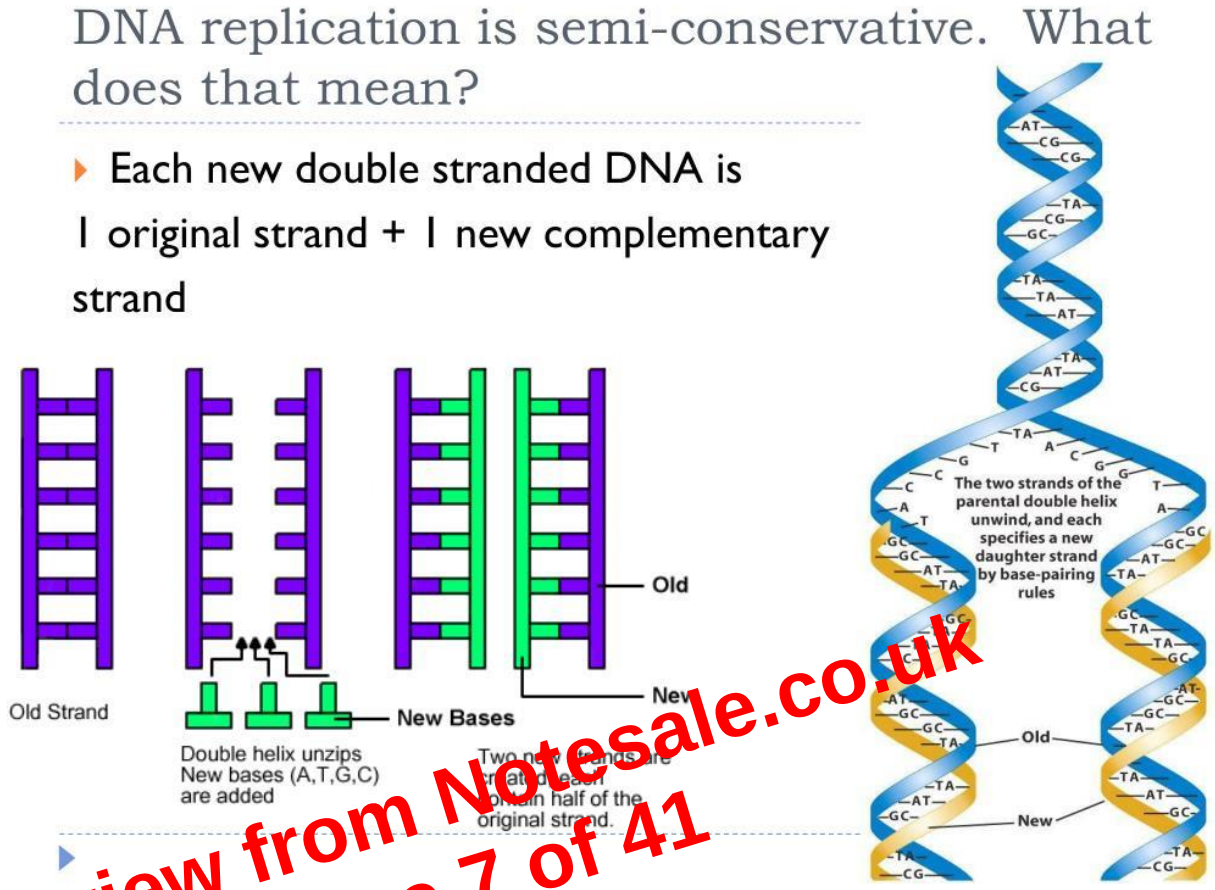
bonds between adenine and thymine while there are three hydrogen bonds between cytosine and guanine.

DNA REPLICATION:

We have studied in class ix(cell cycle) that before a cell divides, its DNA is replicated (duplicated). It is done to make the copies of the chromatids of chromosomes. During replication. The DNA double helix is unwounded and the two strands are separated. Much like the two sides of a zipper. Each strand acts as a template to produce other strands. Its N bases make pairs with the N-bases of new nucleotides. In this way, both template strands make new polynucleotide strands in front of them. Each template and its new strand together then form a new DNA double helix, identical to the original.



