(a) FREQUENCY ANALYSIS

You can use frequency analysis to determine what type of cipher has been implemented:

- Looks like usual English frequencies, but for different combinations of letters –SUBSTITUTION
- Looks like usual English frequencies – TRANSPOSITION
- Doesn't look like usual English frequencies at all – VIGENERE
- ADF(V)GX only – ADFG(V)X

(b) SUBSTITUTION

- Check for Caesar shifts
- Check for substitution (knowing a few letters such as 'THE' can really help this tool / running a couple of times)
- Try substituting manually (using frequency analysis / common beginnings or endings as guidance)

(c) VIGENERE

- Run through an automatic decoder
- Try Kasiski Analysis to check frequencies for different spacings
- Consider other similar ciphers (e.g. Porta)

(d) TRANSPOSITION

- Run through Word (find and replace spaces, check character count)
- Check possible factors of character count
- Check for row substitutions (using low values of n and looking across rows)
- Check for column substitutions (using high values of n and looking down columns)
- Consider other special cases (diagonals / double transpositions etc.)

(e) ADFGVX

- Test with an automatic decoder
- Consider breaking up into a transposition (check for unusual characters at the end)
- Then treat as Polybius Square cipher to break down into single characters – run through Freq Analysis again and treat as substitution

(f) OTHER THINGS TO BE AWARE OF

- Always look for clues in part A / earlier in the challenge
- Knowing likely first or last words is always helpful
- Always be aware of the possibility of multiple ciphers combined (e.g. substitution and transposition)
- Spaces may be helpful – but be wary (especially later in the challenge where they may be a distractor)