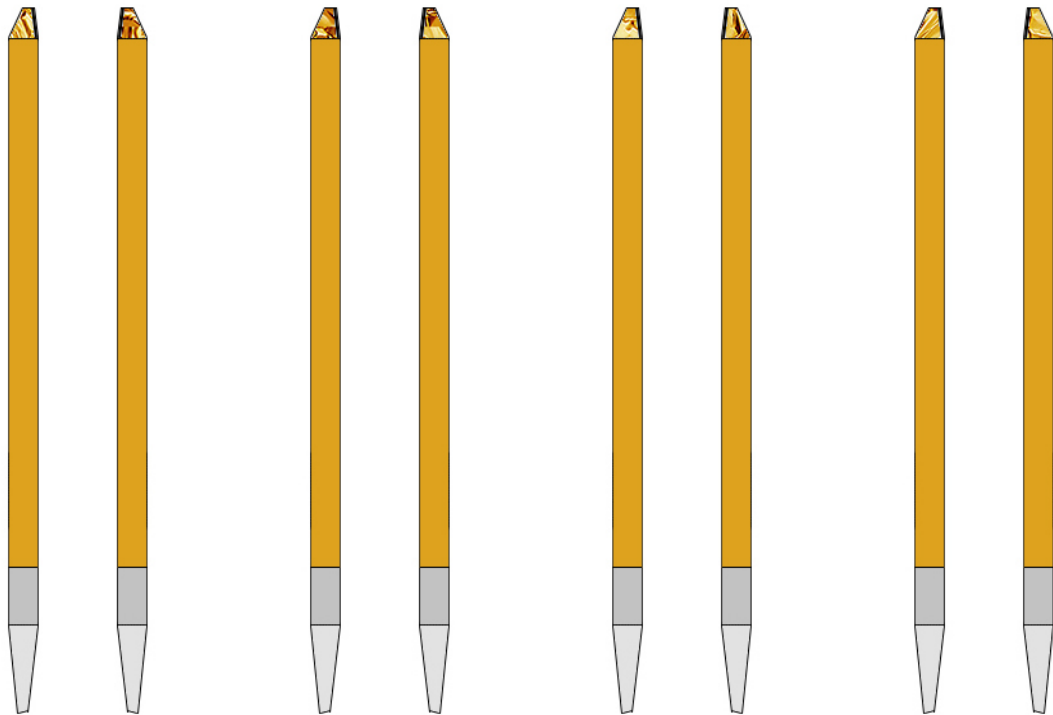
66

Fold, glue back-to-back

Color back light Grey

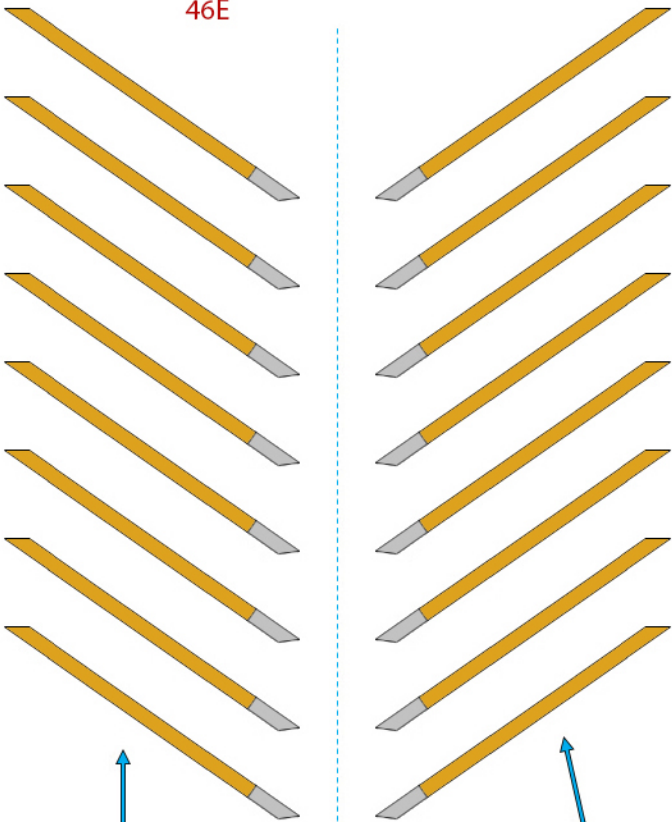
Legs - Easy version

41E



Glue all to cardstock, then each pair back-to-back

46E



Glue these to cardstock - then to the backside of these

Glue to thick cardboard or foamboard

