



**Chandra X-Ray  
Observatory Center**

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**Illustration of a Black Hole Event Horizon**

**Illustration Credit:** CXC/M.Weiss

These illustrations depict gas from a Sun-like companion star being drawn in a swirling pattern into a black hole (top) and onto a neutron star (bottom). In both examples, as the gas nears the central object, a strong gravitational redshift makes it appear redder and dimmer. When the gas strikes the solid surface of the neutron star, it glows brightly in X-rays. But when the gas crosses the event horizon of the black hole, it produces no X-rays because a black hole has no surface. New observations by Chandra have provided strong evidence for the existence of "event horizons", the defining characteristic of black holes.