

Ranger 7 Spacecraft



Ranger 7 was the first space probe of the United States to successfully transmit close images of the lunar surface back to Earth. It was also the first completely successful flight of the Ranger program. Launched on July 28, 1964, Ranger 7 was designed to achieve a lunar-impact trajectory and to transmit high-resolution photographs of the lunar surface during the final minutes of flight up to impact.

Many historians call the success of Ranger 7 a turning point in the American space program. The seventh in a series of early U.S. lunar impact missions, it was the first win for NASA engineers after 13 failures in a row.

- ☒ Ranger 7 turned on its cameras and started sending back images 17 minutes prior to impact.
- ☒ The spacecraft took 4,316 stunning images before crashing into the lunar surface on the northern rim of the Sea of Clouds.
- ☒ The images helped scientists conclude the Apollo astronauts could safely land in the smooth mare regions (the "seas") of the Moon.

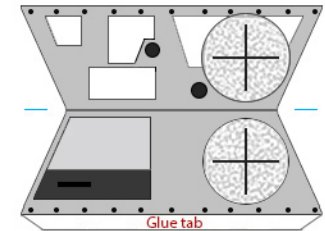
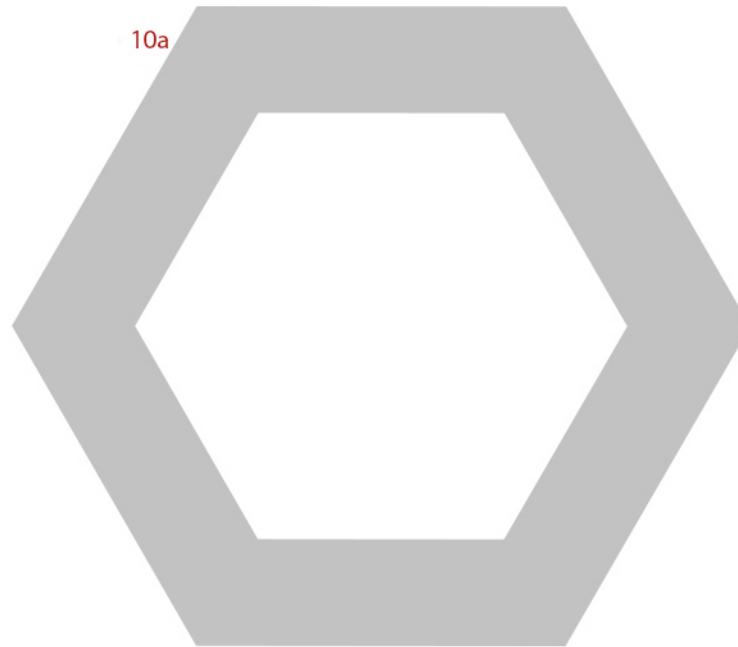
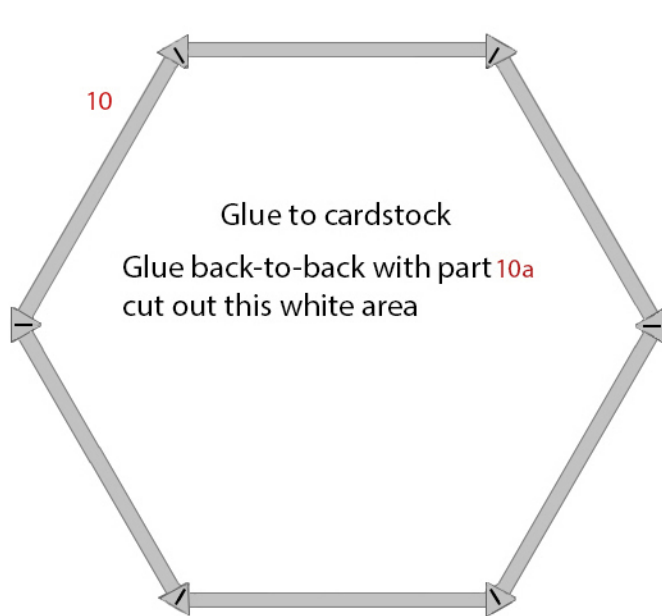
The spacecraft carried six television vidicon cameras – two wide-angle (channel F, cameras A and B) and four narrow-angle (channel P) – to accomplish these objectives. The cameras were arranged in two separate chains, or channels, each self-contained with separate power supplies, timers, and transmitters so as to afford the greatest reliability and probability of obtaining high-quality video pictures. Ranger 7 transmitted over 4,300 photographs during the final 17 minutes of its flight. After 68.6 hours of flight, the spacecraft landed between Mare Nubium and Oceanus Procellarum. This landing site was later named Mare Cognitum. The velocity at impact was 1.62 miles per second, and the performance of the spacecraft exceeded hopes. No other experiments were carried on the spacecraft.

