

URL Used:<https://planetcalc.com/8047/>

- This solver appears to get slightly different results each time.

Ciphertext	Frequency Analysis	Frequency Analysis
	Key Acc	Deciph Acc
alpha	0.0	0.0
beta	0.04	0.18313618441006976
delta	0.34615384615384615	0.4981020666385491
epsilon	0.34615384615384615	0.48348549946294306
gamma	0.05	0.22807017543859648

Ciphertext	Textbook Solver	Textbook Solver
	Key Acc	Deciph Acc
alpha	0.0	0.0
beta	0.04	0.07655444343342432
delta	1.0	1.0
epsilon	0.8076923076923077	0.8692266380236305
gamma	0.2	0.40350877192982454

Ciphertext	Online Solver	Online Solver
	Key Acc	Deciph Acc
alpha	0.0625	0.0625
beta	0.24	0.24
delta	1.0	1.0
epsilon	1.0	1.0
gamma	0.25	0.25

1. The choice of key used to encrypt doesn't really affect the results of the evaluation as we are finding the frequency of each letter and matching it to its ETAOIN counterpart. This would only result in a different letter being matched to each plaintext letter.
2. Frequency analysis gets more accurate as the length of text increases, the longer the text, the more likely its character distribution matches ETAOIN. That being said, if the text is in a language other than english, we need to use a frequency specific to that language to get more accurate results.

3. If you knew the language you could just change the frequency to something that is specific to that language. If you did not know the language you could run it against a range of frequencies and keep the best one.
4. You could run it through multiple iterations, each time checking it against an english dictionary and tweaking the frequency based on that. Once the results matched a high enough % of english words, you could return that as the result.