Powering the Stars

“The Cosmic Furnace”

What Powers the Sun?

- Coal?
- Compression?
- In 1899, T.C. Chamberlin suggested subatomic energy
- No explanation until Einstein in 1905

\[ E = mc^2 \]

- 1 gram = 20 kilotons of energy
- Nuclear Fusion!
The nucleus of hydrogen’s most common form is a single proton.

Helium’s most common form consists of two protons and two neutrons.

Where are the missing "little neutral ones"?

NOTE: The carbon-nitrogen-oxygen cycle dominates in hotter stars.