Ranger 7 is credited for beginning the "peanut" tradition at NASA command stations. On the success of Ranger 7, someone in the control room was noticed eating peanuts. Since 1964 control rooms ceremonially open a container of peanuts for luck and tradition.

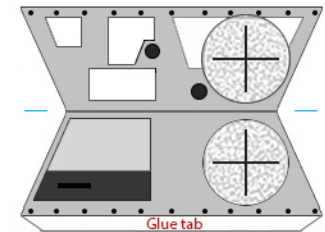
Zach's
PaperSat Designs
 Spacecraft Paper Models



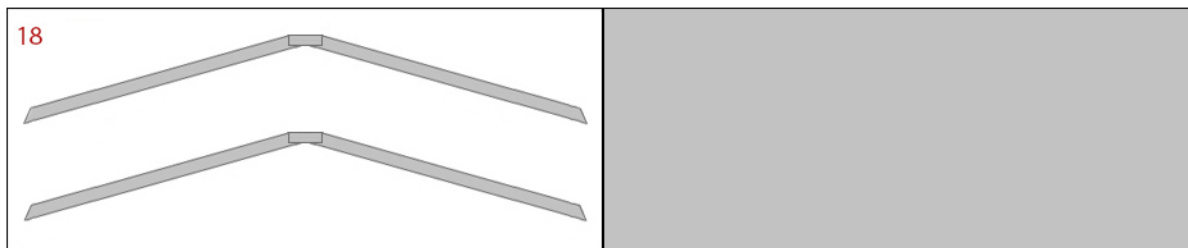
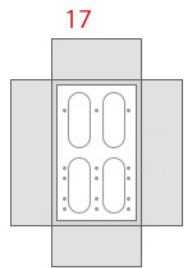
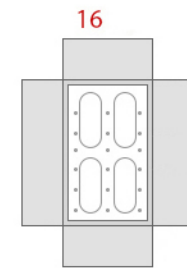
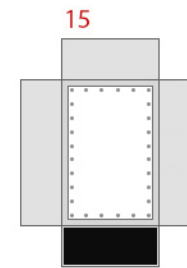
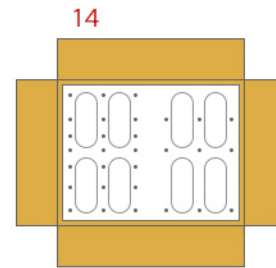
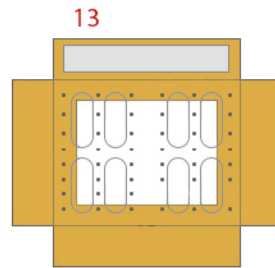
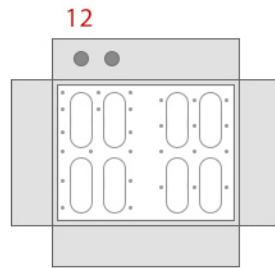
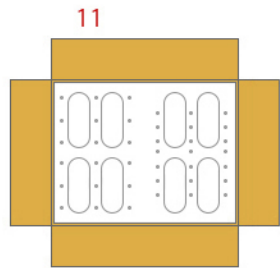
Ranger 7 Spacecraft



