

Can you decrypt this message?

XUFHJ YMJ KNSFQ KWTSYNJW. YMJXJ FWJ YMJ ATDFLJX TK YMJ XYFWXMNU
 JSYJWUWNXJ. NYX HTSYNSZNSL RNXXNTS YT JCUQTWJ XYWFSLJ SJB BTWQIX, YT
 XJJP TZY SJB QNKJ FSI SJB HNANQNEFYNTSX, YT GTQIQD LT BMJWJ ST TSJ MFX
 LTSJ GJKTWJ.

Step 1 Count how many times each letter appears

A	B	C	D	E	F	G	H	I	J	K	L	M
2	5	1	2	1	9	2	3	3	27	5	5	7

N	O	P	Q	R	S	T	U	V	W	X	Y	Z
14	0	1	7	1	16	18	4	0	11	14	15	2

Step 2 Is there any single letter words? - No

In English there are only 2 single letter words "I" and "A"

Step 3 Use the Frequency Distribution of the English language

In a large piece of English text, the most popular letters are:

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

The top three letters may be E, T or A however because this text is quite short the top three letters may not be exactly as expected.

Step 4 To find the letter E, T or A check how sociable the top three letters in the Cipher are

	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
J	0	3	1	0	0	0	1	1	0	2	2	2	5	1	0	1	0	0	6	0	0	0	7	5	1	0
T	1	1	0	1	0	0	1	1	0	0	2	2	0	2	0	0	2	0	7	0	0	0	4	0	3	1
S	0	0	0	0	0	3	0	0	1	6	0	2	0	3	0	0	0	0	0	7	0	0	0	1	3	1

Vowels tend to be very sociable; almost every word contains a vowel. Consonants are less sociable.

"S" is definitely a consonant but is it "T"?

Is "J" is definitely "E", but is "T" "A"

Step 4 Is there any three letter words?

In English the most common three letter words are “the”, “and”

We know “E” let’s try to find the letter “H”

In English the letter “H” frequently goes before “E” (the, then, they) not often after “E”.

	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
After _J_	0	3	1	0	0	0	0	0	0	1	1	0	0	0	0	1	0	0	1	0	0	0	3	2	0	0
Before _J_	0	0	0	0	0	0	1	1	0	0	1	2	5	1	0	0	0	0	5	0	0	0	4	3	1	0

Replace the Cipher text “J” with “e” and “M” with “h”

Replace the Cipher text “Y” with “T”

				e		t	h	e												t		e						
X	U	F	H	J		Y	M	J		K	N	S	F	Q		K	W	T	S	Y	N	J	W	.				
t	h	e		e				e		t	h	e								e					t	h	e	
Y	M	J	X	J		F	W	J		Y	M	J		A	T	D	F	L	J	X		T	K		Y	M	J	
	t				h				e		t	e							e			t						
X	Y	F	W	X	M	N	U		J	S	Y	J	W	U	W	N	X	J	.		N	Y	X					
			t																t			e						
H	T	S	Y	N	S	Z	N	S	L		R	N	X	X	N	T	S		Y	T		J	C	U	Q	T	W	J
						e			e											t				e	e			
X	Y	W	F	S	L	J		S	J	B		B	T	W	Q	I	X	,		Y	T		X	J	J	P		
		t			e					e									e									
T	Z	Y		S	J	B		Q	N	K	J		F	S	I		S	J	B									
														t														
H	N	A	N	Q	N	E	F	Y	N	T	S	X	,		Y	T		G	T	Q	I	Q	D		L	T		
	h	e		e							e		h							e			e				e	
B	M	J	W	J		S	T		T	S	J		M	F	X		L	T	S	J		G	J	K	T	W	J	

Step 5 What about the letter “T” we know it’s a vowel, we found “E” so it must be “A, I, O”. It’s unlikely to be “U” given the Frequency Distribution.

