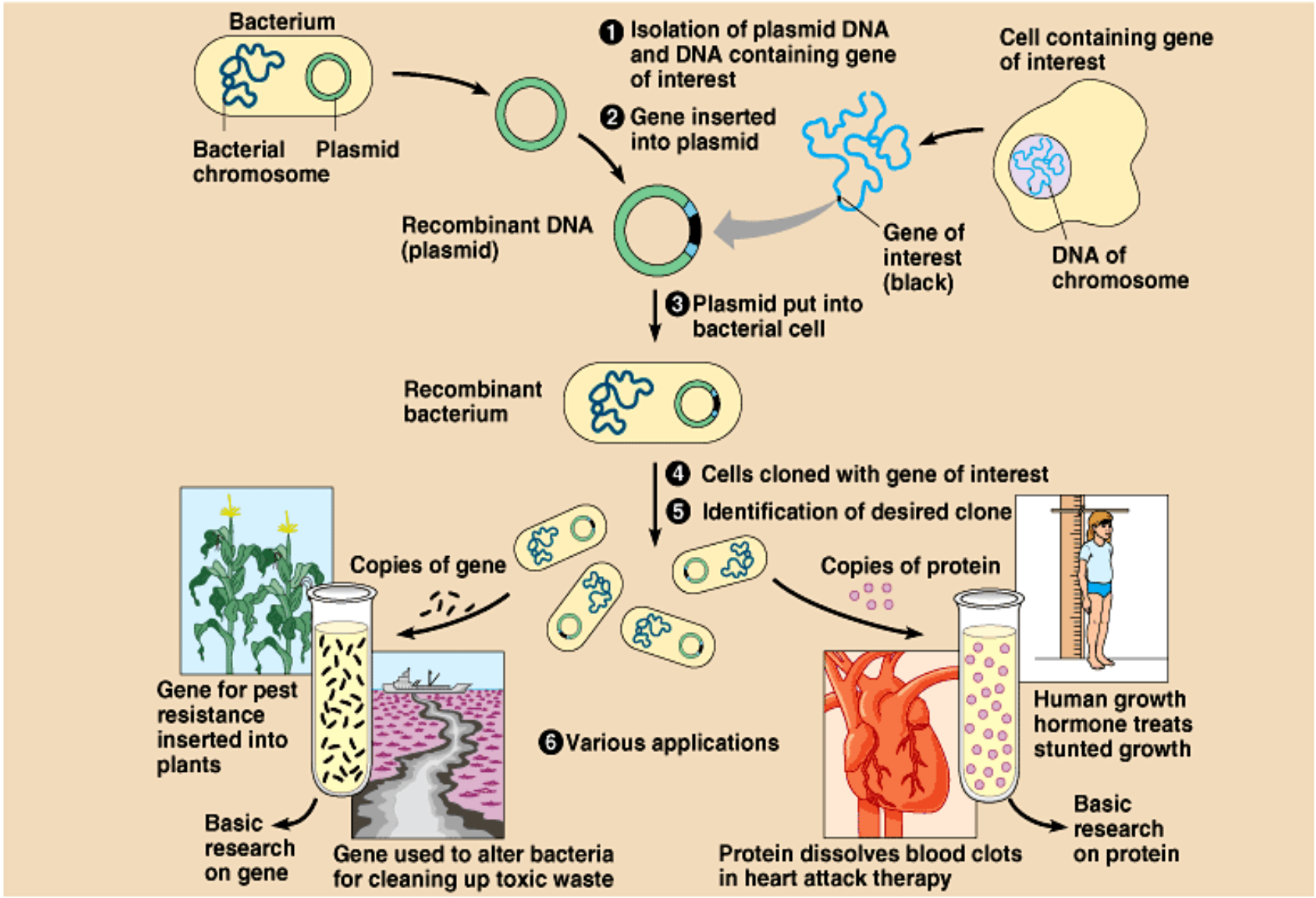
Pre – AP Biology

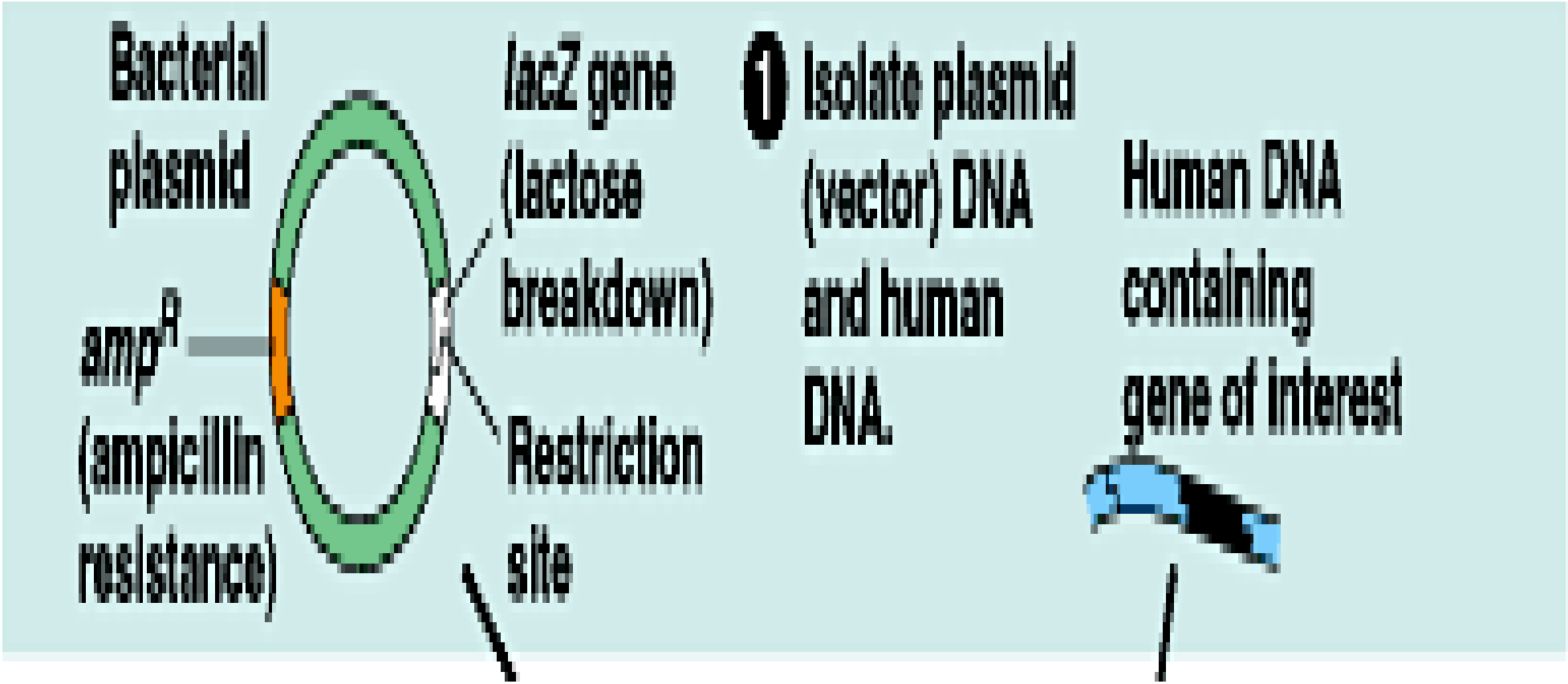
DNA Biotechnology (4.4)

