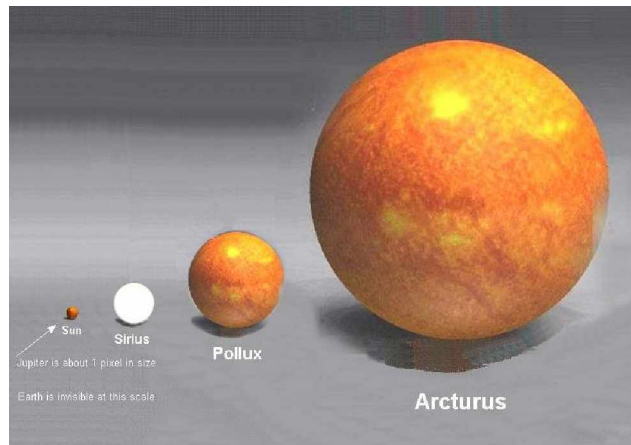
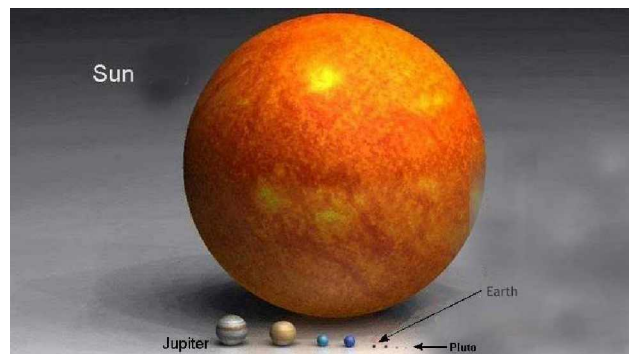
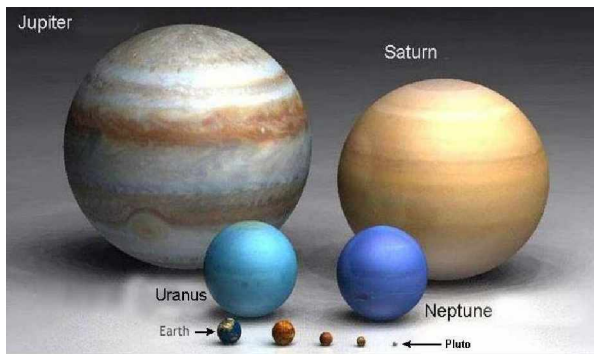
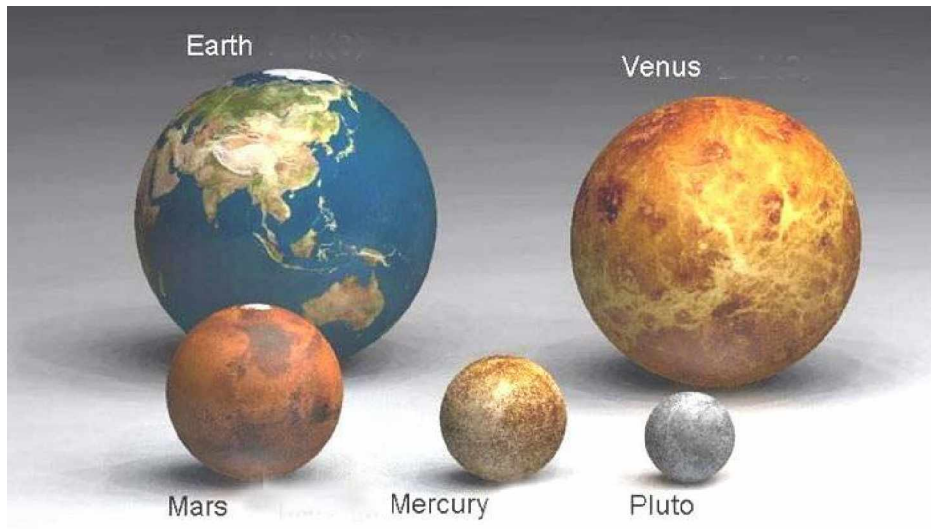


Proportional Relationship of Earth – something to ponder . . .  
compiled by G. Heinmiller – August 2008 – [www.ondhs.syracuse.mason.com](http://www.ondhs.syracuse.mason.com)



## Light Year

A light-year is equal to:  
exactly 9,460,730,472,580.8 km; about 5,878,625,373,183.61 miles

The Milky Way Galaxy is about 150,000 light-years across.