19 Fold-glue back-to-back



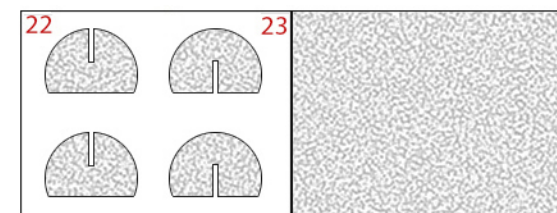
Fold-glue back-to-back



Fold-glue back-to-back

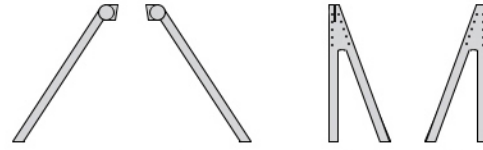
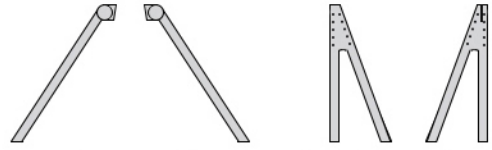
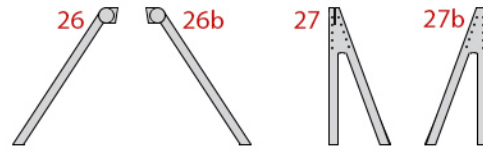
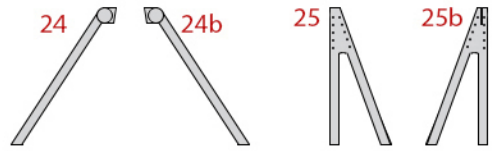


Fold-glue back-to-back



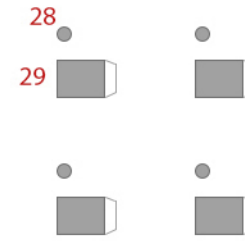
Fold-glue back-to-back

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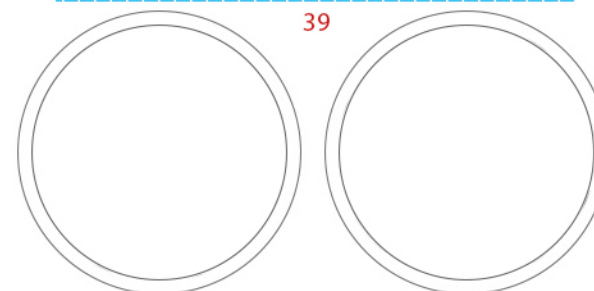
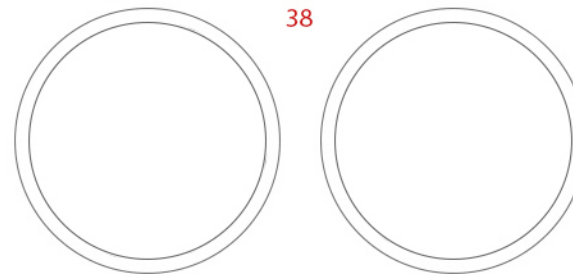
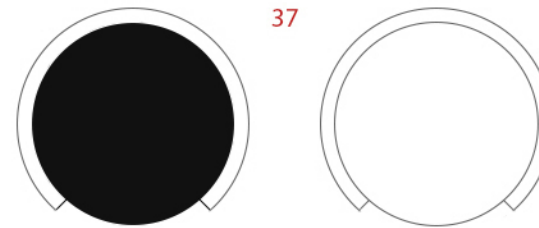
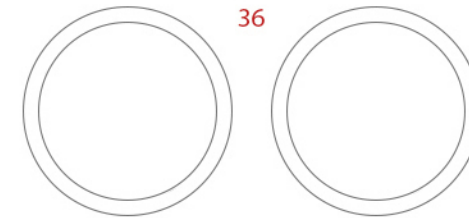
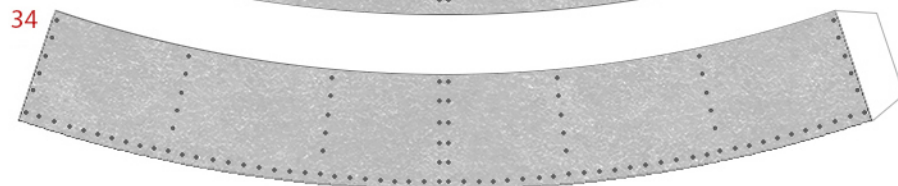
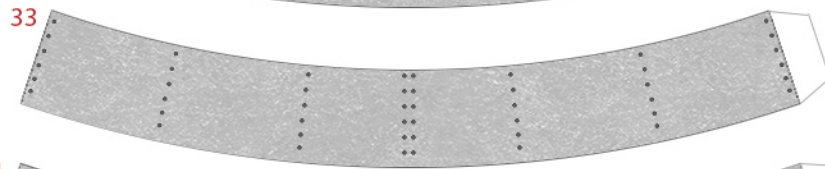
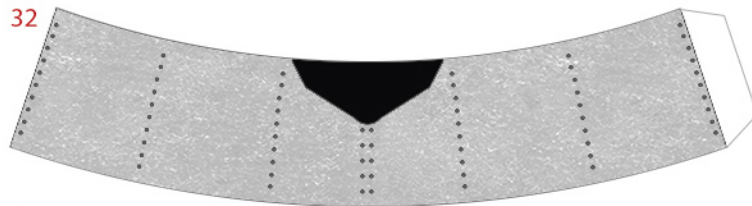
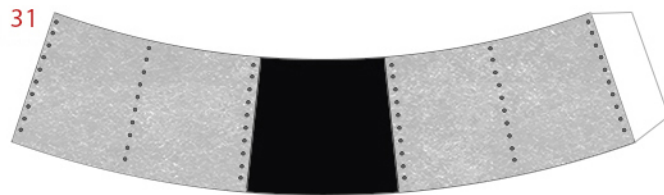
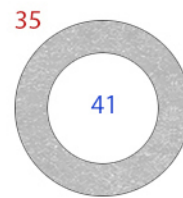
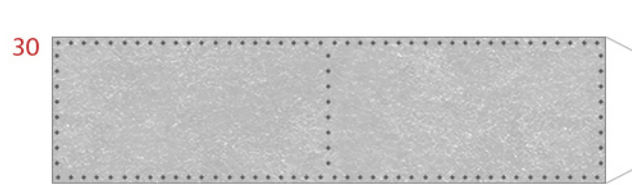


