

TEACHING THE GENOME GENERATION

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L X W S N X Q S K T Z L A A L R P A Q Q O U E I S
 A O V C R O D O Z F I W L E T R O T P J L K G A S
 Q E R I G Z D A M A U G D R C Y L S D O P I O Y U
 U X T T V N Y O T J O N Y E S I Y A J O H P Q R S
 R K E A N M I K C R I R Z S A N M F C K T N E V N
 E U S M T O C L I L P X J T W R E G N A S L Z D E
 A G N R W O C T A M A E S R O L R I X P C T F E S
 M G P O C R H E B E G Y S I E Z A Q Q Y I G U S N
 A Q J F U M N I V C N S S C X A S Z C W Y R B B O
 N U G N W D A S K I W N T T D T E L K T C G U J C
 E L G I X A B J A L T R A I K P A P F B L A S T B
 Y Y D O M N D H C M O A U O Q M T N E M N G I L A
 S K S I H N O I O P Q Q G N R T I N W V B K Z O Y
 V U D B V T P I H N A U C E N T R A L D O G M A U
 D X P I A R N O G V T X H N N Z O G U R X C R Q D
 D P C E D T R L J E S T M Z K O E J W T Y D W N W
 C W V E R E U K T A N R T Y A M R Y C O S C F T M
 V B O O S N O Q C E I E Z M H G O D H B F K D Z I
 S T N I V W A X E D I T O E L C U N O G I L O A Z
 P B S Z W Y N T Y Q B G D M S R T A L A A L Z O V
 X M R V Z Y J W A S J H Q J D I W U O L F A F D H
 R Y W K T T T H O N A L I Q U O T Y R L E G H N F
 Q T K W A S H Z M H T X H H A S G O T E E D I T P
 A Q D Q O C M P T M U S T S L Q I E W L K H Y Y J
 G S Y R R Q T S E M H A Y H X J O V O E A A Q V I

Use the word bank below to find the words in the puzzle above. Words can be oriented in any direction (up, down, side to side, diagonally, forward, backward or any combination!) Then match the words to their definitions.

ALGORITHM
 ALIQUOT
 ALLELE
 ANNEALING
 BIOINFORMATICS
 BLAST
 CENTRAL DOGMA
 COCKTAIL
 CODON
 CONSENSUS
 DIDEOXY
 ELECTROPHORESIS

FASTA
 GENE
 IN DEL
 INTRON
 NEGATIVE CONTROL
 OLIGONUCLEOTIDE
 POLYMERASE
 RESTRICTION ENZYME
 SANGER
 SNP
 SUPERNATANT
 THERMAL CYCLER

Match the words from the previous page to their definitions below by writing the term on the line next to the definition.

- _____ a program that compares nucleotide or protein sequences to sequence databases and calculates the statistical significance of matches
- _____ a member of any number variants that occupy the same locus and control the expression of the same trait
- _____ a combination of all common reagents used in a mutli-sample reaction
- _____ a region of DNA that controls a discrete hereditary characteristic
- _____ the movement of molecules through a porous substance by electrical charge
- _____ the agreement between multiple alignments at each position in a sequence
- _____ a set of rules that defines a sequence of operations with the goal of making a "decision"
- _____ a sample in an experiment that ensures that there is no effect when there should be no effect
- _____ a text based format for representing sequence data
- _____ the liquid portion of a solid/liquid solution found after centrifugation or precipitation
- _____ a small portion of a large amount of solution
- _____ another name for a primer, small bits of nucleic acids can be manufactured as single-stranded molecules
- _____ laboratory equipment that can be programmed to heat and cool, most commonly used to amplify DNA
- _____ a man who developed a method of DNA sequencing based on the random incorporation of dideoxynucleotides by DNA polymerase in an in vitro reaction
- _____ an enzyme used in all cells to replicate DNA and used in the lab to amplify/synthesize nucleic acid chains
- _____ a step in the polymerase chain reaction where temperature is lowered so a primer will bind to its target complementary sequence in the genome
- _____ non-coding DNA sequence gene that is transcribed into an RNA transcript but is then excised from the mature mRNA through splicing
- _____ an interdisciplinary field that develops methods and software tools for understanding biological data
- _____ the flow of genetic information from DNA to RNA to protein (with some exceptions) described by Francis Crick
- _____ enzymes found in bacteria that recognize specific DNA sequences and induce a double stranded break resulting in fragmentation of the DNA
- _____ a three-nucleotide segment of mRNA that recruits the amino acid-carrying tRNA during the process of translation within the ribosome
- _____ an insertion or deletion mutation in DNA sequence
- _____ a modified nucleotide that acts as a chain elongating inhibitor of DNA polymerase
- _____ a point mutation where one nucleotide is substituted for another, there is no addition of nucleotides relative to length of sequence