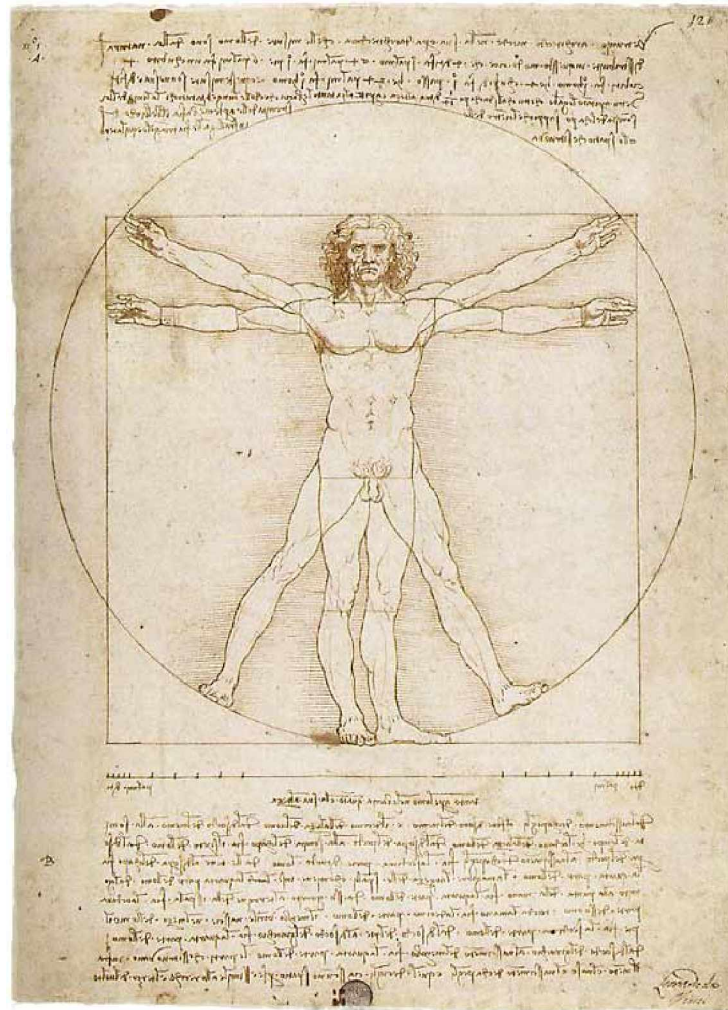
The Andromeda Galaxy, the next nearest big galaxy, is 21 quintillion km. That's 21,000,000,000,000,000 km or 2.3 million light-years away.

The distance to Proxima Centauri, the next nearest star is ~40,000,000,000,000 km or ~4.24 light years.

[http://nature.ca/genome/03/a/03a\\_11a\\_e.cfm](http://nature.ca/genome/03/a/03a_11a_e.cfm)

For a further YouTube video perspective, see also <http://www.youtube.com/watch?v=bov9M2gEgcE&feature=related>  
Or <http://www.youtube.com/watch?v=Nroo-i8t8vg&NR=1>

## Man – Leonard Da Vince



### For a micro-perspective

#### How big is the human genome?

The size of genomes differs from one organism to the next. It seems likely that a human would have much more DNA than a fly, because humans are so much larger and more complex. However, the complexity of each genome is not necessarily related to its size.

The Human Genome Project is involved in determining the exact order of the DNA bases of the entire human genome. The human genome contains more than 3.4 billion base pairs and between 20 000 and 25 000 genes.

The U.S. Department of Energy Human Genome Project Information Web site illustrates the size of the human genome by estimating that it would take "about 9.5 years to read out loud (without stopping) the more than three billion pairs of bases in one person's genome sequence". [Source: *Human Genome Projects Information*].

Another example of the immensity of the human genome is given by the Centre for Integrated Genomics:

**"If our strands of DNA were stretched out in a line, the 46 chromosomes making up the human genome would extend more than six feet [close to two metres]."**

**If the ... length of the 100 trillion cells could be stretched out, it would be ... over 113 billion miles [182 billion kilometres]. That is enough material to reach to the sun and back 610 times."** [Source: *Centre for Integrated Genomics*]

[http://en.wikipedia.org/wiki/Cell\\_\(biology\)](http://en.wikipedia.org/wiki/Cell_(biology))

Humans have an estimated 100 trillion or  $10^{14}$  cells; a typical cell size is 10  $\mu\text{m}$  (10 micrometers, or 10/1,000,000 of a meter)\*; a typical cell mass is 1 nanogram.)

\* A **micrometre** (micrometer; symbol  $\mu\text{m}$ ) is one **millionth** of a **metre**, or equivalently one thousandth of a **millimetre**. It is also commonly known as a **micron**. It can be written in **scientific notation** as  $1 \times 10^{-6}$  m, meaning 1/1 000 000 m.

