

This is the **Higher Combined** version — includes Higher Tier content. Some Separate-only details are omitted.

Genes, carried on chromosomes, determine the characteristics of organisms by coding for specific proteins.

- DNA: double helix, four bases (A-T, C-G complementary pairing)
- Gene: section of DNA coding for a protein (sequence of amino acids)
- Chromosomes: coiled DNA. Humans have 46 (23 pairs) in body cells
- Dominant allele: expressed with one copy. Recessive: expressed with two copies
- Homozygous: identical alleles (BB or bb). Heterozygous: different alleles (Bb)
- Genotype: alleles present. Phenotype: observable characteristic

Key Terms

Dominant	Allele expressed with one copy
Recessive	Allele expressed only with two copies
Genotype	Alleles an individual carries
Phenotype	Observable characteristic from genotype

■ **Exam Tip:** Learn all six terms: dominant, recessive, homozygous, heterozygous, genotype, phenotype. Each is frequently tested with a 1-mark definition.