Part 1

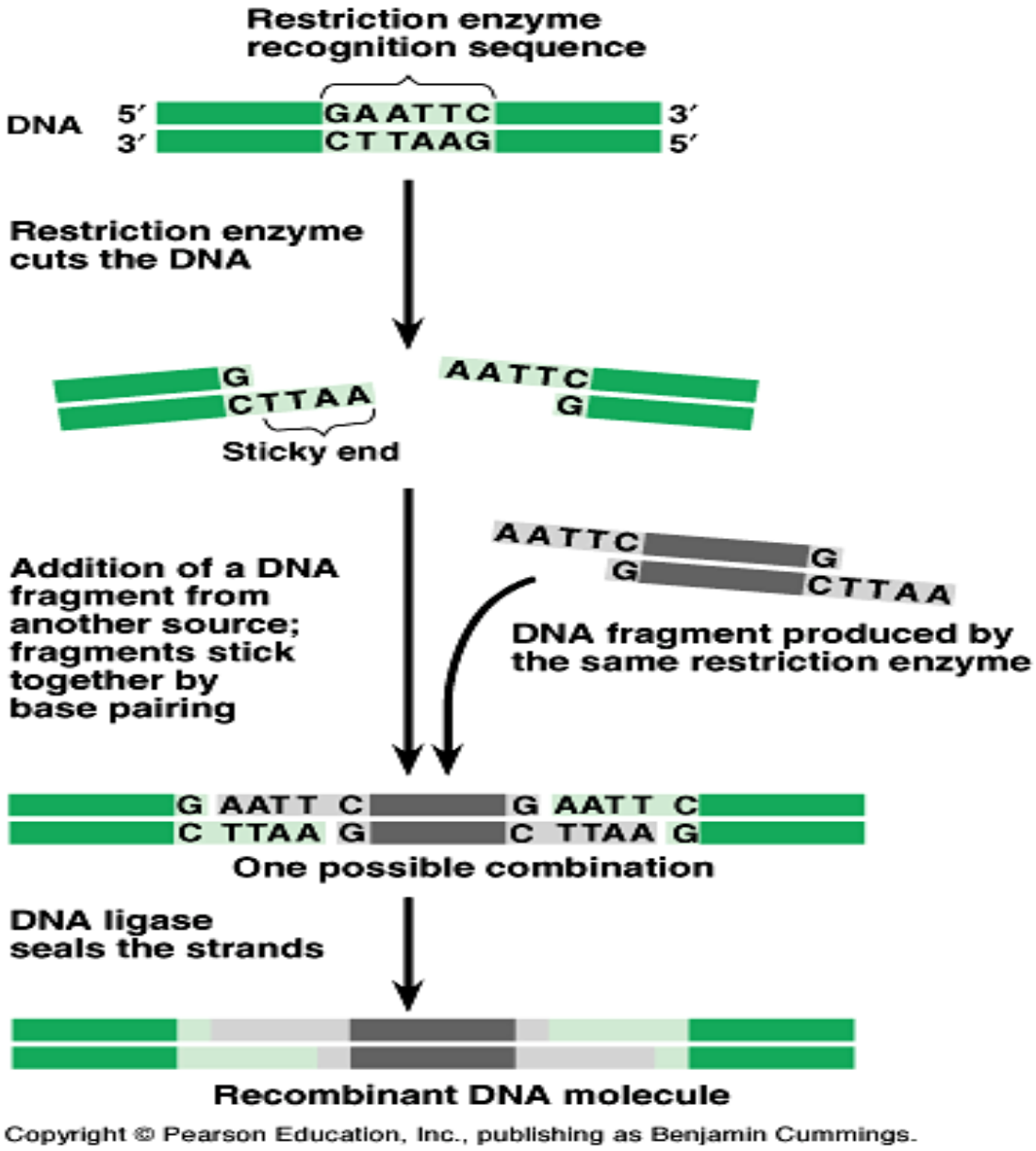
Cloning & Genetic recombination



Cutting the DNA sources using Restriction Enzymes