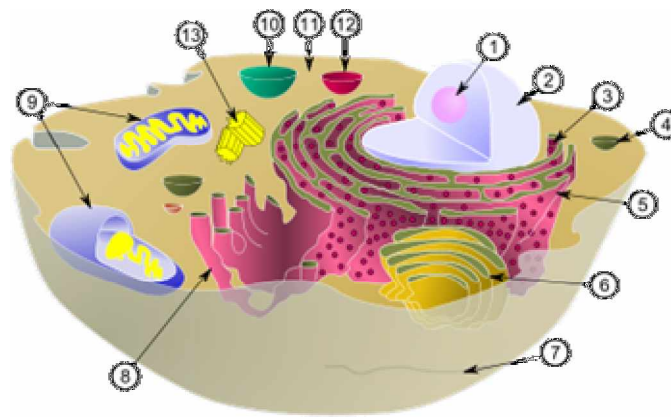
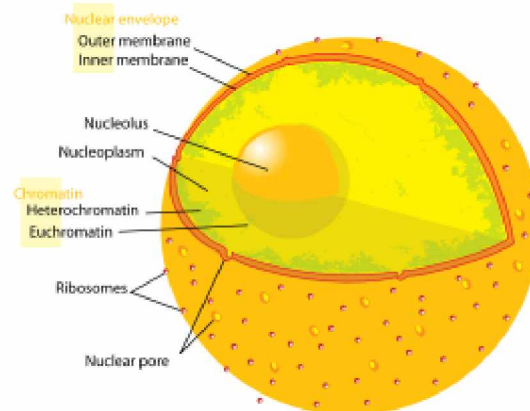


Diagram of a typical [animal](#) ([eukaryotic](#)) cell, showing subcellular components.

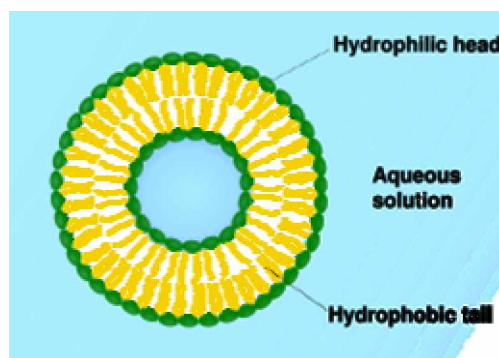
Organelles:

- (1) [nucleolus](#)
- (2) [nucleus](#)
- (3) [ribosome](#)
- (4) [vesicle](#)
- (5) [rough endoplasmic reticulum](#) (ER)
- (6) [Golgi apparatus](#)
- (7) [Cytoskeleton](#)
- (8) [smooth endoplasmic reticulum](#)
- (9) [mitochondria](#)
- (10) [vacuole](#)
- (11) [cytoplasm](#)
- (12) [lysosome](#)
- (13) [centrioles](#) within [centrosome](#)



The **nucleolus** is contained within the [cell nucleus](#).

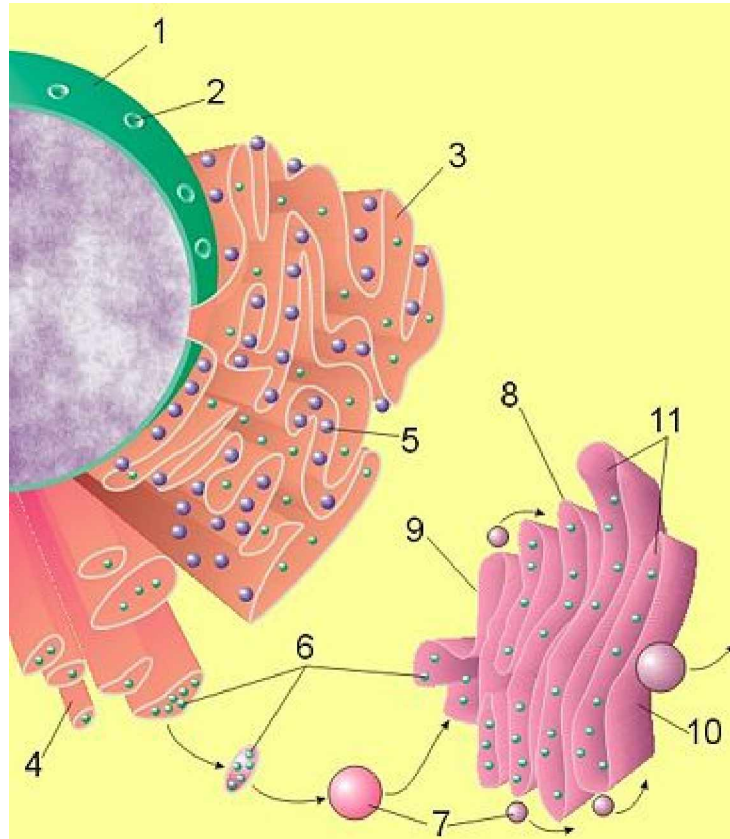
The nucleus is the largest cellular [organelle](#) in animals. In [mammalian](#) cells, the average diameter typically varies from 11 to 22 micrometers ( $\mu\text{m}$ ) and occupies about 10% of the total volume. The viscous liquid within it is called [nucleoplasm](#), and is similar to the [cytoplasm](#) found outside the nucleus.





