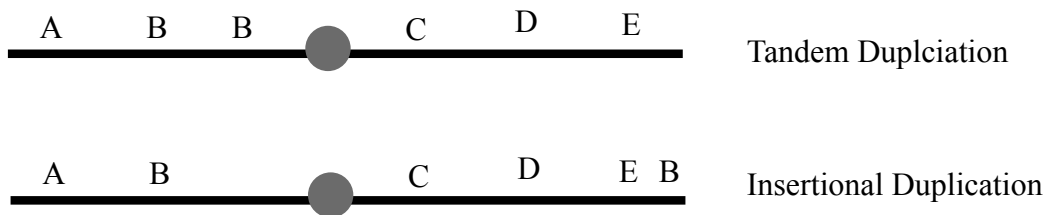


CONCEPT: CHROMOSOMAL REARRANGEMENTS: DUPLICATION

- **Duplications** are a type of chromosomal rearrangement where the chromosomal segment is doubled
 - There are many _____ of duplications
 - **Tandem duplications** occur when the duplicate regions are located adjacent to each other
 - **Insertional duplication** occurs when the duplications regions are located elsewhere in the genomes
 - **Segmental Duplications** are 10-50 kilobases in length and encompass very large sections

EXAMPLE:



- Duplications have been extremely important in evolution
 - rDNA duplications allows for ribosome formation
 - Causes three copies of alleles

PRACTICE:

1. A person has a WT chromosome with the following segments. A B C • D E F G H. Which of the following shows how the chromosome would look after an insertional duplication?
 - a. A A B B C • D E F G H
 - b. A B C • D E F G H A B
 - c. A B A B C • D E F G H
 - d. A C • D E F G H

2. A person has a WT chromosome with the following segments. A B C • D E F G H. Which of the following shows how the chromosome would look after an tandem duplication?
 - a. A B B C • D E F G H
 - b. A B C • D E F G H B
 - c. A B A C • D E F G H
 - d. A C • D E F G H