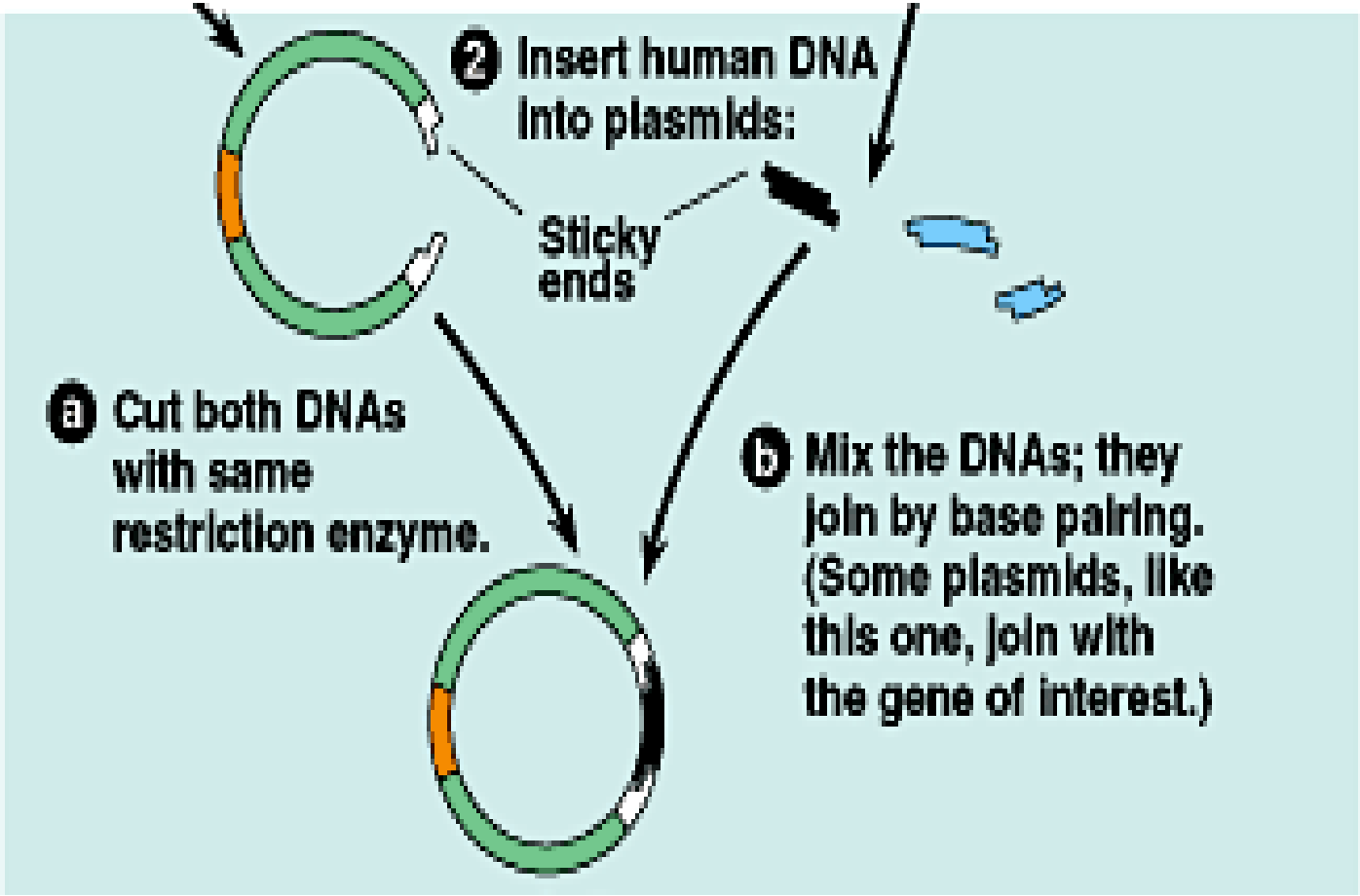


Using Restriction Enzymes to create “stick ends” on DNA molecules

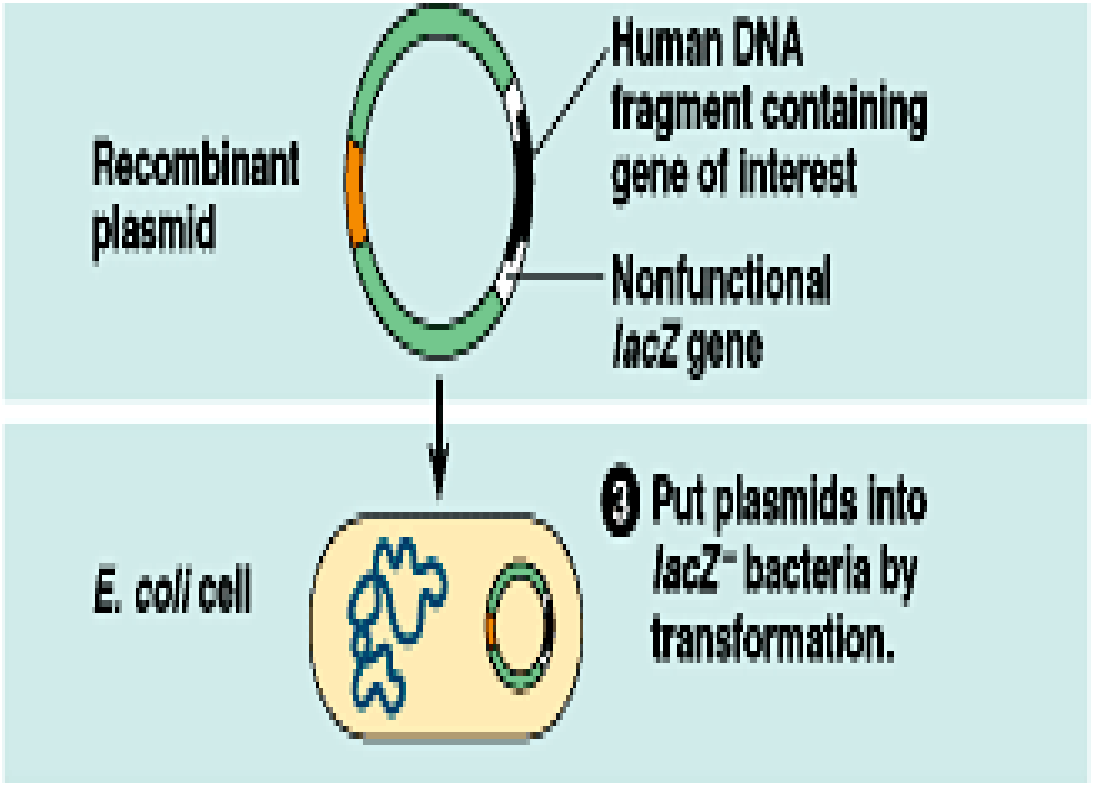


