

(30) Describe the differences between genotype and phenotype.

In this essay, I will be describing the differences between genotype and phenotype. Here is a definition of genotype and phenotype to help you understand them. Genotype is an organism's genetic makeup or biological code that ensures the organism's specificity, uniqueness, and individuality; for example, the DNA (Deoxyribonucleic Acid, or the acid in the chromosomes), the component of the blood that is AA, AS, AC, SS, and SC. AA and AS are normal; AC is rare; and SS and SC are irregular. Then there is the blood group; this is a function of heredity; antibodies are passed down from parents to offspring, for example, A, B, AB, and O, positive or negative. While phenotype is the observable characteristics of an individual resulting from the expression of genes, for example physical traits, genitals and behavior, One of the many factors to consider when determining offspring is your partner's compatibility.

The differences are as follows:

Firstly, genotype is inherited from the organisms of the parents; phenotype is not; it is influenced by the organism and factors including environment, lifestyle, eating a healthy balanced diet, drinking lots of water, exercising, getting enough sleep, and factors affecting mental and physical health. So you may have the organisms from your parents but the things you eat and do may add value to your life. For example the genes in your family are fat (genotype) but another member of the family decides they will eat healthy exercise and get enough rest so that the individual can be slim and healthy not obese (phenotype).

Secondly, a person's genotype is their unique sequence of DNA, or what they inherited from a particular gene, for example a component of the blood that is AA, AS, AC, SS, and SC. AA and AS are normal; AC is rare; and SS and SC are irregular. Then there is the blood group; this is a function of heredity; antibodies are passed down from parents to offspring, for example, A, B, AB, and O, positive or negative. Phenotype is referred to as the expression of a gene, which is the RHA, the nucleic acid found in all living things that controls protein synthesis so the blood type is either negative or positive.

Thirdly, Genotype is biological coding that ensures the uniqueness of an individual; while phenotype is the results which is the physical traits like the color of eyes, hair, height, sex or genitals.

Finally, the same genotype produces the same phenotype, but the same phenotype does not produce the same genotype. This is both genes are the same but the seeable traits are different (phenotype) . For example both parents may have black hair but the offspring's hair is brown.