

2022A4

ENCRYPTION

ANSWERS

Level 1: To solve this question, we can create the new alphabet (cipher):

Plain	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
Cipher	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	G

Since we are deciphering the message, lookup each letter in the “Cipher” alphabet and record the corresponding “Plain” letter.

Cipher	D	P	U	K	M	V	Y	P	U	K	B	Z	A	Y	F
Plain	W	I	N	D	F	O	R	I	N	D	U	S	T	R	Y

Answer: WIND FOR INDUSTRY

Level 2: To answer this problem, we can utilize the given equation.

Begin by converting the letters into numbers, using the convention of A=0, B=1... Z=25.

WIND

W=22, I=8, N=13, D=3

Next, find the encoded value for each number.

$$\text{New Letter} = (22 + 4) \text{ mod}(26)$$

$$\text{New Letter} = 26 \text{ mod}(26)$$

$$\text{New Letter} = 0$$

$$\text{New Letter} = (8 + 4) \text{ mod}(26)$$

$$\text{New Letter} = 12 \text{ mod}(26)$$

$$\text{New Letter} = 12$$



Wind Study is intended for grades 5-8 and 8-11
Questions posted on: Monday Answers posted on: Friday
Find downloadable one pages at www.oneenergy.com/one-energy-feed

$$\text{New Letter} = (13 + 4) \bmod(26)$$

$$\text{New Letter} = 17 \bmod(26)$$

$$\text{New Letter} = 17$$

$$\text{New Letter} = (3 + 4) \bmod(26)$$

$$\text{New Letter} = 7 \bmod(26)$$

$$\text{New Letter} = 7$$

Finally, convert the number back to a letter using the defined convention and repeat for the remaining numbers.

$$0 = A$$

$$12 = M$$

$$17 = R$$

$$7 = H$$

Answer: AMRH