Combining DNA from both sources

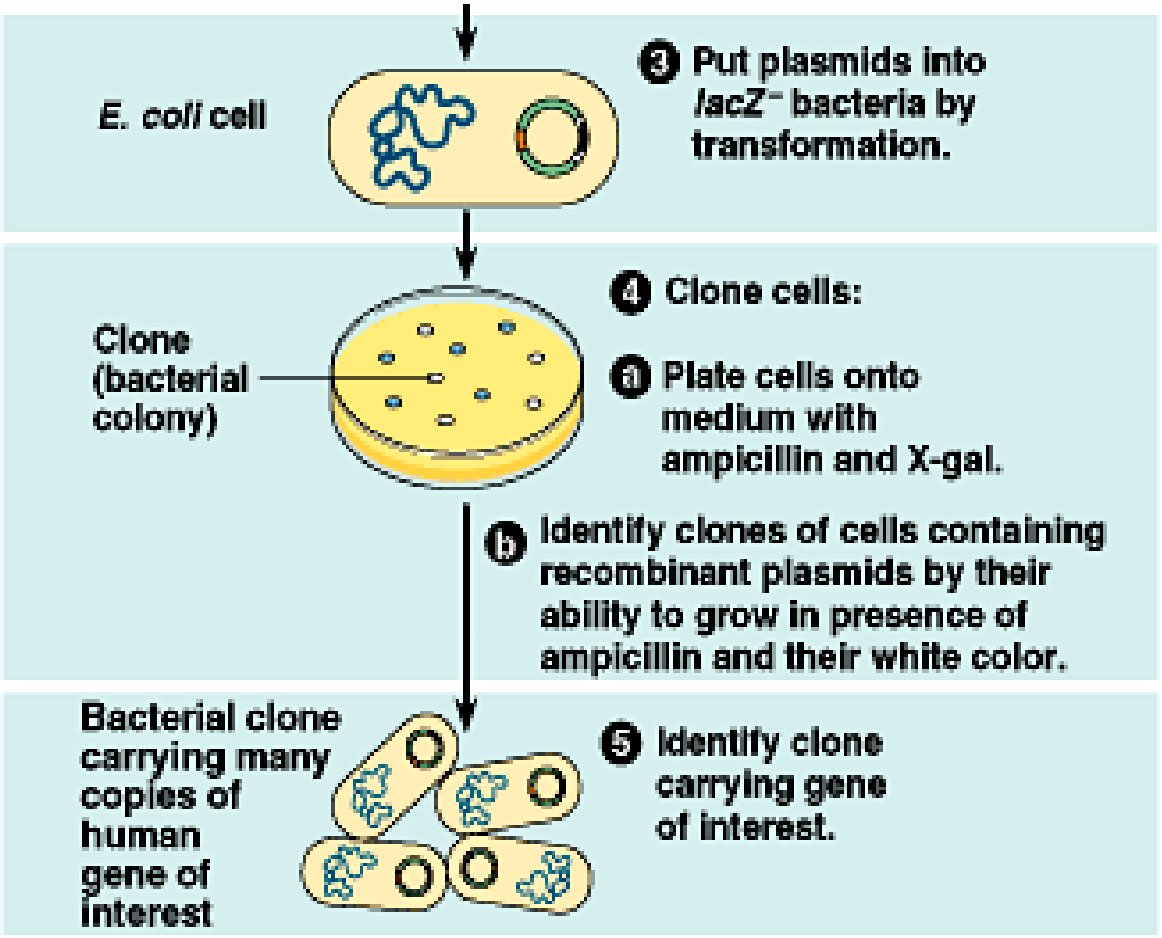
"Sticky ends" match



Reintroduce the *recombined* Plasmid

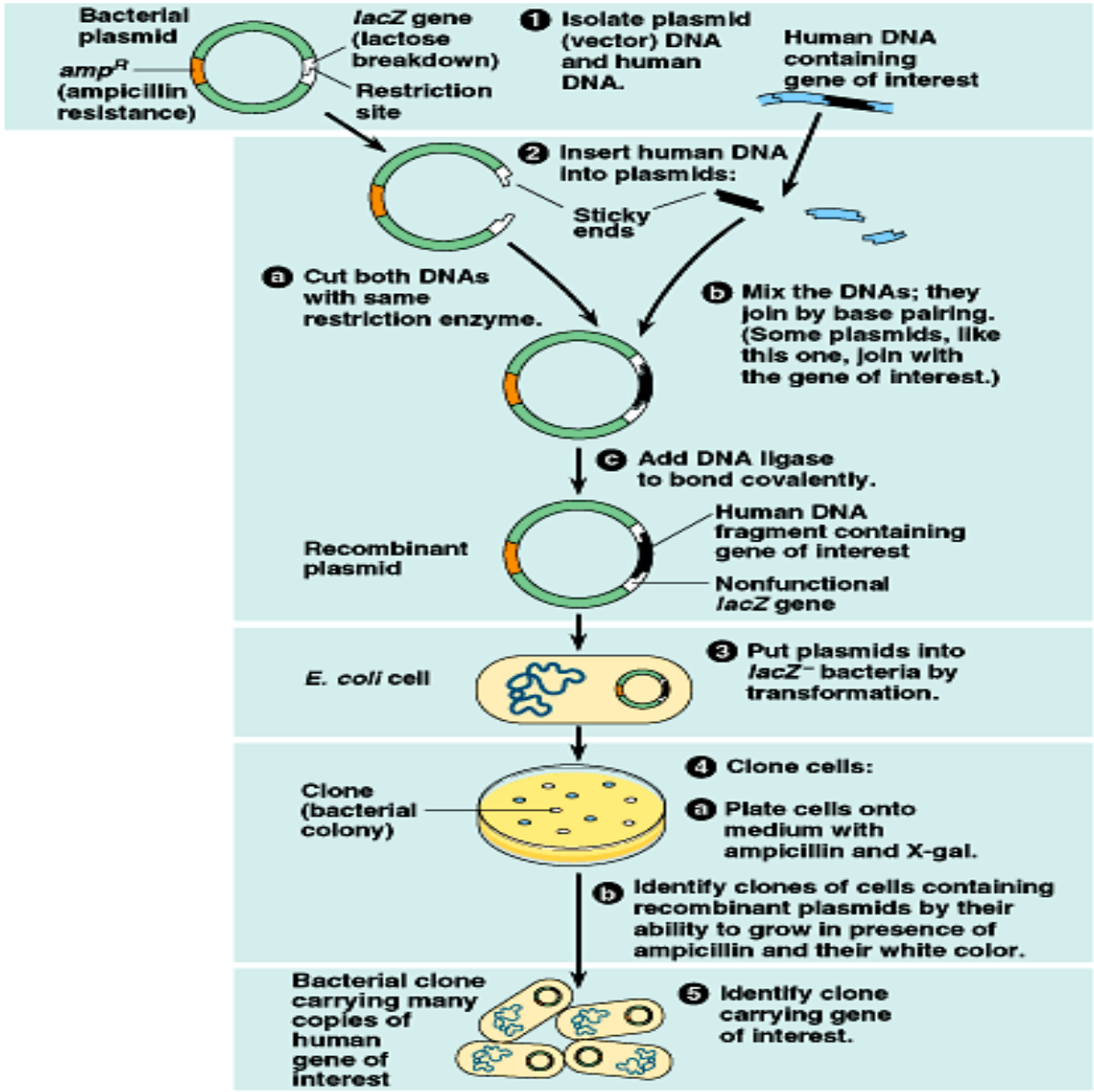


