

CASSIOPEIA A

WHO: Cassiopeia A (Cas A) is a relatively young supernova remnant in the Milky Way galaxy.

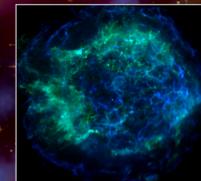
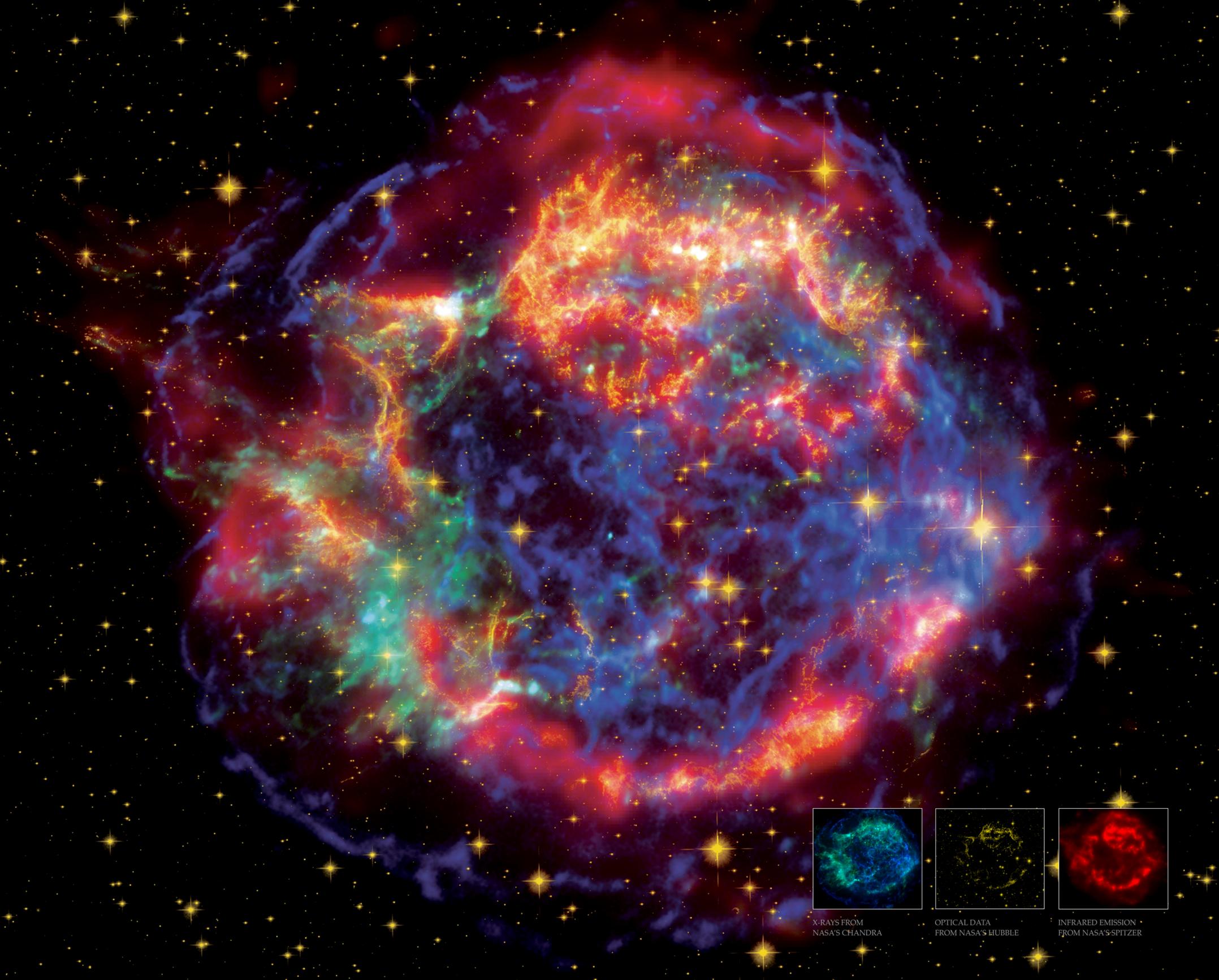
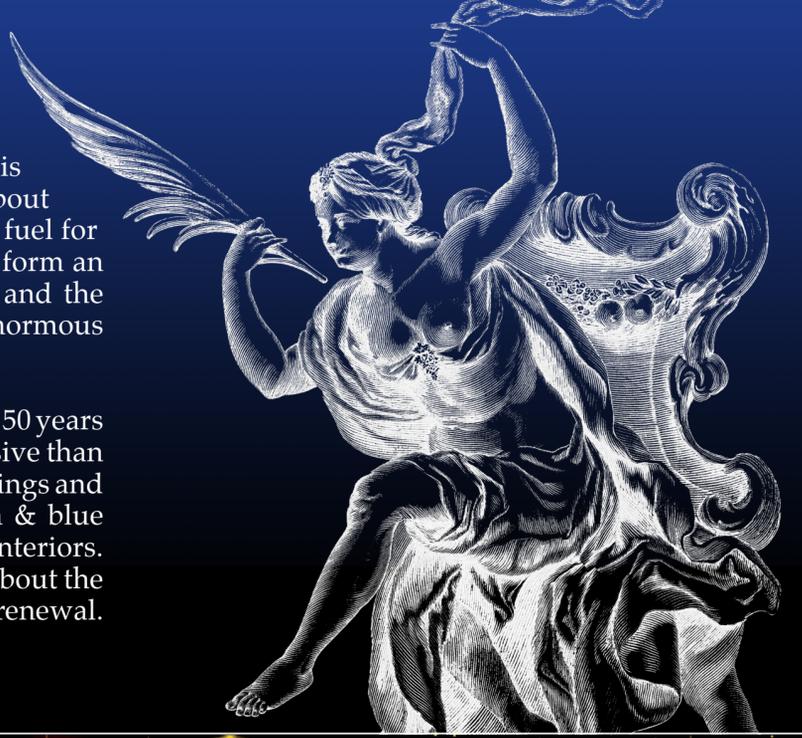
WHAT: A supernova remnant is the expanding debris field of hot gas and energetic particles created when a massive star explodes.