Scheme of a simple **vesicle** (**liposome**).

In cell biology, a **vesicle** is a relatively small intracellular, membrane-enclosed sac that stores or transports substances. The vesicle is separated from the cytosol by at least one lipid bilayer. If there is only one lipid bilayer, they are called *unilamellar* vesicles; otherwise they are called *multilamellar*. Vesicles store, transport, or digest cellular products and waste.



**Endoplasmic reticulum, or ER,**

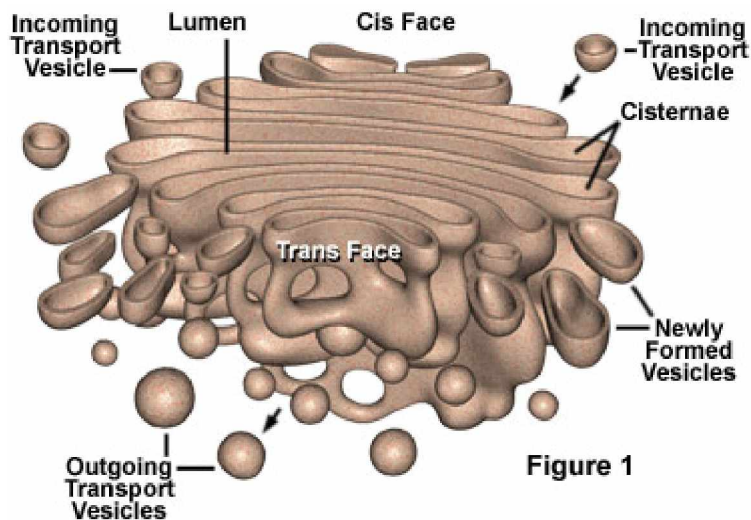
1 Nucleus 2 Nuclear pore 3 Rough endoplasmic reticulum (rER) 4 Smooth endoplasmic reticulum (sER) 5 Ribosome on the rough ER 6 Proteins that are transported 7 Transport vesicle 8 Golgi apparatus 9 Cis face of the Golgi apparatus 10 Trans face of the Golgi apparatus 11 Cisternae of the Golgi apparatus

The **endoplasmic reticulum**, or **ER**, is an organelle found in all eukaryotic cells that is an interconnected network of tubules, vesicles and cisternae. The lacey membranes of the endoplasmic reticulum were first seen by Keith R. Porter, Albert Claude, and Ernest F. Fullam in 1945.

These structures are responsible for several specialized functions: protein translation, folding and transport of proteins to be used in the cell membrane (e.g. transmembrane receptors and other integral membrane proteins), or to be secreted (exocytosed) from the cell (e.g. digestive enzymes); sequestration of calcium; and production and storage of glycogen, steroids, and other macromolecules. The endoplasmic reticulum is part of the endomembrane system. The basic structure and composition of the ER membrane is similar to the plasma membrane.

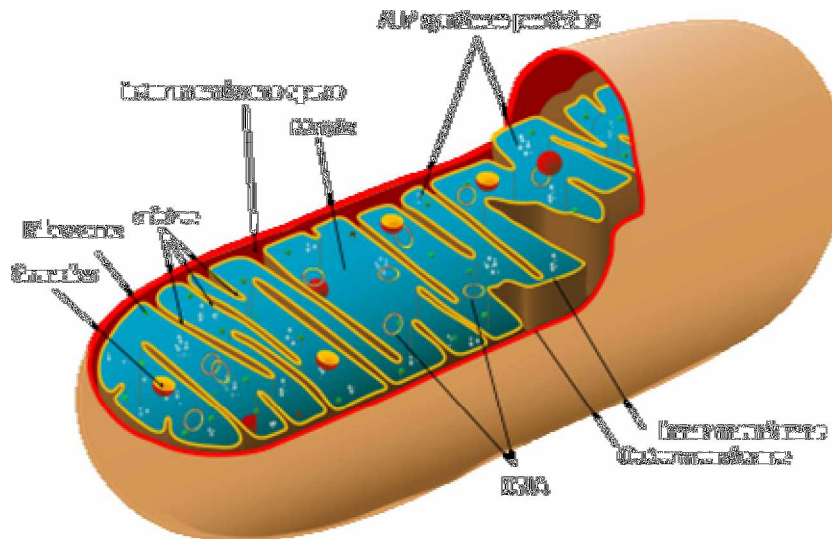
Note re: no. 2 above, the **Nuclear Pore**. The entire nuclear pore complex (NPC) **has a diameter of about 120 nm \***, the diameter of the opening (functional diameter) is about 10 nm wide and its "depth" is about 200 nm. It had been suggested that the pore can be dilated to around 26 nm to allow molecule passage. The molecular mass of the mammalian NPC is about 120 mega dalton and it contains approximately 30 different protein components, each in multiple copies.

