

HEADLINES (Five headlines from recent news)

The five headlines are encrypted using simple substitution with the same mixed alphabet at different settings against itself, as with a K3 key. Proper nouns are preceded by an asterisk (*).

The mixed alphabet derives from a keyword alphabet, mixed by taking columns from a transposition block in a sequence determined by a second keyword. Cipher settings are determined by a third keyword.

Key Block:

A P O T H E C A R Y	Hat = APOTHECARY
1 7 6 9 5 4 3 2 8 10	
C H E M I S T A B D	Key = CHEMIST
F G J K L N O P Q R	
U V W X Y Z	

Substitution Block:

	1	2	3	4	5	6	7	8	9	10																	
	C	F	U	A	P	T	O	S	N	Z	I	L	Y	E	J	W	H	G	V	B	Q	M	K	X	D	R	pt
1	D	R	C	F	U	A	P	T	O	S	N	Z	I	L	Y	E	J	W	H	G	V	B	Q	M	K	X	CT
2	R	C	F	U	A	P	T	O	S	N	Z	I	L	Y	E	J	W	H	G	V	B	Q	M	K	X	D	
3	U	A	P	T	O	S	N	Z	I	L	Y	E	J	W	H	G	V	B	Q	M	K	X	D	R	C	F	
4	G	V	B	Q	M	K	X	D	R	C	F	U	A	P	T	O	S	N	Z	I	L	Y	E	J	W	H	
5	S	N	Z	I	L	Y	E	J	W	H	G	V	B	Q	M	K	X	D	R	C	F	U	A	P	T	O	

^ **Setting** = DRUGS

The three keywords (HAT, KEY and SETTING) are related by context to aid in analysis when solving. At least two of the three keywords are required for SOL credit.

Hat: APOTHECARY **Key:** CHEMIST **Setting:** DRUGS

pt:

1. Bush Signs Intelligence Overhaul Legislation
2. Bin Laden Urges Fighters to Strike Oil Facilities
3. Pfizer: Painkiller may pose increased cardiovascular risk
4. Carrey masters disguises in 'Lemony Snicket'
5. Martinez blasts ex-teammate Schilling

CT:

1. *GCTJ TNWOT NOALZZNWLODL PHLXJFCZ ZLWNTZFANPO
2. *VZS *IUXYS FDHYO CZHWPYDO PT OPDZMY TZI CURZIZPZYO
3. *OAYLWF: OTYIDYEEWF XTJ ONZW YIUFWTZWC UTFYCYNQTZUPETF FYZD
4. *GQHHPA YQDKPHD WFDNBFDPD FR '*UPYXRA *DRFGEPK'
5. *UIOYGWQH CVIJYJ QP=YQIUUIYQ *JSXGVVGD

Variations of keying method include taking columns UP the transposition block, substituting with a plaintext block, and reading the setting UP the substitution block.

In case of identity encipherment, three reversals are made: columns are taken UP the transposition block, the setting reads UP the substitution block, and substitution is with a plaintext block (cipher alphabet on top of five plain alphabets).