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THRESHOLD

LIFE ON EARTH

The appearance of life on Earth marked a major arrival: organisms with the capacity to harness energy and materials from their environments to adapt to changing conditions and reproduce themselves. This introduced a new level of creativity, diversity, and complexity to the Universe.

4 BILLION YEARS AGO

1 BILLION YEARS AGO



THRESHOLD

5

LIFE ON EARTH

INGREDIENTS

Complex chemical
compounds (including
RNA and DNA)



GOLDBLOCKS CONDITIONS

Just the right amount
of energy

Enables diverse and stable
chemical reactions

Liquid water

Makes it easy for atoms and molecules
to combine and recombine



NEW COMPLEXITY

New organisms with
the ability to

Maintain and fuel themselves
(metabolism)

Adjust to changes around
them (homeostasis)

Copy themselves
(reproduction)

Gain new characteristics
over time (adaptation)