\* A nanometre (American spelling: nanometer, symbol nm) is a unit of length equal to **one billionth of a metre** (i.e., one millionth of a millimetre). Although it is not yet common usage, it can also be referred to as a nanon (analogous to the usage of "micron" in referring to the micrometre).

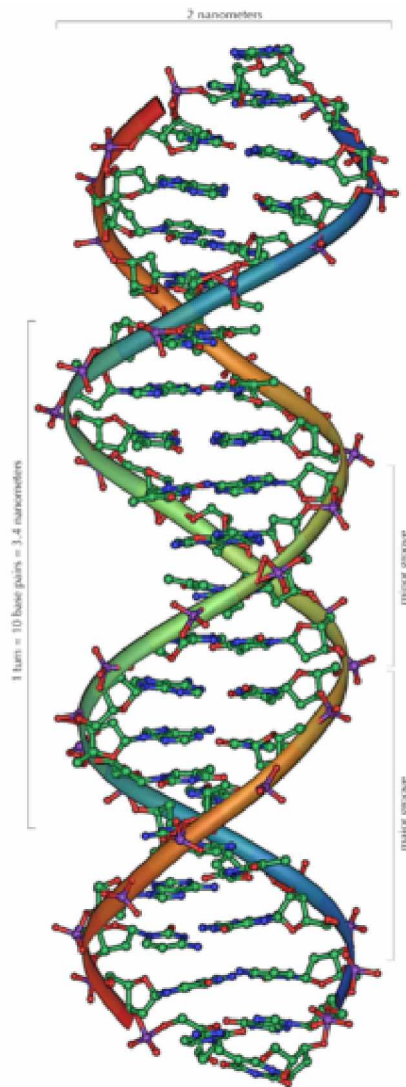


**The Golgi Apparatus**  
See also No. 8 above.

The Golgi apparatus (**GA**), also called Golgi body or Golgi complex and found universally in both plant and animal cells, is typically comprised of a series of five to eight cup-shaped, membrane-covered sacs called **cisternae** that look something like a stack of deflated balloons. In some unicellular flagellates, however, as many as 60 cisternae may combine to make up the Golgi apparatus. Similarly, the number of Golgi bodies in a cell varies according to its function. Animal cells generally contain between ten and twenty Golgi stacks per cell, which are linked into a single complex by tubular connections between cisternae. This complex is usually located close to the cell nucleus.



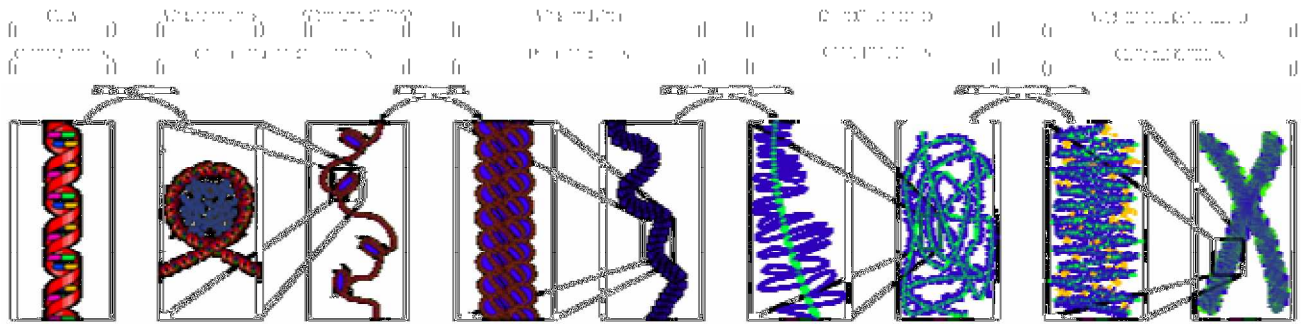
Simplified structure of mitochondrion



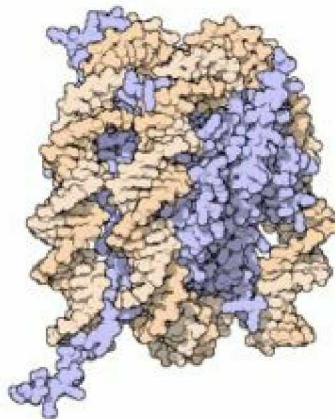
The structure of part of a DNA double helix shown at 2 nanometers (2 billionths of a meter) in width.