Let the Bacteria grow and reproduce

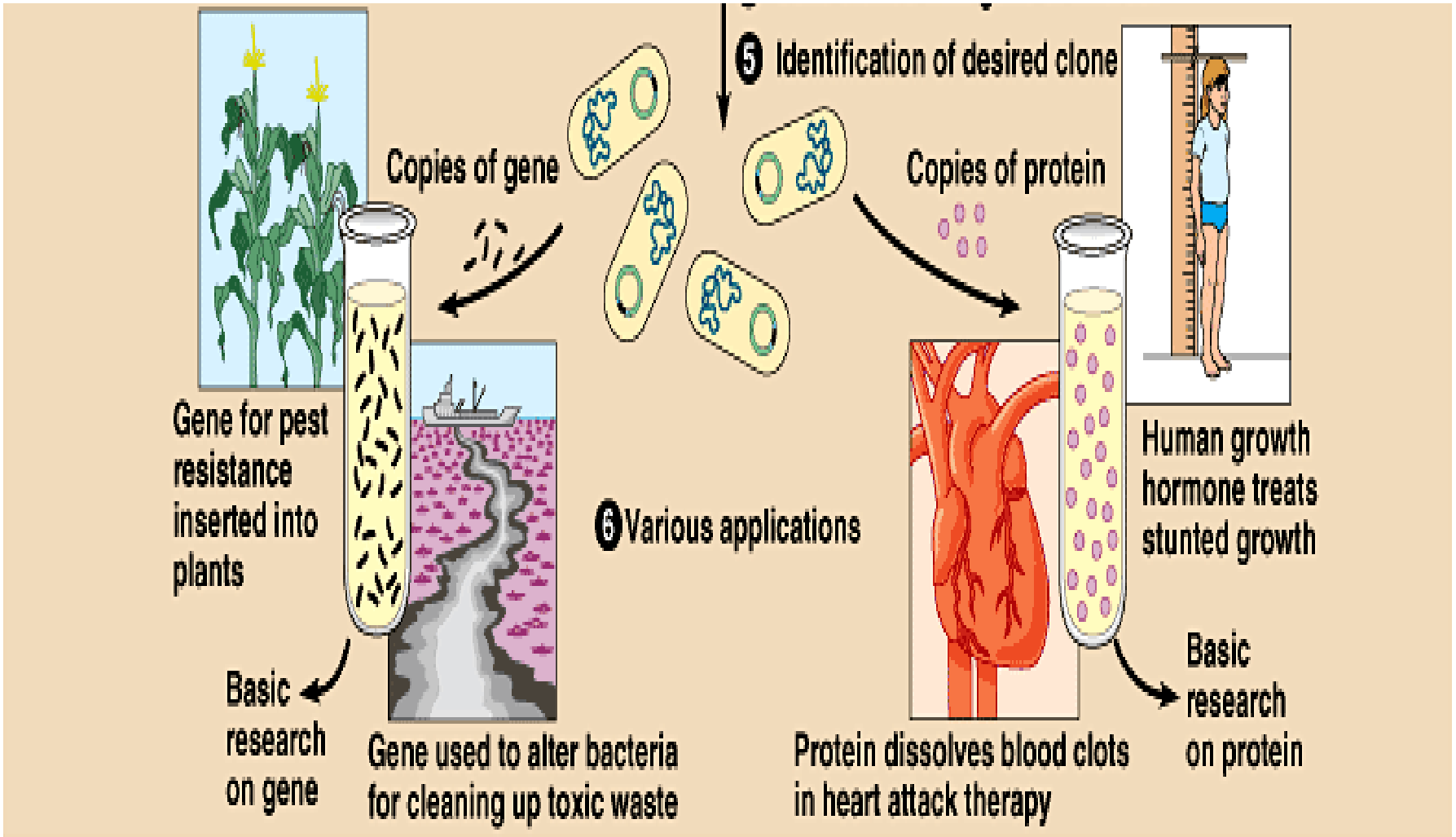


son Education, Inc., publishing as Benjamin Cummings.

