DNA Messages

A worksheet to decode DNA messages

Instructions

Can you decode the messages below? DNA messages are written in 3-letter 'words' (triplets). For every three letters in the DNA code that the body 'reads', it adds one type of protein building block (called amino acids) to a protein.

Proteins are important - our body is almost all protein! For example, your hair is made of one kind of protein, and the colour of your eyes is created by another kind of protein.

Each amino acid has a letter. Decode the DNA sequences by reading the DNA three letters at a time, then finding the amino acid letter in the decoding table! Then, write the amino acid letter in the box underneath. This will reveal hidden messages!

Note: there are only 20 amino acids, so there isn't one for EVERY letter. For this activity, the researchers have added in the other 6 letters to help you write messages – the extra amino acid letters that wouldn't normally be present are O, B, J, U, X and Z.

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The Messages:

Message 1:

DNA letters	A T G	T A G	A G T	G A A	T A G	A T G
Amino Acid						

Message 2:

DNA letters	G A T	A A T	G C T
Amino Acid			

Message 3:

DNA letters	A G C	A T G	C T T	C T T	A C T	C A T	A T T	G A A
Amino Acid								

Message 4:

DNA letters	A G T	T G T	A T T	G A A	A A T	T G T	G A A
Amino Acid							

Message 5:

DNA letters	T G T	C T T	G A T	C T T	A A T
Amino Acid					

Message 6:

DNA letters	G A C	A T A	G T T	G A G	A G A	A G T	A T A	A C C	T A T
Amino Acid									

The Messages (2):

Message 7:

DNA letters	G G G	G A G	A A C	G A A	A G T
Amino Acid					

Message 8:

DNA letters	A G T	T A G	C C C	G A A	A G G
Amino Acid					

Message 9:

DNA letters	A G T	G A A	A G C	A G T	G C C	G G G	G A A	A G T
Amino Acid								

Message 10:

DNA letters	C G C	A A T	G C C
Amino Acid			

Message 11:

DNA letters	G A A	T G A	A C C	A G G	G C C	T G T	A C C	A T T	C T T	A A C
Amino Acid										

Message 12:

DNA letters	T T T	C G T	T A G	A T T	A C C
Amino Acid					

The decoding table:

Use the table below to decode your DNA messages.

The heading column tells you the first letter in the DNA triplet. The heading row tells you the second letter in the DNA triplet. The third letter in the DNA triplet changes on each row.

The single letter next to the DNA triplet is the amino acid letter which that triplet codes for. Write this letter in the box under the DNA triplet, and you will start to spell out your secret messages!

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