Glue **24** and **25** to cardstock, then glue each pair back-to-back

Glue **26** and **27** to cardstock, then glue each pair back-to-back

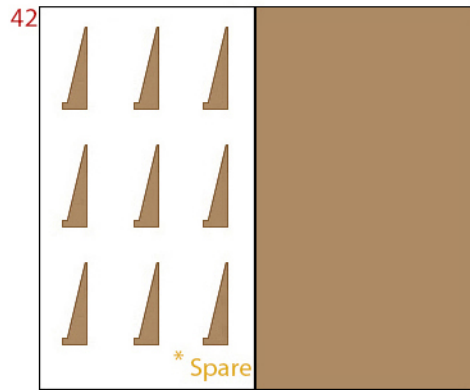


Cut plastic broom straws or similar material the same length as the line below, colored light grey or silver

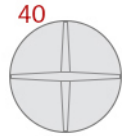


Glue each pair back-to-back

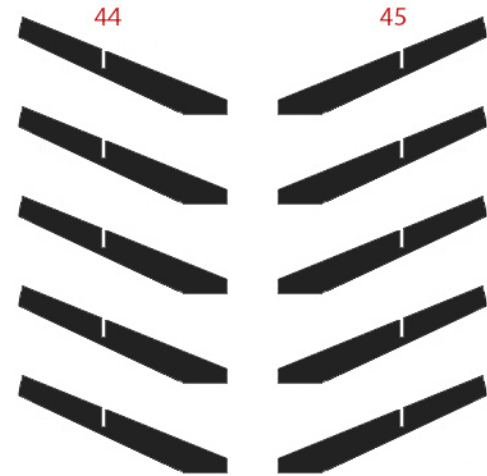
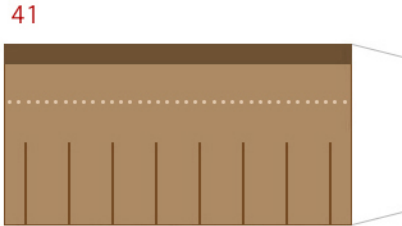
Ranger 7 Spacecraft



Fold- glue back-to-back



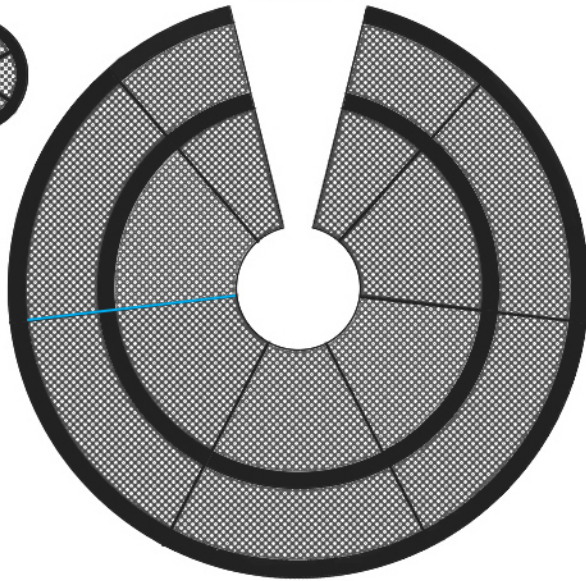
Glue 42 to cardstock, then
back-to-back with 43



