Question: Frequency Analysis on Monoalphabetic Substitution Cipher

You are given the following ciphertext, which was produced using a Monoalphabetic Substitution Cipher:

BFPXTRWTOW CEN BRTEWTA JNFVU E NJLNWFWJWFGV
BFPXTR CXTRT TEBX QTWWTR MEPN WG
EVGWXTR VGWFBT WXT PEWWTRV GZ WXT CGRAN WXT
BGMMGV QTWWTRN GZ WXT TVUQFNX
EQPXELTW XTQP FV ATBGAFVU E NMEQQ UJTNN EW ZFRNW
WTNWFVU WXTM FV WXT WTOW EVA
WXT RTNJQW LTBGMTN BQTERTR WXT PRGBTNN RTDTEQN
WXT NTBRTW GZ WXT BGAT GVBT WXT
MEPPFVU FN BGRRTBW WXT MTNNEUT XFAATV FN WXEW
NJLNWFWJWFGV BFPXTRN ERT NFMPQT
LJW ZRTIJTVBK EVEQKNFN MESTN WXTM CTES

Tasks:

1. Perform letter frequency analysis on the ciphertext. Create a table of letter counts and
percentages.
2. Compare the letter frequencies with standard English frequencies.
3. Make educated guesses for the most common ciphertext letters (e.g., likely e, t, a, o).
4. Look for common patterns:
o Single-letter words (a, I)
o Two-letter words (to, of, in, …)
o Three-letter words (the, and, for, …)
5. Iteratively apply substitutions and reveal more plaintext.
6. Fully decrypt the message.