A genome is all of a living thing's genetic material It is the entire set of hereditary instructions for building, running, and maintaining an organism, and passing life on to the next generation In most living things, the genome is made of a chemical called DNA The genome contains genes, which are packaged in chromosomes and affect specific characteristics of the organism Each one of earth's species has its own distinctive genome So, genomes belong to species, but they also belong to individuals Though unique, your genome is still recognizably a human genome The difference is simply a matter of degree The genome differences between two people are much smaller than the genome differences between people and our closest relatives, the chimpanzees Genomes are found in cells, the microscopic structures that make up all organisms With a few exceptions, each of your body's trillions of cells contains a copy of your genome A genome is information that affects every aspect of our behavior and physiology A genome is the complete set of genetic information in an organism It provides all of the information the organism requires to function In living organisms, the genome is stored in long molecules of DNA called chromosomes ● Small sections of DNA, called genes, code for the RNA and protein molecules required by the organism ● In eukaryotes, each cell's genome is contained within a membrane bound structure called the nucleus ● Prokaryotes which contain no inner membranes, store their genome in a region of the cytoplasm called the nucleoid ● The full range of RNA molecules expressed by a genome is known as its transcriptome ● A nd the full assortment of proteins produced by the genome is called its proteome