

-In order to decrypt the ciphertext, we calculate the frequencies of the letters in the ciphertext and compare them with the English letter frequencies.

-The table below shows the number of occurrences of each letter in the ciphertext.

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
5	2	26	42	23	51	67	8	33	1	35	39	35	29	85	30	14	17	88	0	17	3	16	6	10	0

-In the ciphertext the S appears the most as part of a word, followed closely by the letter O then the letter G.

-Using the English letter frequency, we can deduce which character in the ciphertext corresponds to which letter.

-From the English letter frequency graph, the letter E is the most common therefore we can conclude that the letter S in the ciphertext corresponds to E. T is the second most frequent therefore O probably corresponds to it.

-G can be A, O or I based on the English frequency graph, G appears mostly on two letter words, and we already know that O->T, therefore the word must probably be "TO". Hence, we can conclude that G corresponds to O.

-F can be either A, N, or I, we know that A and I are the most common English single words therefore F must correspond to N.

- We know the O->T and S->E and the word I appears mostly between the word "OIS" which might probably the word "THE" therefore we can conclude that I->H.

-Letter Z has zero occurrences in the ciphertext therefore it will remain same.

-In the ciphertext the letter M is the only single letter, and we know that I->H, therefore M probably corresponds to A as A is the most common English single letter, M->A.

-D either corresponds to S, R or L based on the occurrences and the English frequency. In the ciphertext we have the word "MDD" and we know that M->A, D probably corresponds to L to form the word "ALL", therefore we conclude that D->L

-L either corresponds to S or R using the English frequency and we have a two letter word "LG" in the ciphertext, we already know that G->O and that the word "TO" has already been decrypted in the ciphertext therefore the letter L probably corresponds to S to form the word "SO". We can also conclude that K->R as it is the only letter remaining with the most frequencies that hasn't been decrypted.

-The letter P appears mostly in two letter words in the ciphertext, and common English two letter words are either "of", "to", "it", "is", "in". In the text we have the words "PL" and "PF", and we know that L->S and F->N therefore we can conclude that P->I which will form the words "IS" and "IN". Also, the letter C appears in two letter words in the ciphertext which are "GC" and "PC". We know that G->O and P->I, from this we can assume that C corresponds F to form the words, "OF" and "IF" which are one of the most common two letter English words. "W" also appears mostly in a two letter word "WS" and we know that S->E, therefore we can probably conclude that the word is "WE".

-With most of the characters decrypted, we can logically deduce the other words by substituting the characters and checking what characters to substitute with to make the words/sentences meaningful. With the table below filled with letters, we perform substitution cipher and replace the letters in the ciphertext with the equivalent letter in the top row of the table to decrypt the text.

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