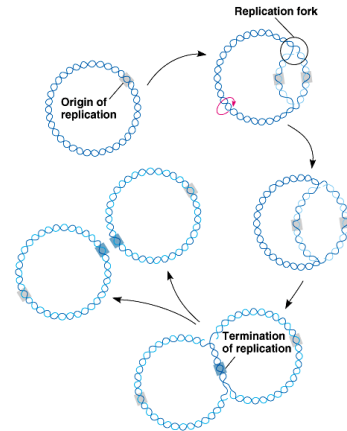


Bacteria divide by _____
Ideal conditions allow some bacteria to asexually reproduce every _____ min.

New mutations, though individually rare, can have a significant impact on genetic diversity when reproductive rates are very high because of short generation spans.

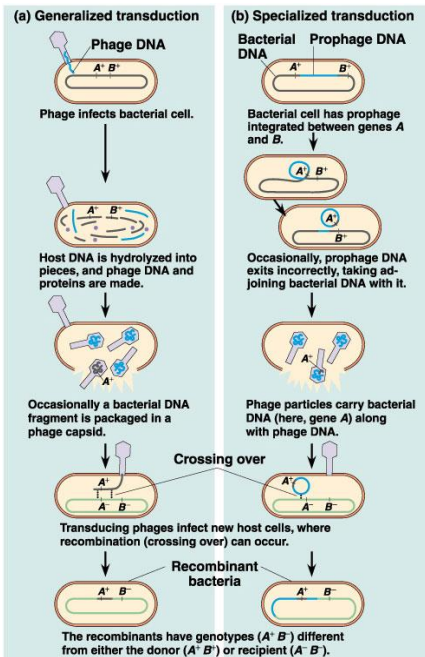
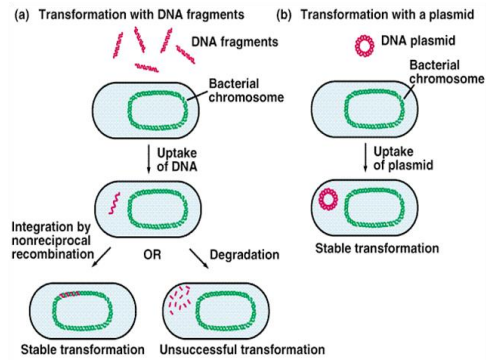
Slower reproducing organisms create genetic variation by recombining existing alleles through s _____
r _____



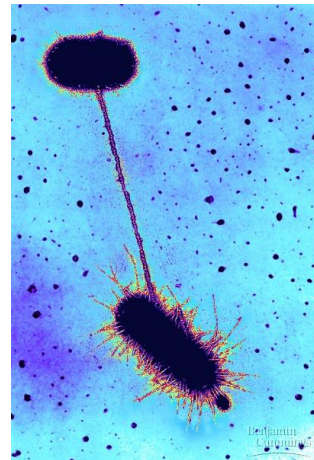
GENETIC RECOMBINATION

Recombination (combining DNA from two individuals) occurs through three processes:

Transformation – uptake of naked DNA from the _____



Transduction – phages (_____) carry DNA from one host to another.



Conjugation – direct transfer between two bacterial cells

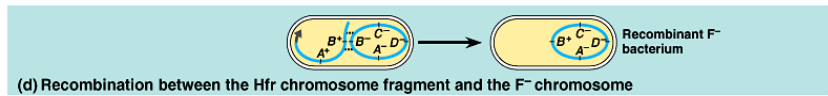
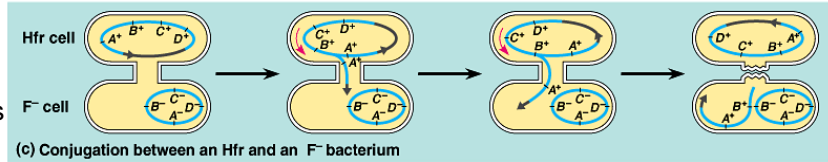
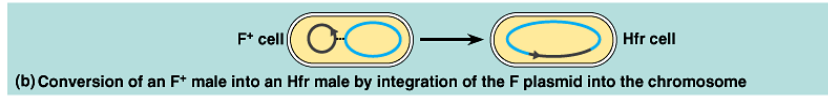
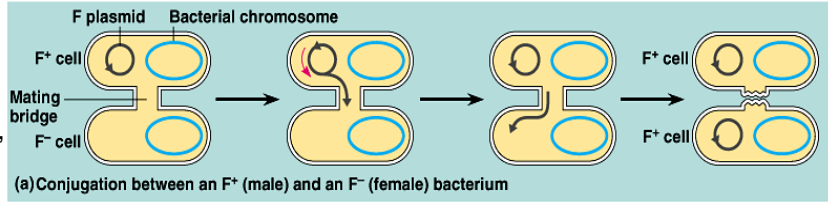
F factor confers ability to form sex pili and share DNA (maleness)

_____, including the F plasmid, are small, circular, self-replicating DNA molecules.

_____, like the F plasmid, can undergo reversible incorporation into the cell's chromosome.

- Temperate viruses also qualify as episomes.

_____ **Plasmids** – confer antibiotic resistance and conjugation abilities



How is it possible that some bacterial R plasmids carry resistance to multiple antibiotics?