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THRESHOLD

STARS LIGHT UP

Before stars existed, the Universe was relatively cool and uniform. The first stars formed within huge clouds of gas that were the building blocks of galaxies, galaxy clusters, and superclusters. Stars were an important new form of complexity because they introduced long-lasting “hot spots” where even more complex things could develop.

13.6

4.5

4 BILLION YEARS



THRESHOLD

2

STARS LIGHT UP

INGREDIENTS

Hydrogen
and helium

Gravity



GOLDBLOCKS CONDITIONS

Tiny variations in the density
of matter throughout the
Universe

Enable gravity to pull matter together
into increasingly dense clouds, which
grow hotter as they form

**Temperatures > 10 million
degrees Celsius**

Are hot enough for the strong nuclear
force to fuse protons and release huge
amounts of energy



NEW COMPLEXITY

“Hot spots”

Places in the Universe
where there is enough
energy and matter to
create entirely new
Goldilocks Conditions

New structures

Stars

Galaxies

Clusters

Superclusters