Glue 44 to cardstock, then
glue back-to-back with 45



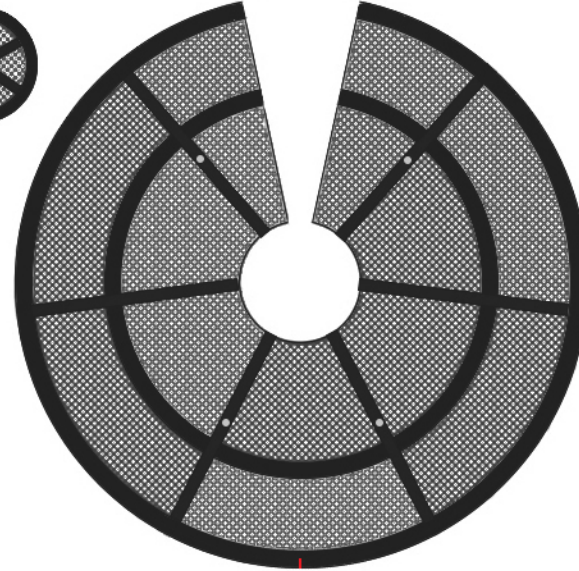
47 Out side



connector



49 Inside



connector



50

Color back side the same color



51

Color back side the same color



52

Color back side the same color



Ranger 7 Spacecraft

53



Glue these to two layers of cardstock, color backside the same color

54



55



56

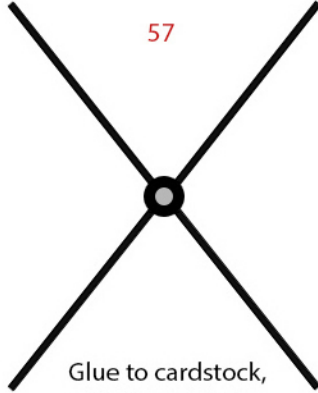


Glue back-to-back, match the four spokes

Need tooth pic cut at the same length as the line below, colored black



57

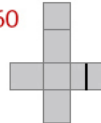


Glue to cardstock, color back Black

58



60



62

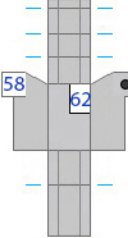


63



Glue to two layers of cardstock

59



58

62

61



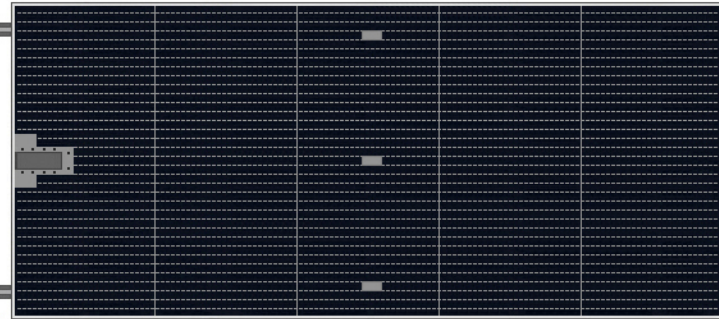
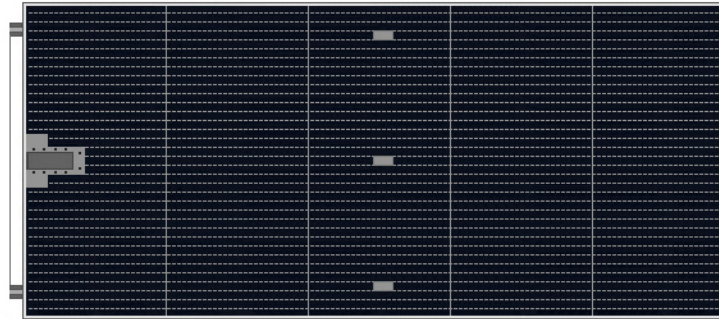
Glue both to cardstock, then back-to-back

64



Color back Black

65

Fold-glue each solar panel back-to-back

66



Glue to cardstock

67



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

68



Glue to cardstock

67



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

66



Glue to cardstock

