



What is your DNA Alias?

We use four letters to code all the information contained in DNA: A, T, C and G. The letters are used in groups of three. A group is called a codon.

DNA contains the information that is needed by your body to make proteins. The different proteins have specific functions, such as making our hearts, hair, eyes and ears. The smallest part of proteins are amino acids. There are 20 amino acids. One or more can make up a protein, depending on the specific protein.

Each amino acid is represented by at least one codon. Because each codon is coded with three letters, the string of letters used to represent the amino acids in a specific protein can get pretty long. To avoid this, scientists have made a kind of shorthand, and have given each amino acid its own letter, corresponding to our alphabet.

Using this shorthand to represent the amino acids in a protein is a way of describing, or “spelling” this part of the protein. Written in this shorthand, the code is called the DNA Alias; each letter in the DNA Alias actually represents a group of three letters (a codon).

When scientists see the DNA Alias of a particular protein, they can find the protein’s DNA sequence by reversing the coding process. For fun, we can perform the same process on any word by converting each letter to the corresponding codon, and in so doing, find its “DNA sequence”. Let’s try it with your name.

Write each letter of your name on the lines below:

Use the table on page 2 to help you convert your name into its DNA Alias.

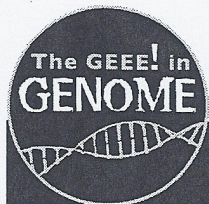
Step 1: Find each letter of your name.

Step 2: Look at the Codon column to find the DNA code for each letter.

Step 3: Replace each letter of your name with its three-letter codon:

_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____





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Our Alphabet	Amino Acid Name	Simplified Codon
A	Alanine	GCT
B		GCA (Alanine)
C	Cysteine	TGC
D	Aspartic acid	GAT
E	Glutamic acid	GAG
F	Phenylalanine	TTT
G	Glycine	GGG
H	Histidine	CAT
I	Isoleucine	ATA
J		ATC (Isoleucine)
K	Lysine	AAG
L	Leucine	CTC
M	Methionine	ATG
N	Asparagine	GAC
O		GAT (Asparagine)
P	Proline	CCC
Q	Glutamine	GAG
R	Arginine	CGT
S	Serine	TCA
T	Threonine	ACT
U		ACG (Threonine)
V	Valine	GTC
W	Tryptophan	TGG
X		GTA (Valine)
Y	Tyrosine	TAC
Z		TAT (Tyrosine)

Base colours:

A = green

T = red

C = blue

G = yellow

(The table shows simplified versions of the codons.
Most amino acids are actually represented by multiple codons).



GenomeCanada

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