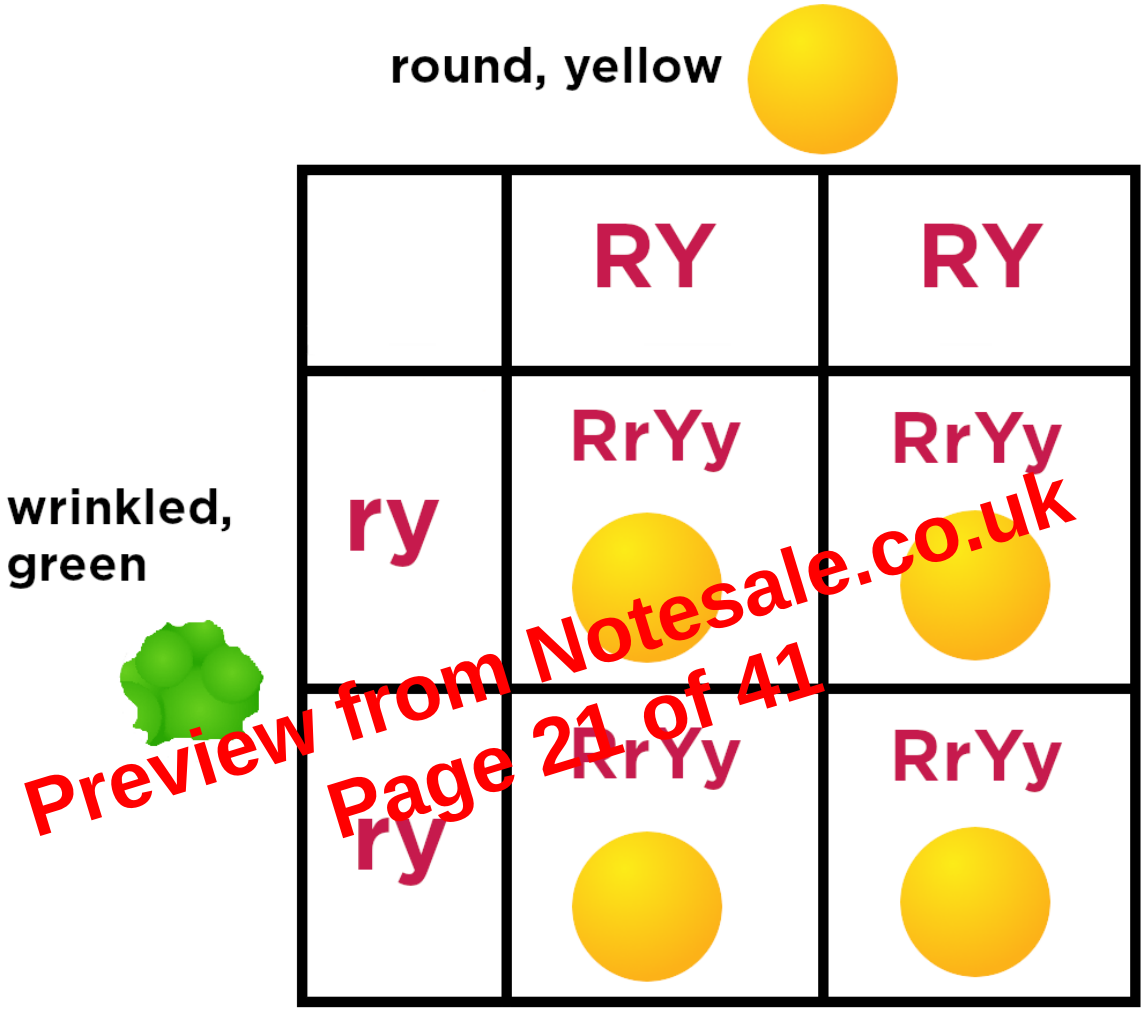
How the DNA of chromosomes does Works?

DNA is the genetic material i.e. it contains the instructions to direct all the functions of cells. It performs its role by giving instructions for the synthesis of specific proteins. Some proteins perform structural roles while the others act as enzymes to control all biochemical reactions of cells. In this way,

order to understand the concept of genotype, let us consider an example trait i.e. albinism (a condition in which normal body pigments are absent). Like other traits, it is also controlled by one pair of genes. We can represent the two alleles of the pair as A and a. Three combinations i.e genotypes are possible for these two alleles i.e AA, and aa. These genotypes can be grouped into two types. The genotype in which the gene pair contains two identical alleles (AA or aa) is called homozygous genotype. The genotype in which the gene pair contains two different alleles (Aa) is called heterozygous genotype.

When in the heterozygous condition one alleles masks or prevents the expression of the other, it is called the dominant allele. The allele which is not expressed is called recessive. The dominant alleles are represented by capital letters and recessive

Cross of Parent Generation



When F1 seeds grew into plants, they were self-fertilized. This cross produced seeds with four phenotypes. There were 315 round yellow seeds, 108 round green seeds, 101 wrinkled yellow seeds

and medium coloured mouse. Now only the dark coloured mouse makes new generation. If this happens in many generations. We will see only the dark coloured (favorable variation) mouse in the population.

As a result of natural selection, the allele that gives more fitness of characteristics (favorable variations) than other alleles becomes more common which population. So, the individuals with favorable variations become a major part of population while the individuals with harmful or unfavorable variations become rarer.

In England the months had two variations i.e dark and white coloured moths. The months used to rest on the light coloured tree trunks (on which white lichens hard grown). In the 19th century when industries were established in England, the lichens on tree trunks died (due to polluted air) and the naked tree trunks turned dark. Now the white month

In artificial selection, humans favor specific variations for selection while in natural selection. The environment selects or rejects variations.