*Void*

from old French *voide, viude* “empty, vast, wide, hollow, uncultivated”  
from Latin *vocivos* “unoccupied, vacant”

1610 “unfilled space, gap”  
1727 “absolute empty space, vacuum”

“a large empty space”   
often used figuratively

(Britannica dictionary)

(astronomy) an extended region of space containing no galaxies

(materials science) a collection of adjacent vacancies inside a crystal lattice  
(fluid mechanics) a pocket of vapor inside a fluid flow  
(construction) an empty space between floors and walls

Robert Temple: “Voids are of immense importance, though rarely recognized. There can be no internal architecture if structures are not separated from each other by voids. The structures must be separated from the rest of the mass by a space, otherwise it is no longer a distinct structure.”

*Kenon* ~ ancient Greek word for void  
  
Alice Pisani, Ph.D. Princeton University “Cosmology with Cosmic Voids”

The cosmic web (the meta pattern of galaxies) ~ among the latticeworks, between the walls and knots and filaments, are the great voids. Stretching anywhere from 20 million to hundreds of millions of light-years across, these are the true deserts of the cosmos, almost entirely devoid of matter. Galaxies are gravitationally bound together, creating huge cosmic structures known as galaxy filaments.  
  
Growing the cosmic web ~ density fluctuations increase over time ~ denser spots had slightly more gravitational attraction than less dense spots ~ matter becomes concentrated in the cosmic web structures, leaving matter-less spaces = voids (high-density spaces, low-density spaces) ~ creation of voids is part of the evolution of the cosmic web

Very little is known about void’s relationship to dark matter and dark energy.

Particle physicists expect the voids to consist of a kind of “quantum foam” – full of virtual particles that appear and disappear instantaneously.

Universe = dark energy (68%) (primary effect is to drive the accelerating expansion of the universe) + dark matter and baryonic matter (26%) + neutrinos, photons

Q U I N T E S S E N C E ~ the fifth fundamental force ~ hypothetical form of dark energy, postulated as an explanation of the observation of an accelerating rate of expansion of the universe

Aristoteles ~ quinta essentia, the fifth element, the essence of the celestial world (aether)

Dark energy is currently the most popular explanation for the acceleration in the expansion of the universe. Considered a form of energy that affects the universe on the largest scales. It dominates the universe’s mass–energy content because it is uniform across space.