1. What does the notation YY mean to geneticists?

Two dominant / homozygous / purebred

1. Different forms of a gene are called?

Traits

1. The sides of DNA made up of alternating sugar molecules and these molecules?

Phosphates

1. What does a Punnett Square show?

All possible genetic crosses

1. Process by which a new organism forms from the joining of an egg cell and a sperm cell is called?

Meiosis

1. What is the probability of producing a tall pea plant from a genetic cross between two hybrid tall pea plants? Show your work.

|  |  |  |
| --- | --- | --- |
|  | T | t |
| T | TT | Tt |
| t | Tt | tt |

1. During DNA replication, adenine always pairs with?

Thymine

1. Genes are carried from parents to offspring on structures called?

Chromosomes

1. In terms of alleles, a heterozygous organism has?

One dominant, one recessive

1. Explain what happens during meiosis.

Cells divide in half creating sex cells.

1. What is an organisms genotype?

Genetic make-up

1. A DNA molecule is in the shape of what?

Double helix or twisted ladder

1. This is the genetic makeup of an organism.

genotype

1. Offspring that have different alleles for a trait?

Heterozygous or hybrid

1. Discovered genes and alleles that eventually changed scientists’ ideas about heredity?

Mendel

1. Theory where genes pass from parents to offspring on chromosomes.

Chromosome Theory of Inheritance

1. The physical appearance of an organism? Genotype, Hybrid, Phenotype, or Purebred.
2. What are offspring considered that have identical alleles for a trait?

Purebred / homozygous

1. Sex cells produced by this process have half the number of chromosomes as parent cells?

meiosis

1. If this allele is present, its trait will appear in the organism.

Dominant

1. DNA transfer through asexual reproduction requires this to equip organisms for survival?

Mitosis

1. Offspring inherit different forms of \_genes\_ called alleles from each parent?
2. This organism has two identical alleles for a trait?

Purebred / homozygous

1. The genetic code is found in the order of \_Nitrogen bases\_ along a gene?
2. An organism that has two different alleles for a trait?

Hybrid / heterozygous

1. Which of the following genes are heterozygous? CC, Bb, ee, gG
2. Which of the following is not a phenotype? Short, Tall, Homozygous, or Round.
3. In a cross between individuals that are Aa and Aa, how many boxes of the Punnett Square will show an offspring that is AA? ¼ or 25%

|  |  |  |
| --- | --- | --- |
|  | A | a |
| A | AA | Aa |
| a | Aa | aa |

1. What Mendel called factors are now called?

Genes

1. How do you represent the alleles (letters) for a hybrid tall pea plant? Use T for dominant and t for recessive.

Tt