The Synapse: Intercollegiate science magazine

Volume 7 | Issue 1 Article 10

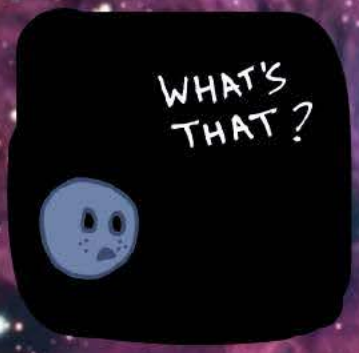
2015

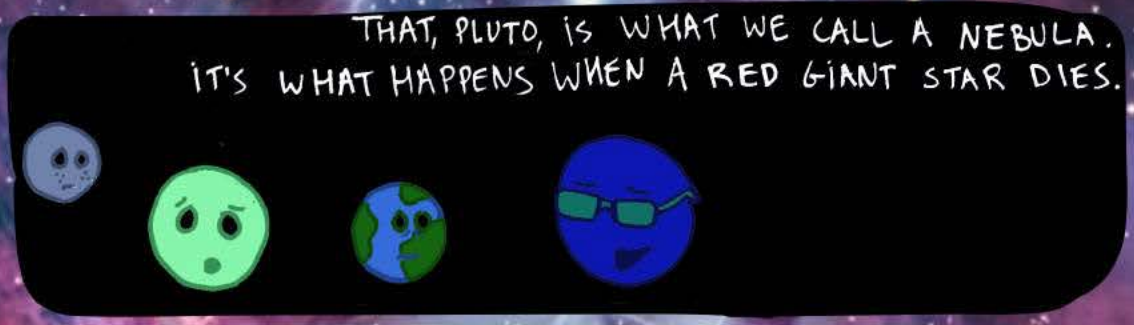
Size Matters

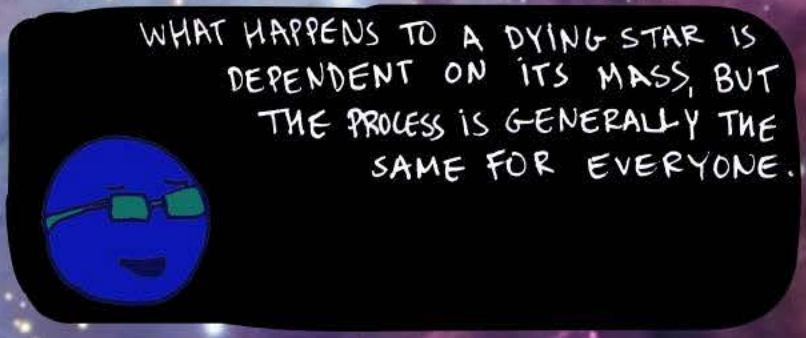
Eydon Thomashow

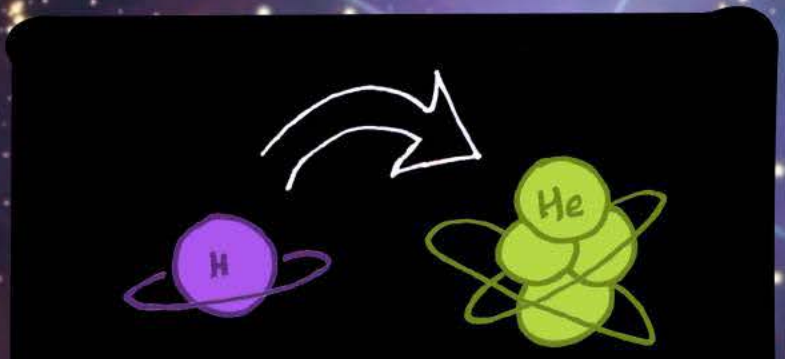
Size Matters

WRITTEN BY EYDON THOMASHOW ILLUSTRATED BY BEATRIX PAROLA









STARS CREATE THEIR POWER BY FUSING HYDROGEN INTO HELIUM IN THEIR CORE.

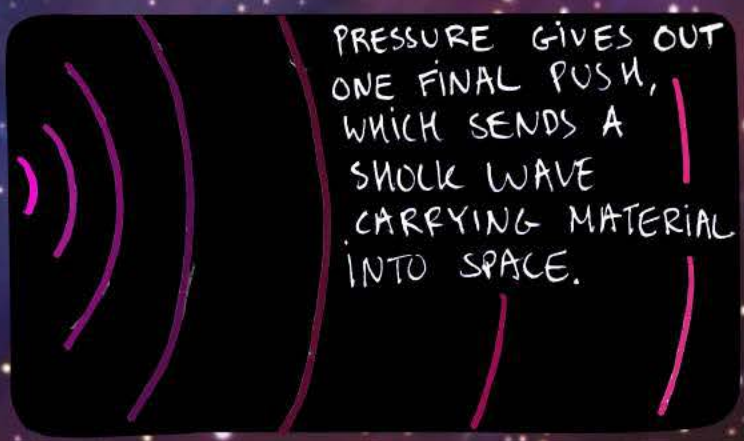
AS THE STARS START TO AGE, THEY FUSE TOGETHER HEAVIER AND HEAVIER ELEMENTS.

EVENTUALLY, THEY WILL START FUSING IRON

UNFORTUNATELY, IRON IS THE END OF THE LINE. IRON IS EXTREMELY STABLE, SO IT CAN'T BE FUSED FOR MORE ENERGY.

THEN, THE STAR CONDENSES DRAMATICALLY.

FROM HERE ON OUT, EVERYTHING DEPENDS ON THE MASS.



FOR SMALLER STARS, LIKE THE ONE WE JUST OBSERVED, THIS MATERIAL TURNS INTO A PLANETARY NEBULA.

THE STAR ITSELF WILL CONDENSE TO ABOUT THE SIZE OF YOU, EARTH.

THESE ARE CALLED WHITE DWARFS, WHICH IN MOST CASES IS THE LAST STEP.

LARGER STARS WILL GO THROUGH SUPER NOVA EXPLOSIONS, WHICH CAN BE LIGHT YEARS ACROSS. OUT OF THESE, SMALLER STARS WILL CONDENSE DOWN TO 10KM IN DIAMETER.

THESE ARE CALLED NEUTRON STARS

THE BIGGEST STARS WILL TURN INTO BLACK HOLES. ALL THE MATTER IN A BLACK HOLE CONDENSES INTO AN INFINITELY DENSE POINT WHERE GRAVITY IS SO STRONG...

EVEN LIGHT CAN'T ESCAPE

WOW.

SO... WHAT WILL HAPPEN TO OUR SUN?

OUR SUN IS CONSIDERED A LIGHTWEIGHT STAR.

WHEN THE TIME COMES, IT WILL EXPAND INTO A RED GIANT

AND COLLAPSE INTO A WHITE DWARF

WHAT WILL HAPPEN TO US?!

DON'T WORRY EARTH, THE HUMAN RACE WILL BE LONG GONE BY THEN.

AS FOR US THOUGH...

LETS JUST BE GRATE FUL WE DON'T HAVE TO WORRY ABOUT IT FOR ANOTHER 5 BILLION YEARS!