The whole process of cloning

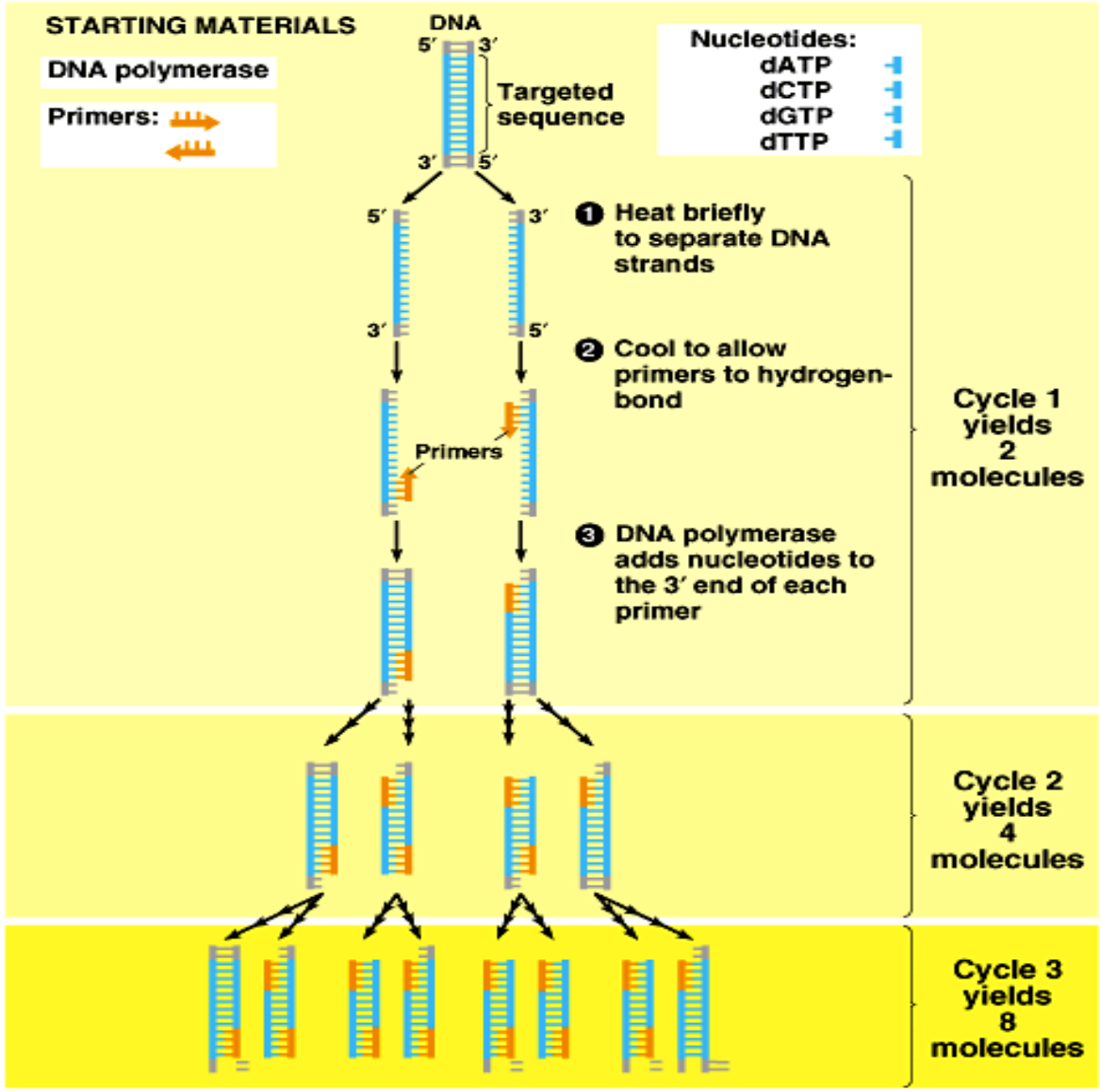


Grow bacteria for use



Kary Mullis

Polymerase Chain Reaction



