★ **HIGHER TIER ONLY** content is highlighted in blue. Foundation students — focus on the un-highlighted sections.

DNA Double Helix

Two strands twisted together, held by complementary base pairs

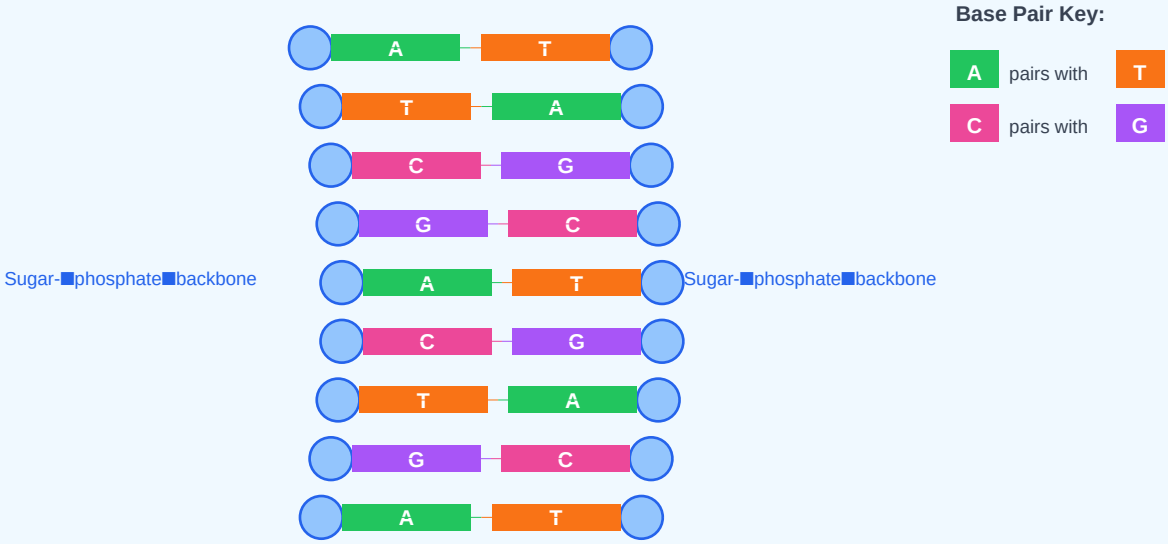
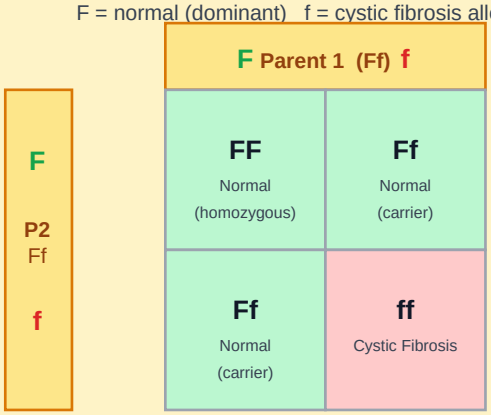


Fig: Simplified DNA structure — A pairs with T, C pairs with G (complementary base pairing)

Punnett Square: Cystic Fibrosis Cross (Ff x Ff)

F = normal (dominant) f = cystic fibrosis allele (recessive)



Results:

1 FF (normal, homozygous)

2 Ff (normal, carrier)

1 ff (cystic fibrosis)

→ 75% unaffected

→ 25% affected

Fig: Punnett square for two carrier parents (Ff x Ff) — shows inheritance of cystic fibrosis

■ **Exam Tip:** A CARRIER has one recessive allele (Ff) — they do NOT show the disease but CAN pass it to their children.

Dominant	Expressed with just ONE copy
Recessive	Only expressed with TWO copies
Carrier	Has one recessive allele — unaffected but can pass it on