360° PAPER MODELS

V745-SCO NOVA AND TYCHO'S SUPERNOVA REMNANT

FOLLOW THIS VIDEO FOR DIRECTIONS CHANDRA.SI.EDU/MAKE/#PAPER

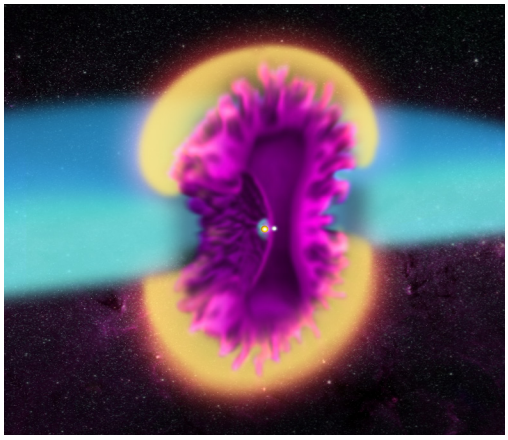
A hands-on activity using printable templates and creating 3 dimensional paper models. Good for MakerFaires, libraries, classrooms and other STEM related events where participants can create their own take-away. In this activity, you can make your own V745-Sco or Tycho out of paper.

Cost: Under $5
Time: 2-4 hours
Materials:

- 6 pieces of 8 1/2 x 11 paper printer
- scissors
- glue
- 2 pieces of heavier paper or cardboard for a cover (could even use a cereal box)
- optional materials - anything for decorating the cover - glue/glitter/yarn/markers/crayons/etc.

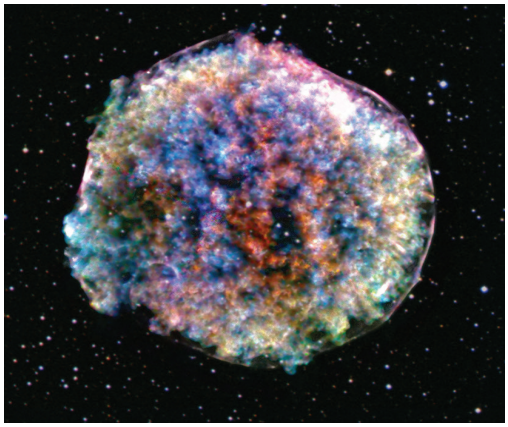
V745-Sco Nova

For decades, astronomers have known about irregular outbursts from V745 Sco, which is located about 25,000 light years from Earth. V745 Sco is a binary star system that consists of a red giant star and a white dwarf locked together by gravity. These two stellar objects orbit so closely around one another that the outer layers of the red giant are pulled away by the intense gravitational force of the white dwarf. For more information about v7445-Sco Nova, go to chandra.si.edu/photo/2017/v745/



Tycho's Supernova Remnant

In 1572, Danish astronomer Tycho Brahe was among those who noticed a new bright object in the constellation Cassiopeia. Astronomers now know that Tycho's new star was not new at all. Rather it signaled the death of a star in a supernova, an explosion so bright that it can outshine the light from an entire galaxy. For more information about Tycho's Supernova Remnant, go to chandra.si.edu/photo/2019/tycho/



DIRECTIONS

Use the attached pdf template

Step 1: Print 6 copies of Template on 8 ½ x 11 paper

Step 2: Fold in half along the dotted line. Fold in half again so that the paper is in quarters.

Step 3: Cut along the outer square border to trim the outer edge away.

Step 4: Cut along the 2 curves to separate the ejecta from the shockwave. Cutting this way with the paper folded in quarters will result in symmetry along both the X & Y axis and you will end up with a central "ejecta" region on solid paper with a surrounding "shockwave" of negative space (patterned area on the template).

Step 5: Repeat steps 2-4 for the remaining 5 print-outs.

Step 6: Keep all 6 cut-out pages folded in half only, like a greeting card. Line up 2 of the pages so that the folded edges abut. Cover the face-up surface of both pages with glue (spray adhesive or glue sticks work well) and stick the pages together. Lift and make sure there are 2 free sides on either side of the glued-together sides.

Step 7: Repeat step 7 until all pages are connected.

Step 8: Attach paper hinges as shown on video on website.