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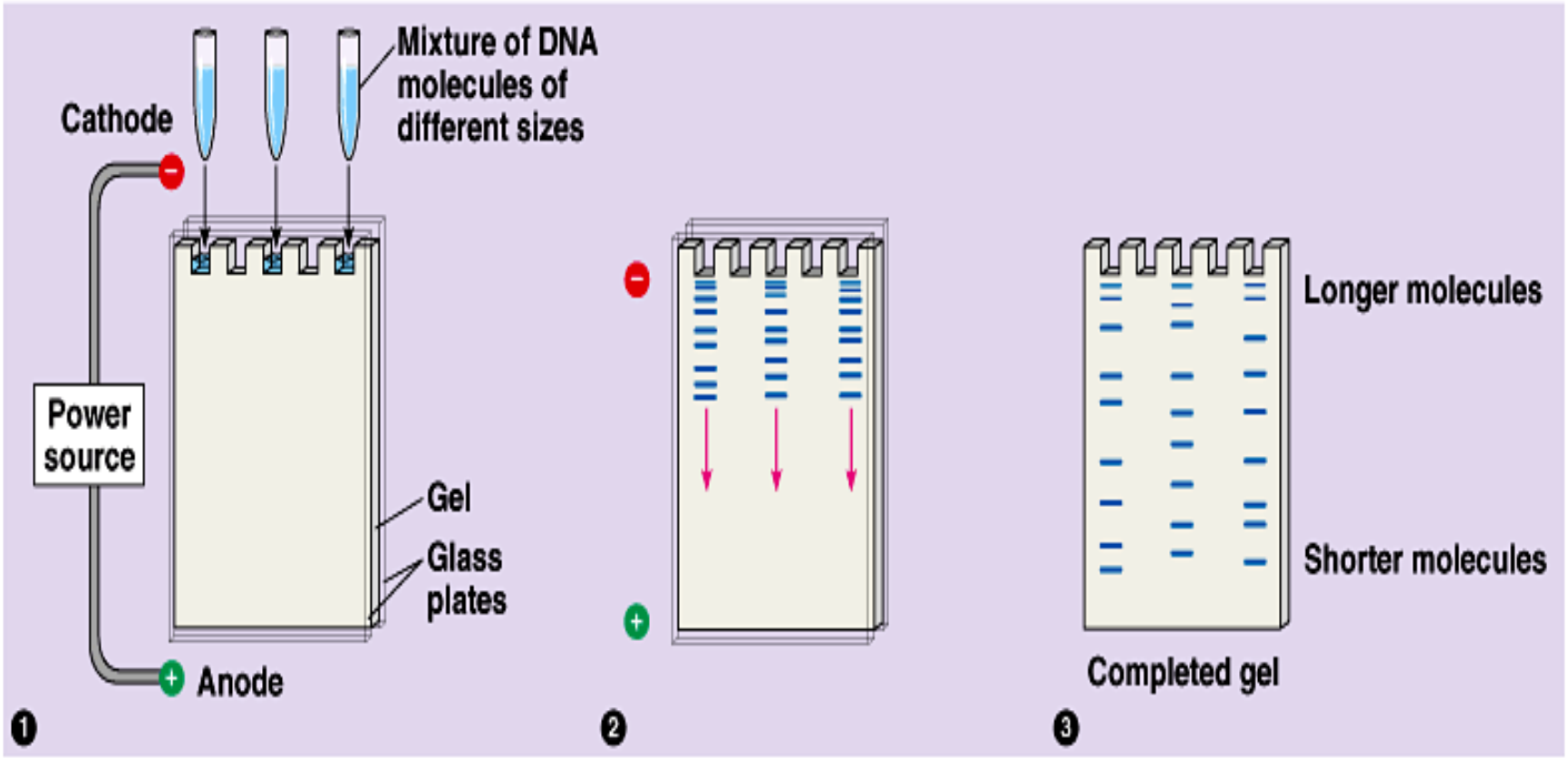
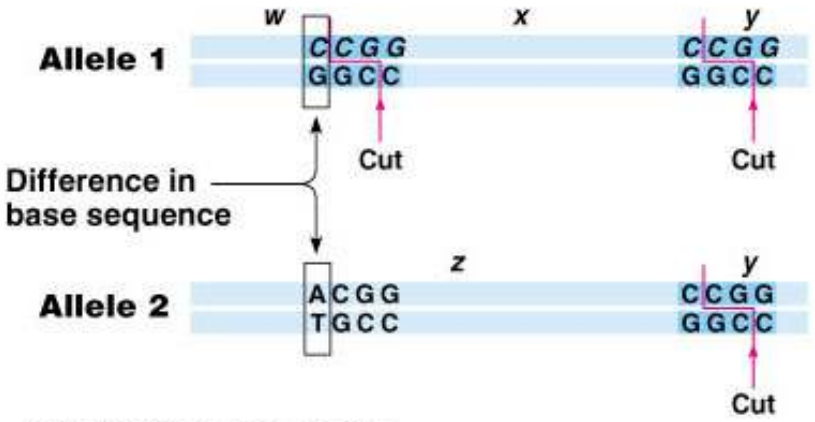
Part 2