**Deoxyribonucleic acid (DNA)** is a [nucleic acid](#) that contains the [genetic](#) instructions used in the [development](#) and functioning of all known [living organisms](#) and some [viruses](#). The main role of DNA [molecules](#) is the long-term storage of [information](#). DNA is often compared to a set of [blueprints](#) or a recipe, since it contains the instructions needed to construct other components of [cells](#), such as [proteins](#) and [RNA](#) molecules. The DNA segments that carry this genetic information are called [genes](#), but other DNA sequences have structural purposes, or are involved in regulating the use of this genetic information.

Chemically, DNA consists of two long [polymers](#) of simple units called [nucleotides](#), with backbones made of sugars and phosphate groups joined by [ester](#) bonds. These two strands run in opposite directions to each other and are therefore [anti-parallel](#). Attached to each sugar is one of four types of molecules called [bases](#). It is the sequence of these four bases along the backbone that encodes information. This information is read using the [genetic code](#), which specifies the sequence of the [amino acids](#) within proteins. The code is read by copying stretches of DNA into the related nucleic acid RNA, in a process called [transcription](#).



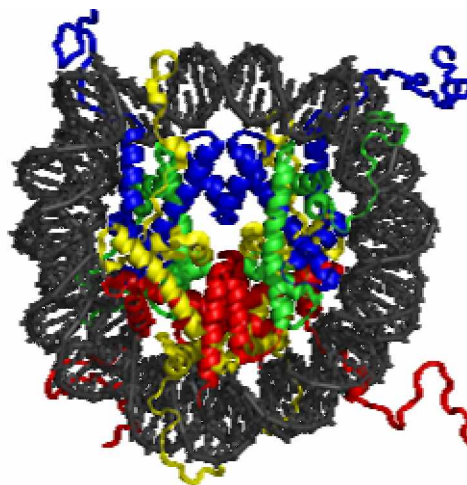
The major structures in DNA compaction; [DNA](#), the [nucleosome](#), the 10nm "beads-on-a-string" fibre, the 30nm fibre and the [metaphase](#) chromosome.



Nucleosome (DNA in orange and histones in blue)

<http://en.wikipedia.org/wiki/Nucleosome>

**Nucleosomes** form the fundamental repeating units of [eukaryotic chromatin](#), which is used to pack the large eukaryotic genomes into the nucleus while still ensuring appropriate access to it (in mammalian cells approximately 2 m of linear [DNA](#) have to be packed into a nucleus of roughly 10  $\mu\text{m}$  diameter). Nucleosomes are folded through a series of successively higher order structures to eventually form a [chromosome](#); this both compacts DNA and creates an added layer of regulatory control which ensures correct gene expression. Nucleosomes are thought to carry [epigenetically](#) inherited information in the form of covalent modifications of their core [histones](#).



The **crystal structure** of the nucleosome core particle consisting of [H2A](#) , [H2B](#) , [H3](#) and [H4](#) and DNA.  
The view is from the top through the superhelical axis.

[http://en.wikipedia.org/wiki/Junk\\_DNA](http://en.wikipedia.org/wiki/Junk_DNA)

