

Cosmic Origins Spectrograph (COS)

Astronauts installed the Cosmic Origins Spectrograph, or COS, in NASA's Hubble Space Telescope in 2009. COS is the most sensitive ultraviolet spectrograph ever flown in space. Scientists will use COS to study the structure of the universe and how galaxies, stars, and planets formed and evolved.

Because COS is a spectrograph, it works like a prism and separates the colors of light—the spectrum—coming from heavenly objects such as stars. The spectrum tells us what elements (for example, helium and oxygen) the star contains. The spectrum also tells us about the star's temperature and motion.

COS was designed and built by engineers, scientists, and technicians at Ball Aerospace & Technologies Corp. The Wide Field Camera 3, also built by Ball Aerospace, was installed at the same time as COS. Now all five of the imagers on board Hubble are Ball Aerospace-built.

Directions

1. Look over the pattern to get an idea of what you'll be doing.
2. Score the fold lines to make them easier to fold. To score, use a ball-point pen and ruler. Line up the ruler along a fold line. Then firmly draw along the ruler.
3. Carefully cut out the pattern. Make sure you cut **into** the pattern at the two red lines marked **cut**.
4. Fold down along each fold line. Then check to make sure that you have made all the folds.
5. Apply glue to the tabs in the order they are numbered (glue 1, glue 2, and so on). Press each tab down to the correct part until the glue sets. Look at the red sketches of the model to make sure you're doing this right.

Tools List

- Ball-point pen
- Ruler
- Scissors
- White glue or glue stick

Score and fold line

Cut line

Cut out this area

Glue spots

This model is 1/15 scale.

