

Trifid Cipher

<http://www.scytale.xyz/ciphers/trifid/>

Trifid ciphers are one of the most complicated substitution ciphers in this list. They work by splitting each letter into 3 parts, each part then interacts with other parts from other letters to form a secure encryption.

Encrypting

The key for a Trifid cipher is a grid with three, 3x3 boxes (see example on worksheet). Each cell in the grid is filled up randomly with letters. Each letter can be found by using a 3-part coordinate; (which box, which row, which column).

To encrypt a message, write out the letters in a line, underneath each letter write the letter's coordinates in a column.

For example (using the grid on the worksheet):

H	E	L	L	O
2	0	0	0	2
1	0	2	2	0
0	2	0	0	2

Now read off, from left to right, all of the coordinates in groups of three:

200,021,022,002,002

Now look up these new coordinates in the grid: UZXEE

Decrypting

To decrypt, convert each letter in the cipher text to a coordinate triplet and write the triplets out, from left to right, forming three equal-width rows.

Now read down each column to retrieve the original triplet and use your table to convert it into the original letter.