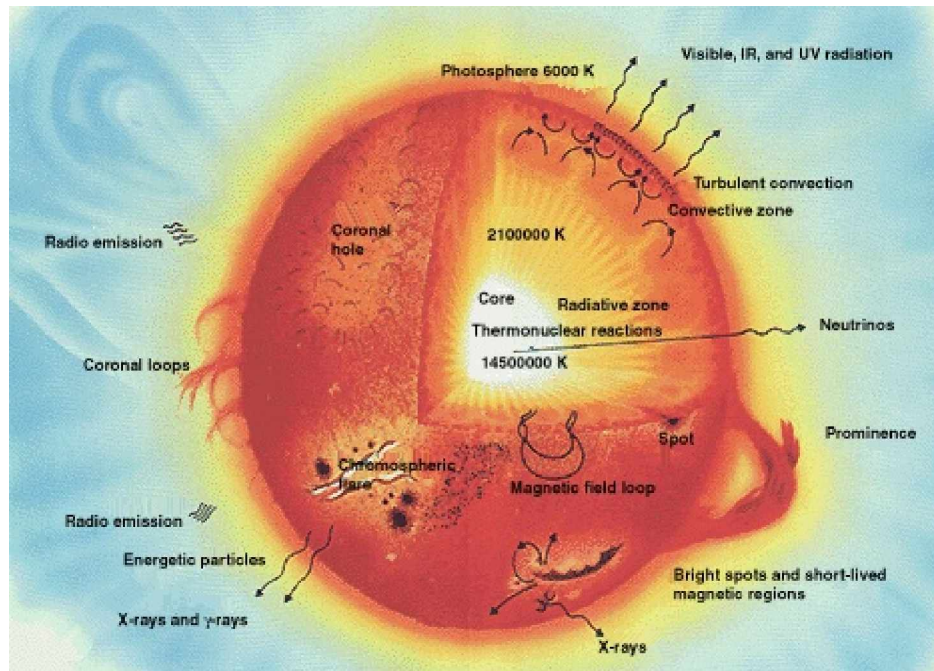
**Junk DNA** is a provisional label for the portions of the [DNA](#) sequence of a [chromosome](#) or a [genome](#) for which no [function](#) has been identified. Scientists expect to find functions for some, but not all, of this provisionally classified collection. About 95% of the [human genome](#) has been designated as "junk", including most sequences within [introns](#) and most [intergenic DNA](#). While much



of this sequence may be an [evolutionary](#) artifact that serves no present-day purpose, some junk DNA may function in ways that are not currently understood. Moreover, the [conservation](#) of some junk DNA over many millions of years of [evolution](#) may imply an essential function. Some consider the "junk" label as something of a [misnomer](#), but others consider it appropriate as junk is stored away for possible new uses, rather than thrown out; others prefer the term "[noncoding DNA](#)" (although junk DNA often includes [transposons](#) that encode proteins with no clear value to their host genome). About 80% of the bases in the human genome may be transcribed, but transcription does not necessarily imply function.

For a YouTube video regarding DNA see <http://www.youtube.com/watch?v=Nmm6Pgh6KI4&feature=related>

## The Sun



[Surface area](#)

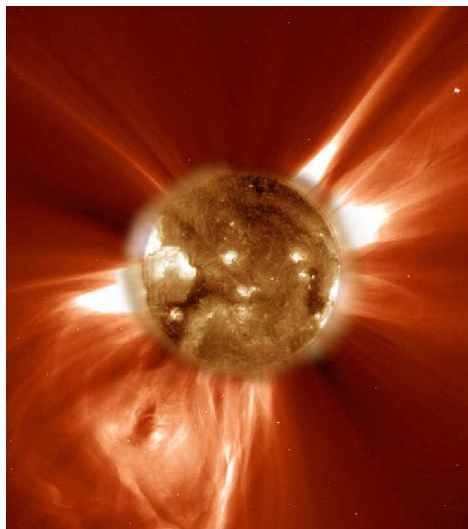
$6.0877 \times 10^{18} \text{ m}^2$  <sup>[4]</sup> 11,990 Earths

[Volume](#)

$1.4122 \times 10^{27} \text{ m}^3$  <sup>[4]</sup> 1,300,000 Earths

[Mass](#)

$1.9891 \times 10^{30} \text{ kg}$  <sup>[1]</sup> 332,946 Earths



[Coronal mass ejections](#) blast filaments and bubbles of magnetic plasma into space as seen in this [ultra-violet](#) light picture.



The grid system of the earth is specific in its purpose. It is fine-tuned, and it exists for only one reason: Human setup. Although you might think it is a geological attribute of the physics of the planet, it is more than that. It is a DNA delivery engine! That is what the grid system does. It talks to Humanity Human-by-Human, and it is part of who you are personally. It helps to both separate you and also unite you. It gives you setups, challenges, solutions, and love. It is what some of you relate to even when you think about God! Some would say, "Kryon, I don't like that idea of physics entering the realm of spirituality. I don't like the grid of the earth being part spiritual." I will say to you... it is the way of it! For as creators that you are, you have created everything that you have before you, including the test, the duality, the contracts, and the engine that administers them to your cellular structure. You cannot separate Spirit from your reality. You might wish to believe that it is somehow above that which is physical, but the truth is that it is the center of all that is physical. You can't leave God out of anything!