On line two the word “theXe”, this could be “there, these or theme”. “X” is likely to be a consonant. “X” is unlikely to “M” because of its Frequency Distribution. If you add “N” makes an incorrect spelling therefore “X” must map to “S”.

s				e		t	h	e										o		t		e						
X	U	F	H	J		Y	M	J		K	N	S	F	Q		K	W	T	S	Y	N	J	W	.				
t	h	e	s	e				e		t	h	e			o				e			o			t	h	e	
Y	M	J	X	J		F	W	J		Y	M	J		A	T	D	F	L	J	X		T	K		Y	M	J	
s	t			s	h			e		t	e						s	e			t	s						
X	Y	F	W	X	M	N	U		J	S	Y	J	W	U	W	N	X	J	.		N	Y	X					
			t			u							s			o			t	o		e				o		
H	T	S	Y	N	S	Z	N	S	L		R	N	X	X	N	T	S		Y	T		J	C	U	Q	T	W	J
s					e		e						o				s			t	o		s	e	e			
X	Y	W	F	S	L	J		S	J	B		B	T	W	Q	I	X	,		Y	T		X	J	J	P		
o	u	t			e					e							e											
T	Z	Y		S	J	B		Q	N	K	J		F	S	I		S	J	B									
										o	s			t	o												o	
H	N	A	N	Q	N	E	F	Y	N	T	S	X	,		Y	T		G	T	Q	I	Q	D		L	T		
	h	e		e			o		o	e		h	s				o		e			e				e		
B	M	J	W	J		S	T		T	S	J		M	F	X		L	T	S	J		G	J	K	T	W	J	

If you look at the last line you have “ST” and “TSJ” which map to “_o” and “o_e”. The Cipher Text letter is the same, the only letter to fit is “n”. “S” maps to “n”.

s				e		t	h	e				n						o		t		e						
X	U	F	H	J		Y	M	J		K	N	S	F	Q		K	W	T	S	Y	N	J	W	.				
t	h	e	s	e				e		t	h	e			o				e			o			t	h	e	
Y	M	J	X	J		F	W	J		Y	M	J		A	T	D	F	L	J	X		T	K		Y	M	J	
s	t			s	h			e	n	t	e						s	e			t	s						
X	Y	F	W	X	M	N	U		J	S	Y	J	W	U	W	N	X	J	.		N	Y	X					
		n	t		n	u							s			o	n		t	o		e			o			
H	T	S	Y	N	S	Z	N	S	L		R	N	X	X	N	T	S		Y	T		J	C	U	Q	T	W	J
s				n		e		n	e				o				s			t	o		s	e	e			
X	Y	W	F	S	L	J		S	J	B		B	T	W	Q	I	X	,		Y	T		X	J	J	P		
o	u	t			n	e				e			n			n	e											
T	Z	Y		S	J	B		Q	N	K	J		F	S	I		S	J	B									
										o	n	s			t	o											o	
H	N	A	N	Q	N	E	F	Y	N	T	S	X	,		Y	T		G	T	Q	I	Q	D		L	T		
	h	e		e		n	o		o	n	e		h	s			o	n	e			e				e		
B	M	J	W	J		S	T		T	S	J		M	F	X		L	T	S	J		G	J	K	T	W	J	

If you look at the line 5 you have "SJB" which map to "ne_". The word is also repeated a number of times. It is likely that "B" maps to "w".