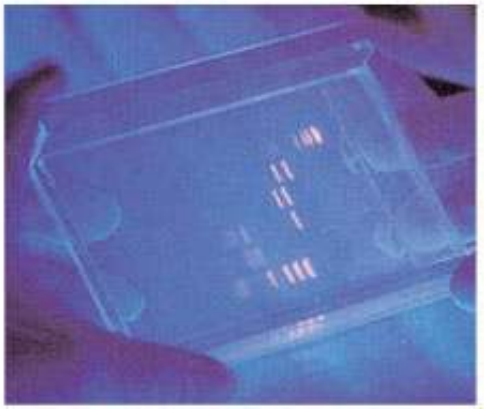
DNA Gel Electrophoresis



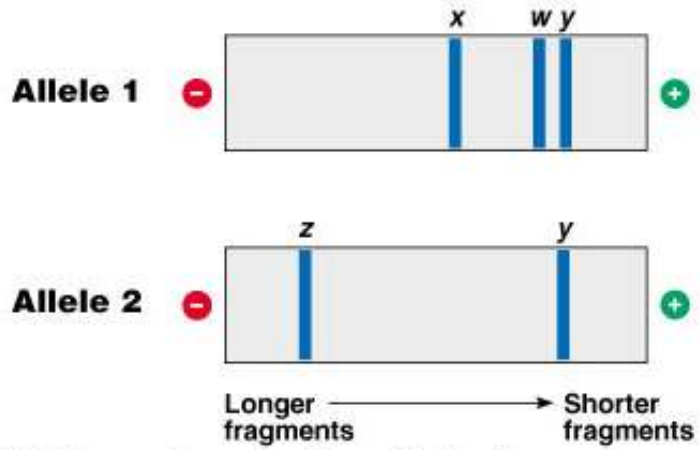
RFLPs and banding



(a) DNA from two alleles



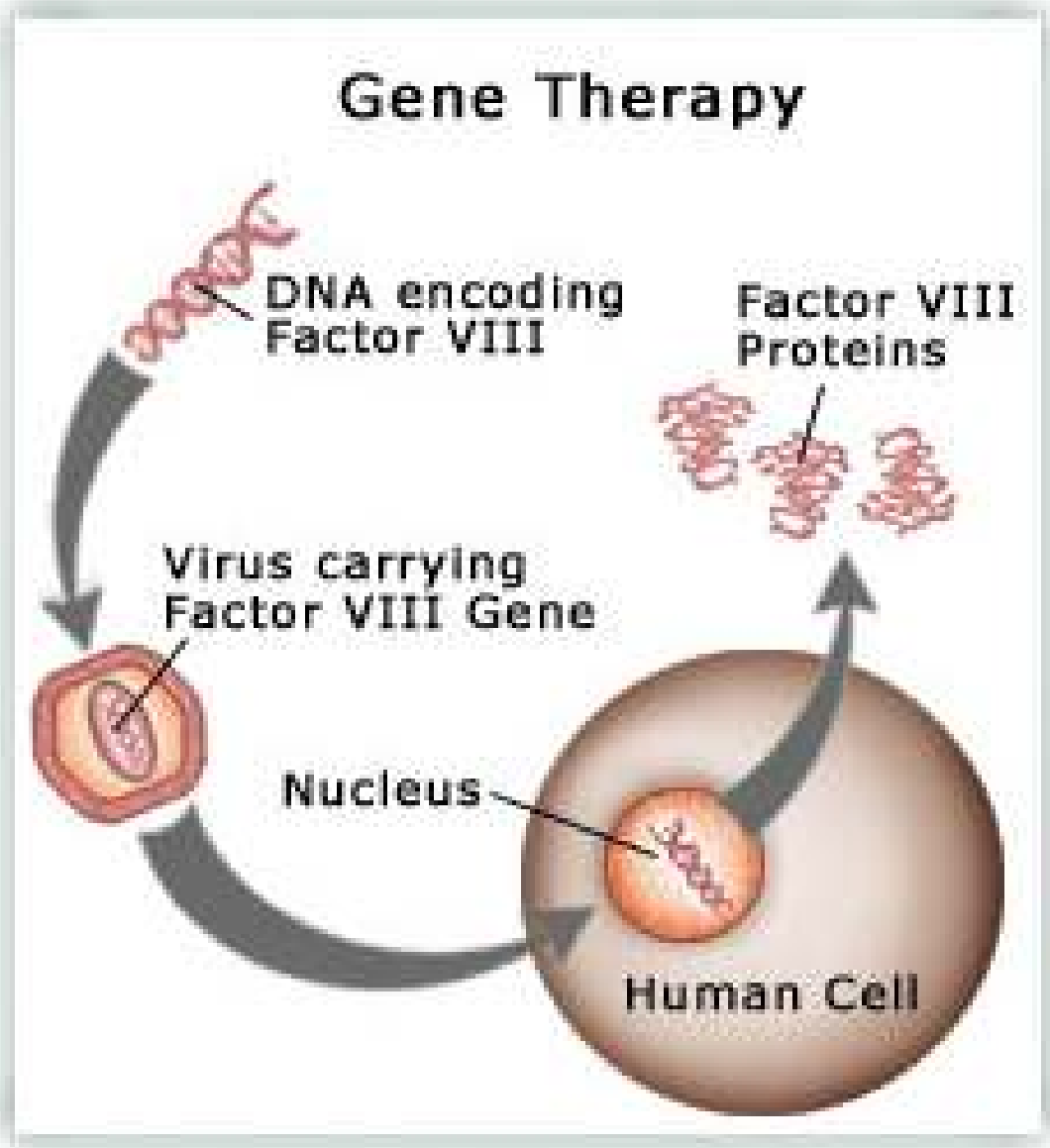
(c) Completed gel



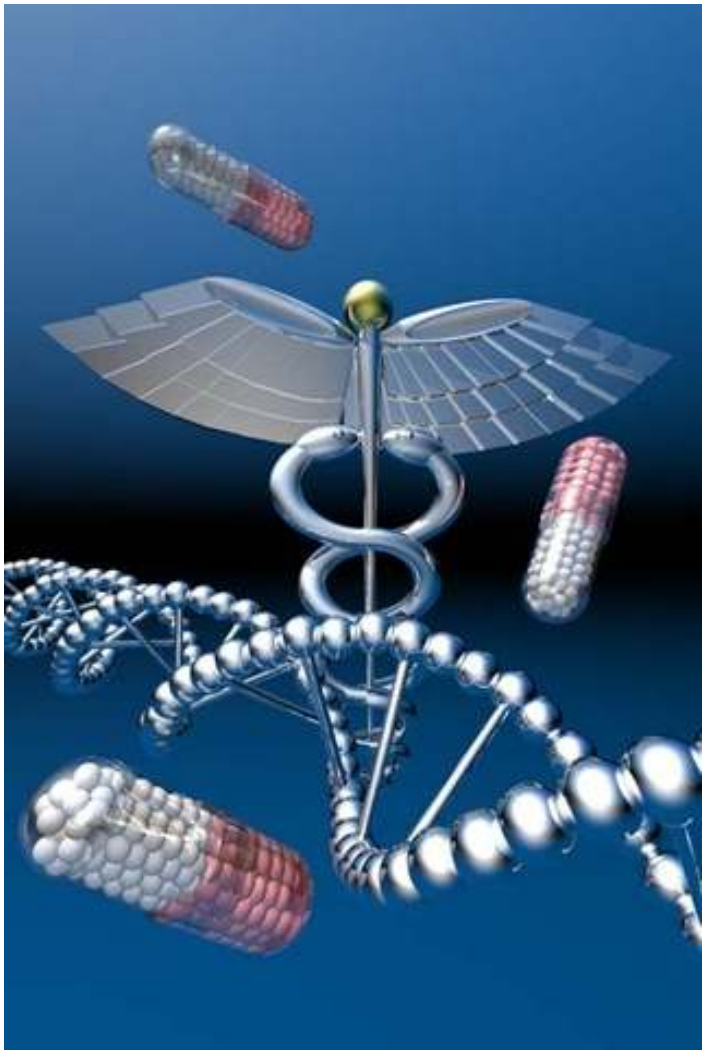
(b) Electrophoresis of restriction fragments

Human Genome Project

Gene Therapy to treat diseases



New DNA based Medicines



Crime Scene Investigations

Environmental Clean-up in the gulf

Agriculture

Livestock