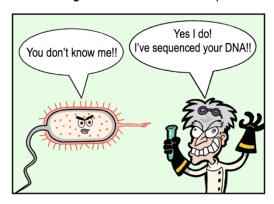
CONCEPT: INTRODUCTION TO DNA SEQUENCING

•DNA _____: the process of determining the complete sequence of nucleotides in a DNA molecule.

□ Can be used to sequence a fragment of DNA, or the _____ genome of an organism.

EXAMPLE: DNA sequencing can sequence entire genomes of a bacterial species.



• Dideoxy Nucleotides are commonly used in DNA sequencing techniques due to their unique features.

Dideoxy Nucleotides

• Recall: phosphodiester bonds form between the 3' OH & the phosphate group of 2 nucleotides during DNA synthesis.

• Dideoxy nucleotides (ddNTPs): nucleotides that contain a 3' instead of 3' group

□ Replacing the 3' OH) with H ____ covalent formation of the phosphodiester bond.

• Elongation during DNA synthesis is *terminated* by the incorporated *ddNTP* at the ______' end of the new DNA strand.

EXAMPLE: Dideoxyribonucleotides terminate elongation during DNA synthesis.

