

# Biology chapter 11 introduction to genetics test b

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**What is genetics answers?** Genetics is the science of genes and how traits are passed on from one generation to the next. People who study genes are geneticists (juh-net-i-sists). Every living thing has DNA. DNA is an amazing chemical present in every cell. It contains all the information cells need to make a fish a fish, or you YOU.

**How many different allele combinations would be found in the gametes produced?** That means each parent can make gametes with 4 possible sex chromosome / crest allele combinations. The Punnett square shows what happens when these gametes get together to make offspring. As you can see, there are 16 possible combinations.

**How many allele combinations would produce a white flowering plant?** This is because each contains at least one dominant allele (P). Only one combination, pp, produces plants that have white flowers. The ratio of dominant to recessive is 3:1, just as Mendel calculated from his data.

**Which of the following assort independently during meiosis thus creating new genetic combinations in the offspring?** Independent assortment is the process where the chromosomes move randomly to separate poles during meiosis. A gamete will end up with 23 chromosomes after meiosis, but independent assortment means that each gamete will have 1 of many different combinations of chromosomes.

**What is a gene answers?** A gene is the basic physical and functional unit of heredity. Genes are made up of DNA. Some genes act as instructions to make molecules called proteins, which are needed for the body to function. However,

many genes do not code for proteins, instead they help control other genes.

**What does DNA stand for?** Deoxyribonucleic acid (abbreviated DNA) is the molecule that carries genetic information for the development and functioning of an organism. DNA is made of two linked strands that wind around each other to resemble a twisted ladder — a shape known as a double helix.

**How many genes do gametes carry?** Thus, each gamete receives single allele of a gene. Owing to their haploid status, gametes carry one complete set of chromosomes which in turn carry the single allele for each gene.

**How many gametes are possible with 4 alleles?** Total types of gametes that an organism can produce is represented by  $2^n$ . Here,  $n$  = number of genes for which the organism is heterozygous. The given genotype AaBbCcDd is heterozygous for 4 genes and can make  $2^4 = 16$  types of gametes.

**Do gametes carry two alleles?** Each gamete will receive one copy of each chromosome and one allele for every gene.

**How many different gametes can an individual whose genotype is TtRr produce?** Total number of types of gamete produce by an organism is  $2^n$ , where  $n$  is the number of heterozygous genes present. Since given genotype TtRr is heterozygous for two genes, thus total possible gametes by it =  $2^2 = 4$ .

**Which phenotype is dominant?** A dominant phenotype refers to a trait which is expressed in one of two conditions: the inheritance of two dominant alleles (homozygous dominant) or the inheritance of one dominant and one recessive allele (heterozygous dominant).

**How to identify recessive alleles?** In the case of a recessive trait, the alleles of the trait-causing gene are the same, and both (recessive) alleles must be present to express the trait. A recessive allele does not produce a trait at all when only one copy is present.

**What is the rearrangement of genetic information so that offspring can inherit new genetic combinations?** Genetic recombination (also known as genetic reshuffling) is the exchange of genetic material between different organisms which leads to production of offspring with combinations of traits that differ from those

found in either parent.

**What two events in meiosis produce genetic variability among daughter cells?**

Meiosis is important for creating genomic diversity in a species. It accomplishes this primarily through 2 processes: independent assortment and crossing over (recombination).

**What does crossing over may occur crossing over usually results in during meiosis?**

Crossing over is the exchange of genes between two chromosomes, resulting in non-identical chromatids that comprise the genetic material of gametes (sperm and eggs). This process results in the millions of sperm or eggs that are produced by an organism, each being different from one another.

**What is inherited from father only? #1 Baby's Biological Sex**

It's one of the physical traits that's 100% determined by paternal genes and/or dads. The Supporting Evidence: While mothers will always pass down their X chromosome (considering it's the only kind they have), fathers will pass down either an X or Y chromosome at random.

**What genes are inherited from mother only?**

According to studies, mitochondrial DNA is inherited solely from the mother.

**What makes a dominant allele different from a recessive allele?**

A dominant allele produces a dominant phenotype in individuals who have one copy of the allele, which can come from just one parent. For a recessive allele to produce a recessive phenotype, the individual must have two copies, one from each parent.

**What sugar is found in DNA?**

DNA has deoxyribose sugar. The basic building block of DNA, a nucleotide, consists of phosphate ion, a deoxyribose sugar molecule and a nitrogenous base. RNA has ribose sugar.

**What are monomers called in DNA?**

The monomer of the DNA is a nucleotide. Nucleotides are made up of base pairs, pentose sugar, and phosphate. There are four types of base pair: Adenine(A), Guanine (G), Cytosine (C), Thymine (T), and Uracil (U).

**Is DNA a cell?**

What is DNA? Deoxyribonucleic acid (DNA) is the material that exists in every cell in your body that holds your genetic code. It makes up your body's

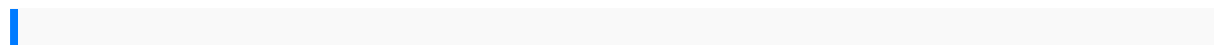
instruction manual.

**What is genetics in simple words?** 1. : a branch of biology that deals with the heredity and variation of organisms. 2. : the genetic makeup and phenomena of an organism, type, group, or condition.

**What is genetics best defined as?** Genetics is the study of heredity, the process of a parent passing certain genes to their children. A person's appearance -- height, hair color, skin color, and eye color -- is influenced by genes. Other characteristics influenced by heredity are: Likelihood of getting certain diseases.

**What is genetics short summary?** Modern genetics focuses on the chemical substance that genes are made of, called deoxyribonucleic acid, or DNA, and the ways in which it affects the chemical reactions that constitute the living processes within the cell. Gene action depends on interaction with the environment.

**What best defines genetics?** The study of genes and heredity. Heredity is the passing of genetic information and traits (such as eye color and an increased chance of getting a certain disease) from parents to offspring.



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