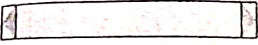


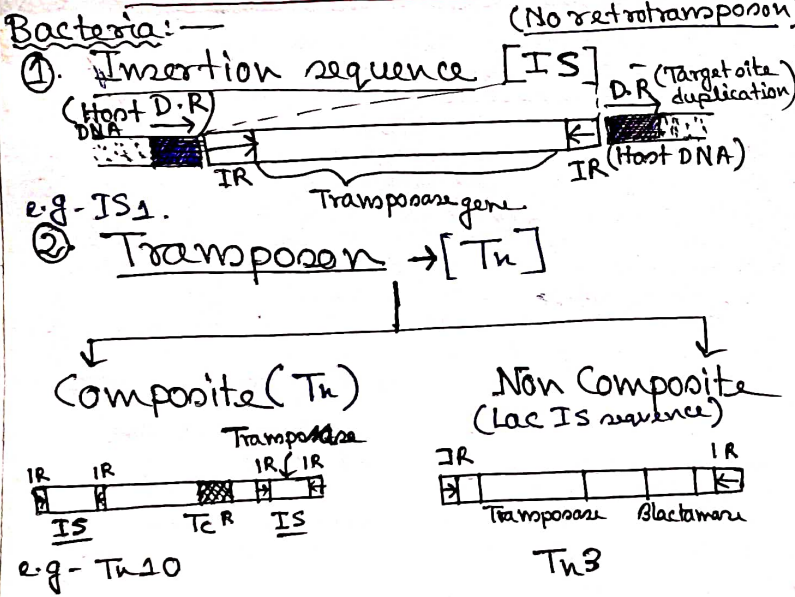


1e 5-3 Three Major Classes of Transposable Elements

CLASS DESCRIPTION AND STRUCTURE	SPECIALIZED ENZYMES REQUIRED FOR MOVEMENT	MODE OF MOVEMENT	EXAMPLES
DNA-only transposons  short inverted repeats at each end	transposase	moves as DNA, either by cut-and-paste or replicative pathways	P element (<i>Drosophila</i>) Ac-Ds (maize) Tn3 and Tn10 (<i>E. coli</i>) (Replicative) Tam3 (snapdragon) Spreads of Antibiotic ^r strains.
Retroviral-like retrotransposons  directly repeated long terminal repeats (LTRs) at each end	reverse transcriptase and integrase	moves via an RNA intermediate produced by a promoter in the LTR	Copia (<i>Drosophila</i>) Ty1 (yeast) THE1 (human) Bs1 (maize)
Nonretroviral retrotransposons  Poly A at 3' end of RNA transcript; 5' end is often truncated Non LTR Do not have Inv or Dir. repeat.	reverse transcriptase and endonuclease	moves via an RNA intermediate that is often produced from a neighboring promoter	F element (<i>Drosophila</i>) L1 (human) Cin4 (maize)

TRANSPOSABLE ELEMENTS

PROKARYOTIC



EUKARYOTIC