We are going to reveal some of the attributes of what you call your DNA. The magnetic grid of the planet is complicated, but it has remained chiefly as a delivery system to Humanity for many, many years. There has been very little change in terms of what it does, for Humanity never looked "up" to consider that the grid might be a changeable thing. Humanity never gave intent to claim the power of what was at the cellular level, or to consider what might be changeable within their lives. Even the prophets of old gave you information that you could change everything, yet you did not. Only seemingly at the 11th hour of the plan you created did you decide to change your reality, and you did. In order to do that, a grid-changing entourage arrived in 1989, which to me is now. In your time frame, a shift of the magnetic grid began, and now you know why. Your intent to create a new reality of Earth demanded that the "engine" of magnetics be changed to allow you to excel. Let me continue.

In order to accomplish the (multidimensional) 'New Jerusalem' - in order for solutions to begin - in order for you to change the very essence of why you are here - in order for longer life - in order for revealed science - in order for Spirit to speak through Human Beings as a normal event of life, all of the communication through the posturing of the magnetics that speaks to your DNA had to be "changed." And so it was that the grid system began to move! You moved it! Those that called themselves Lightworkers felt it, and those who were spiritual felt it. It began gradually to change and then accelerated. The actual changing of the grid was far more than the magnetics that you can measure on a compass. The very spiritual aspects of the ley lines, their shape, their uniformity, their synchronicity with other ley lines, changed to create a new setup, and a new earth potential. Instead of termination, you rode this wave of change, and here you sit one year away from its completion, lightworker! We know that some of you have felt the move of the grid. We know of your anxiousness, but there are things that are beginning to fall into place as the move settles and the new posturing of this magnetic energy comes to a close, where it will begin to affect the planet differently and finally become stable.

Let me tell you about the grid. In 4D [Human dimensionality], you have said that you have two DNA strands [loops or toroids]. That is so. Those who would tell you that you have 12 are giving you a 4D description of a **multidimensional** puzzle. There are truly only two biological strands. All of the rest, the ten that are not mentioned and not described and not see-able in 4D, are in layers within the two you can see. They are not additional strands or loops or toroids. They lay upon the biological ones, many of them interfacing biologically with the strands that you are able to see. So, there are really two strands with another ten interdimensional aspects upon them. That is how you arrive at the 12. Do you see? Ten you cannot see, and two you can.

Let me tell you about your DNA. It is magnetic, and therefore it responds to the grid! With respect to magnetics, gravity, time, and matter placement: There is a puzzle here that has never been unraveled. It never could be within your old 4D paradigm. Now, suddenly in this new energy, your science begins to understand that there are at least 11 dimensions at the heart of every atom of matter. (We have told you that there are 12.) And suddenly you are beginning to understand that even time is variable. Later, there will also be the acknowledgment that the displacement of matter from one area to another is also part of this equation. **There is one specific formula whose attributes are gravity, magnetics, time, and the location of matter.** They all come together in a grand dance that will be the "mother lode" of physics when it is discovered and understood. When it is ready, this information will be brought to you, but for now, let me tell you about the "pattern" of how this works for your DNA.

#### **DNA - Astrological Energy**

As the solar system moves around, it creates different gravitational attributes and actual patterns between the parts. Each planet around the sun revolves independently on its course, and during each independent minute of time, this gravitational scenario creates a different setup of magnetism and gravity within the influence of your sun. In the time frame that you have selected - which, by the way, has shifted greatly in the last two years - there is a pattern that is delivered to the sun that is at the center of the orbits, and therefore at the fulcrum of the gravitational source. The magnetic/gravitational pattern developed through the movements of the planets (including Earth, and also all the moons of the planets including your own) is delivered to the earth via what you call the **solar wind** - energy that is always passing from the sun to the earth. **The solar wind delivers it onto the grid**, for both are magnetic, and information is transferred within the influence of the field of the wind and that of the grid. The grid pattern, therefore, changes daily! It is interesting to note that the magnetic grid of the earth is actually a product of the physics of Earth, but its purpose for you is as a communication engine for Human DNA. Here is another example of how the physical earth is alive with cooperation for Humanity.

One of the attributes of what is imprinted upon your DNA at birth is the oldest science on Earth, and you have called it astrology. We have just given you science that explains astrology. Its science that is not fully understood or known, but it's science. **When the "mother lode" physics formula is known regarding magnetics, gravity, time, and the location of matter, it will explain astrology.** Meanwhile, you come to the planet, and imprinted upon your DNA - on one of the interdimensional layers - is this astrological information, the pattern of the solar system's magnetics and gravity when you were born. The name for the pattern, which you have given in astrological terms, establishes a setup, a personality type, a type of reaction to Human cause and effect. It is a magnetic/biological setup, as you know, continuing through your life, causing you to react to the solar system that created it, as well as others on the earth in specific, predictable ways . . .