

WHAT'S A... KILONOVA

A **KILONOVA** is an explosion resulting from a neutron star merger*

*could maybe potentially work with a black hole + neutron star merger

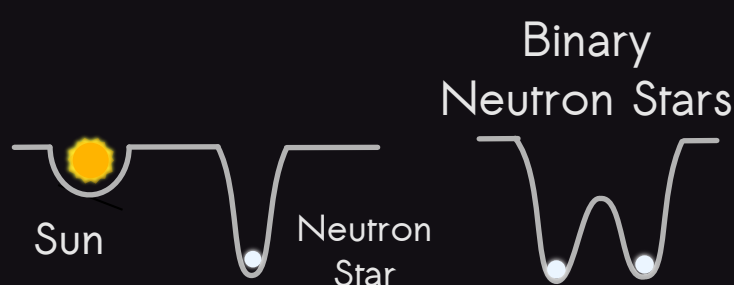
TOGETHER EVER AFTER

Some **massive stars** have **aged and died** together, leaving the ghost of their core behind: a **Neutron Star**



DANCING GHOSTS

Neutron stars are very dense and strongly **distort the fabric of space time**.



As binary Neutron Stars rotate around each other they release **Gravitational Waves (GWs)**.

The energy expanded to create the GWs is taken away from the orbit of the binary:
The two stars get closer together.

The closer they are, the "higher pitch" the waves

THE MERGER

When they get too close they merge and they release:



THE PRODUCTS

It would look like a new star has appeared



The enormous amount of **light** released can be seen from distant galaxies for **a few weeks**.

The kilonova explosion creates **new elements** through the **r-process**, making very **neutron rich elements**.

This includes Silver, **Gold**, Platinum and **Rare Earth elements**.



CC-BY 4.0
Dr. H. F. Stevance
@Sydonahi

Find more free to use
infographics and illustrations at
hfstevance.com/graphics

