CRYPTOLOGY

Additional Materials

Letter Frequency Recording Sheet

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												

Cryptology Digraph Frequency Recording Sheet

	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
A																										
B																										
C																										
D																										
E																										
F																										
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V																										
W																										
X																										
Y																										
Z																										

All of this is for guidance only, there are no absolutes, and the details vary between different sources though, as would be expected, they all broadly agree. It should also be borne in mind that shorter messages can produce very misleading results, espcially if a deliberate attempt has been made to disguise things.

ENGLISH
The occurrences, given as percentages (to the nearest whole number) of the most often used letters are

E	T	A	O	N	I	R	S	H	D	L	
13	9	8	8	7	7	6	6	6	4	4	%

The most common digraphs are

TH   HE   AN   RE   ER   IN   ES   ON   EA   TI   AT

The most common trigraphs are

THE   AND   THA   ENT   ION   TIO   FOR   NDE   HAS

The most common doubled letters are

LL   EE   SS   OO   TT   FF   RR   NN   PP

The most common two-letter words are

OF   TO   IN   IT   IS   BE   AS   AT   SO   WE   HE   BY

The most common three-letter words are

THE   AND   FOR   WAS   HIS   NOT   BUT   YOU   ARE

The most common four-letter words are

THAT   WITH   HAVE   THIS   WILL   YOUR   FROM   THEY KNOW

The average word-length is **4.5** letters.

OTHER LANGUAGES
The letters most frequently found (in order) are

French:	E	A	S	I	T	N	R	U	L	O
German:	E	N	I	S	T	R	A	D	H	U
Spanish:	E	A	O	S	R	N	I	D	L	C
Italian:	E	I	A	O	R	L	N	T	S	C

In his book *The Cryptogram*, Jules Verne tells the story of how a man was convicted of murder, but was, at the last moment (of course), found to be innocent through the decipherment of a message. It is a polyalphabetic encipherment.

The crucial message is

XKGWF	DPDWY	IRVRH	YIHHL	CRPQH	UQGCH
VBCSE	RJWJJ	NXVGG	WPIXK	GXPOH	LGWTH
WFQWU	LRJVM	FFSQX	TZRRW	JJOLK	KVTGW
AHPYZ	VIFQS	EMEQW	FSBIL	IMUHI	QJZOG
VHFFO	GXZGS	UBWLZ	BBVRR	VOPDQ	GCHPV
XDWSK	XWWND	DRRGG	ROHHW	QIJHM	WYFTL
XKGBS	HXFJJ	EVIUX	FOWSI	VMFDH	PKSJV
XUCYJ	RRRHY	IHHLC	RPQHG	KXUUM	FVDFV
MDNTO	HAKQX	JJRWJ	NTZMW	JRZRA	QPFNH
SUVJH	D				