DNA Technology

**DNA Extraction:** - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ treatments cause cells and nuclei to burst

* DNA is sticky and can be pulled out of the mixture; this is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **enzymes** cut DNA at specific sequences

* this is useful to divide DNA into \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ fragments

**Electrophoresis:** - DNA can be separated based on \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ due to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* The **phosphate groups**  are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ charged
* DNA is placed in a **gel** and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is run through, causing \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ DNA to move towards the **positive** end
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ fragments move **farther and faster**

**Cloning:** - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_: a member of a group of genetically identical cells.

* May be produced by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ reproduction (mitosis)
* A \_\_\_\_\_\_\_\_\_\_\_ cell from one organism and an \_\_\_\_\_\_\_\_ cell from another are fused together
  + The resulting cells \_\_\_\_\_\_\_\_\_\_\_\_\_ like a normal **embryo**

The **Human Genome Project**  is a research effort to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ all of our DNA ( \_\_\_\_\_ chromosomes)

* Goal is to \_\_\_\_\_\_\_\_ every gene location
* Can be used in medical \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ od disease, gene therapies, diagnosis techniques..
* Can be used to produce useful \_\_\_\_\_\_\_\_\_\_\_\_\_\_ products for medicine, agriculture, bioremediation….

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