s				e		t	h	e			n					o		t		e									
X	U	F	H	J		Y	M	J		K	N	S	F	Q		K	W	T	S	Y	N	J	W	.					
t	h	e	s	e				e		t	h	e			o			e			o			t	h	e			
Y	M	J	X	J		F	W	J		Y	M	J		A	T	D	F	L	J	X		T	K		Y	M	J		
s	t			s	h					e	n	t	e				s	e				t	s						
X	Y	F	W	X	M	N	U		J	S	Y	J	W	U	W	N	X	J	.		N	Y	X						
		n	t		n	u							s		o	n		t	o		e			o					
H	T	S	Y	N	S	Z	N	S	L		R	N	X	X	N	T	S		Y	T		J	C	U	Q	T	W	J	
s				n		e		n	e	w			o			s			t	o		s	e	e					
X	Y	W	F	S	L	J		S	J	B		B	T	W	Q	I	X	,		Y	T		X	J	J	P			
o	u	t		n	e	w					e		n			n	e	w											
T	Z	Y		S	J	B		Q	N	K	J		F	S	I		S	J	B										
												o	n	s			t	o									o		
H	N	A	N	Q	N	E	F	Y	N	T	S	X	,		Y	T		G	T	Q	I	Q	D		L	T			
w	h	e		e		n	o		o	n	e		h	s			o	n	e			e				e			
B	M	J	W	J		S	T		T	S	J		M	F	X		L	T	S	J		G	J	K	T	W	J		

If you look at the last line you have "BMJWJ" which maps to "whe_e". The only letter to fit is "r". "W" maps to "r".

s				e		t	h	e			n						o		t		e	r								
X	U	F	H	J		Y	M	J		K	N	S	F	Q		K	W	T	S	Y	N	J	W	.						
t	h	e	s	e				r	e		t	h	e			o			e			o			t	h	e			
Y	M	J	X	J		F	W	J		Y	M	J		A	T	D	F	L	J	X		T	K		Y	M	J			
s	t		r	s	h					e	n	t	e	r			s	e				t	s							
X	Y	F	W	X	M	N	U		J	S	Y	J	W	U	W	N	X	J	.		N	Y	X							
		n	t		n	u							s		o	n		t	o		e			o						
H	T	S	Y	N	S	Z	N	S	L		R	N	X	X	N	T	S		Y	T		J	C	U	Q	T	W	J		
s		r		n		e		n	e	w			o	r		s			t	o		s	e	e						
X	Y	W	F	S	L	J		S	J	B		B	T	W	Q	I	X	,		Y	T		X	J	J	P				
o	u	t		n	e	w					e		n			n	e	w												
T	Z	Y		S	J	B		Q	N	K	J		F	S	I		S	J	B											
												o	n	s			t	o									o			
H	N	A	N	Q	N	E	F	Y	N	T	S	X	,		Y	T		G	T	Q	I	Q	D		L	T				
w	h	e	r	e		n	o		o	n	e		h	s			o	n	e			e			r	e				
B	M	J	W	J		S	T		T	S	J		M	F	X		L	T	S	J		G	J	K	T	W	J			

If you look at the last line you have "MF^X" which maps to "h_s". The only letter to fit is "a". "F" maps to "a".

s		a		e		t	h	e			n	a				o		t		e	r									
X	U	F	H	J		Y	M	J		K	N	S	F	Q		K	W	T	S	Y	N	J	W	.						
t	h	e	s	e		a	r	e		t	h	e			o		a		e			o				t	h	e		
Y	M	J	X	J		F	W	J		Y	M	J		A	T	D	F	L	J	X		T	K		Y	M	J			
s	t	a	r	s	h					e	n	t	e	r			s	e				t	s							
X	Y	F	W	X	M	N	U		J	S	Y	J	W	U	W	N	X	J	.		N	Y	X							
		n	t		n	u							s			o	n		t	o		e				o				
H	T	S	Y	N	S	Z	N	S	L		R	N	X	X	N	T	S		Y	T		J	C	U	Q	T	W	J		
s		r	a	n		e		n	e	w			o	r		s			t	o		s	e	e						
X	Y	W	F	S	L	J		S	J	B		B	T	W	Q	I	X	,		Y	T		X	J	J	P				
o	u	t		n	e	w					e		a	n			n	e	w											
T	Z	Y		S	J	B		Q	N	K	J		F	S	I		S	J	B											
							a			o	n	s			t	o											o			
H	N	A	N	Q	N	E	F	Y	N	T	S	X	,		Y	T		G	T	Q	I	Q	D		L	T				
w	h	e	r	e		n	o		o	n	e		h	a	s			o	n	e			e			r	e			
B	M	J	W	J		S	T		T	S	J		M	F	X		L	T	S	J		G	J	K	T	W	J			

