

On the Subject of the Blue Cipher

Blue is often used to describe sadness. Luckily for you, this cipher will cheer you up.

On the module, you will see 3 screens, a keyboard, 2 arrows, and a submit button that displays the current page you're on.

Pressing the right arrow takes you to the next page. Pressing the left arrow takes you to the previous page. There is a total of 2 pages.

On page 1, the top screen shows a 6 letter encrypted word, the middle and bottom screen shows an 6 digit number.

On page 2, the top screen shows a 6 letter word.

Follow the mechanics down below to decrypt your word:

Step 1: Atbash Cipher

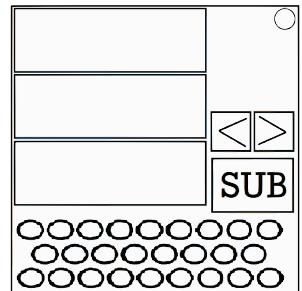
Take the encrypted word from the top screen on page 1 and turn each letter into its alphanumeric position (A = 1, B = 2... Z = 26)

Next, take 27 minus each number to get a new number between 1 - 26.

Convert the number back into a new letter.

Step 2: Letter Transposition

For this, you will need the 2 6 digit numbers on the middle and bottom screens on page 1. Take the 1st number from the middle screen to use for the column. Then take the 1st number from the bottom screen to use for the row. Use both numbers of the table below to get an instruction.



	0	1	2	3	4	5	6	7	8	9
0	34	16	14	24	25	23	45	34	R4	24
1	26	14	RV	15	R2	34	56	R3	26	25
2	23	RV	R1	RV	12	25	36	46	R2	25
3	35	12	46	24	45	R5	13	15	26	R5
4	R1	13	14	16	35	12	35	R3	25	R4
5	23	45	R3	46	16	36	R4	R5	34	R2
6	13	12	RV	12	R3	35	36	15	36	23
7	45	24	56	R4	R5	R2	35	23	56	46
8	RV	26	R1	13	13	56	15	15	24	34
9	36	R1	14	56	16	45	16	14	26	46

- **##:** Switch the 2 letters at those positions.
- **R#:** Shift the whole word to the right # times.
- **RV:** Reverse the entire sequence.

Do this for each digit on the 2 screens to complete the transposition process.

Step 3: Vigenere Cipher

On page 2 of the module, the top screen shows a word

Take the first letter of your encrypted word and the first letter on the top screen and translate them into numbers using the table below.

Now take the first number minus the second number, and then turn the new number back into a letter with the same table.

If the number is negative, add 26 until the number is between 0 – 25.

Repeat for each letter.

A	8	H	13	0	14	V	9
B	0	I	7	P	3	W	17
C	16	J	22	Q	19	X	15
D	12	K	23	R	4	Y	20
E	5	L	6	S	21	Z	24
F	11	M	18	T	25		
G	10	N	1	U	2		