More Transposition Ciphers: Rail Fence Cipher

Another type of transposition cipher (where you move the letters around) is called the **rail fence cipher**.

Encryption - To encrypt a message:
1. Write it in a zig-zag, without spaces:

Hello World ⇨

H		L		O		O		L
	E		L		W		R		D

2. To get the cipher text (encrypted message), first write down the letters in the top row, then the letters in the bottom row:

H → L → O → O → L
E → L → W → R → D   ⇨ H L O O L   E L W R D

Encrypted message: HLOOLELWRD

Try to encrypt the following phrases (remember to write your encrypted message in **CAPITALS**.)

1. Market

2. Encrypt

3. Summer day

4. Phone Call

5. Dark Alley

_____

_____

6. I like cake

_____

_____

7. I can write codes

_____

_____

8. Today is a school day

_____

_____

Decryption - to decrypt a message:

1. Count the letters in the encrypted message:

    IERACCEM = 8 letters

2. Split the massage in the middle

    IERA   CCEM

3. Write the message in two lines, spaced out, with the letters in the second line below the gaps:

    I → E → R → A
      C → C → E → M

3. To get the plain text (the decrypted message), read the letters in a zig-zag, starting with the top left corner. You'll need to put any spaces in the correct places in the message:

    I   E   R   A
      ↘ ↙ ↘ ↙ ↘ ↙ ↘
        C   C   E   M

    I C E C R E A M

Decrypted message: Ice cream

Try to decrypt the following phrases (remember to write your decrypted message in **lower case**.)

1. TOSRRUES   Number of letters: ____

_____

_____

2. EEHNLPAT   Number of letters: ____

_____

_____

How would you decrypt a message with an odd number of letters?
(**Hint**: Think about how you write the word when you encrypt it.)

Encrypted word	Number of letters	Show how you would split the encrypted word	Decrypted message
3. DOWYORA			
4. COOIERCDL			

Now decrypt these sentences:

    5. HLOOLELWRD   Number of letters: ____

_____

_____

    6. BUWAELEHL   Number of letters: ____

_____

_____

    7. MTSSSFLAHIUEU   Number of letters: ____

_____

_____