If you look at the sixth line you have "FS^I" which maps to "an_". The letter to fit is "d". "I" maps to "d".

s		a		e		t	h	e			n	a				o		t		e	r									
X	U	F	H	J		Y	M	J		K	N	S	F	Q		K	W	T	S	Y	N	J	W	.						
t	h	e	s	e		a	r	e		t	h	e			o		a		e			o				t	h	e		
Y	M	J	X	J		F	W	J		Y	M	J		A	T	D	F	L	J	X		T	K		Y	M	J			
s	t	a	r	s	h					e	n	t	e	r			s	e				t	s							
X	Y	F	W	X	M	N	U		J	S	Y	J	W	U	W	N	X	J	.		N	Y	X							
		n	t		n	u							s			o	n		t	o		e				o				
H	T	S	Y	N	S	Z	N	S	L		R	N	X	X	N	T	S		Y	T		J	C	U	Q	T	W	J		
s		r	a	n		e		n	e	w			o	r		d	s			t	o		s	e	e					
X	Y	W	F	S	L	J		S	J	B		B	T	W	Q	I	X	,		Y	T		X	J	J	P				
o	u	t		n	e	w					e		a	n	d		n	e	w											
T	Z	Y		S	J	B		Q	N	K	J		F	S	I		S	J	B											
							a			o	n	s			t	o						d				o				
H	N	A	N	Q	N	E	F	Y	N	T	S	X	,		Y	T		G	T	Q	I	Q	D		L	T				
w	h	e	r	e		n	o		o	n	e		h	a	s			o	n	e			e			r	e			
B	M	J	W	J		S	T		T	S	J		M	F	X		L	T	S	J		G	J	K	T	W	J			

If you look at the last line you have “LTSJ” which maps to “_one”. The letter to fit is “g”. “g” maps to “L”.

s		a		e		t	h	e				n	a					o		t		e	r							
X	U	F	H	J		Y	M	J		K	N	S	F	Q		K	W	T	S	Y	N	J	W	.						
t	h	e	s	e		a	r	e		t	h	e			o		a	g	e			o			t	h	e			
Y	M	J	X	J		F	W	J		Y	M	J		A	T	D	F	L	J	X		T	K		Y	M	J			
s	t	a	r	s	h					e	n	t	e	r				s	e				t	s						
X	Y	F	W	X	M	N	U		J	S	Y	J	W	U	W	N	X	J	.		N	Y	X							
		n	t		n	u				g				s			o	n		t	o		e						o	
H	T	S	Y	N	S	Z	N	S	L		R	N	X	X	N	T	S		Y	T		J	C	U	Q	T	W	J		
s		r	a	n	g	e		n	e	w				o	r		d	s			t	o		s	e	e				
X	Y	W	F	S	L	J		S	J	B		B	T	W	Q	I	X	,		Y	T		X	J	J	P				
o	u	t		n	e	w						e		a	n	d		n	e	w										
T	Z	Y		S	J	B		Q	N	K	J		F	S	I		S	J	B											
							a				o	n	s			t	o							d					g	o
H	N	A	N	Q	N	E	F	Y	N	T	S	X	,		Y	T		G	T	Q	I	Q	D		L	T				
w	h	e	r	e		n	o			o	n	e		h	a	s		g	o	n	e			e			r	e		
B	M	J	W	J		S	T			T	S	J		M	F	X		L	T	S	J		G	J	K	T	W	J		

In English the most common two letter words are “of”, “to”, “in”, “it”, “is”, “be”, “as”, “at”, “so”, “we”, “he”, “by”, “or”, “on”, “do”, “if”, “me”, “my”, “up”, “an”, “go”, “no”, “us”, “am”

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