

THE ABUNDANCE OF STUFF IN THE UNIVERSE

DARK ENERGY **68%**
An unknown energy affecting the rapid expansion of the universe

DARK MATTER **27%**

Unknown matter that causes gravity effects but does not exist in the form of stars, planets, or visible matter

MATTER **5%**

Stuff that has mass and takes up space

- Reactive Nonmetal
- Alkali Metal
- Alkali Earth Metal
- Lanthanide
- Actinide
- Transition Metal
- Post-Transition Metal
- Metalloid
- Noble Gas

found in **biological molecules**

Hydrogen
75%

Helium
23%

1% **Oxygen**

■ **Carbon**
0.5%

■ **Neon**
0.13%

■ **Iron**
0.11%

■ **Nitrogen**
0.1%

■ **Silicon**
0.07%

■ **Magnesium**
0.059%

■ **Sulfur**
0.05%

■ **Argon**
0.02%

■ **Calcium**
0.007%

■ **Nickel**
0.006%

■ **Aluminum**
0.005%

■ **Sodium**
0.002%

■ **Chromium**
0.0015%

■ **Manganese**
0.0008%

■ **Phosphorus**
0.0007%

Cobalt
0.0003%

Titanium
0.0003%

Potassium
0.0003%

Vanadium
0.0001%

Chlorine
0.0001%

>0.0001% In Order of Abundance

- Fluorine
- Zinc
- Germanium
- Copper
- Zirconium
- Strontium
- Krypton
- Selenium
- Scandium
- Lead
- Neodymium
- Cerium
- Barium
- Xenon
- Rubidium
- Gallium
- Tellurium
- Arsenic
- Yttrium
- Bromine
- Lithium
- Platinum
- Samarium
- Molybdenum
- Tin
- Ruthenium
- Osmium
- Iridium
- Ytterbium
- Erbium
- Dysprosium
- Gadolinium
- Praseodymium
- Lanthanum
- Cadmium
- Palladium
- Niobium
- Mercury
- Iodine
- Boron
- Beryllium
- Cesium
- Bismuth
- Hafnium
- Gold
- Silver
- Rhodium
- Thallium
- Tungsten
- Holmium
- Terbium
- Europium
- Thorium
- Antimony
- Indium
- Uranium
- Rhenium
- Lutetium
- Thulium
- Tantalum

* Figures add up to slightly more than 100% due to rounding.

Sources:

- <https://science.nasa.gov/astrophysics/focus-areas/what-is-dark-energy>
- http://www.universeadventure.org/big_bang/element-composition.htm
- <https://www.livescience.com/46506-states-of-matter.html>
- <http://hyperphysics.phy-astr.gsu.edu/hbase/Astro/hydro.html>
- <http://www.periodictable.com/Properties/A/UniverseAbundance.v.log.html>
- <http://www.faculty.virginia.edu/ASTR5610/lectures/ABUNDANCES/abundances.html>
- http://chandra.harvard.edu/resources/illustrations/chemistry_universe.html
- http://www2.latech.edu/~upali/chem481/Chem481c1_files/imageD2C.JPG