WHERE: Cas A, at a distance of 11,000 light years from Earth, is in the constellation Cassiopeia. This constellation is widely known for its "W" shape that Greek and Roman mythology identified as a queen's throne.

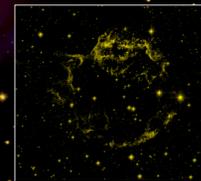
WHEN: Although the exact date is uncertain, this supernova would have appeared in the night sky about 330 years ago.

HOW: The supernova that created Cas A is thought to have occurred when a star about 25 times as massive as the Sun ran out of fuel for nuclear power. Its core then collapsed to form an ultra-dense object called a neutron star, and the outer layers of the star were ejected at enormous speeds (see illustration below).

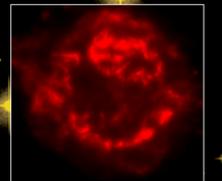
WHY: Supernovas occur about once every 50 years in the Galaxy when stars much more massive than our Sun die. They energize their surroundings and disperse the heavy elements (e.g., green & blue in the image) forged within these stellar interiors. Supernova remnants reveal information about the grand Galactic drama of life, death and renewal. More at: <http://chandra.harvard.edu>



X-RAYS FROM NASA'S CHANDRA



OPTICAL DATA FROM NASA'S HUBBLE



INFRARED EMISSION FROM NASA'S SPITZER

Stellar Nursery

ILLUSTRATION OF STELLAR EVOLUTION PATH

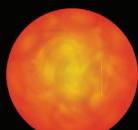
Stellar Nursery



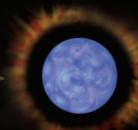
Protostar



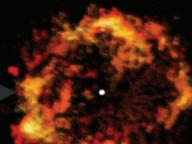
Blue Supergiant



Red Giant

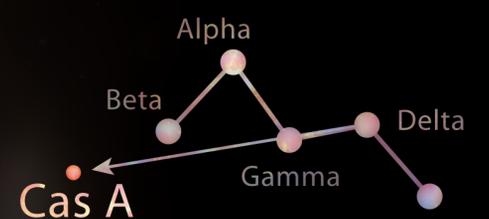


Blue Giant



Type II Supernova

Neutron Star



CONSTELLATION CASSIOPEIA