



An "\*" in front of a word indicates that it is a proper noun (the name of a person, place or thing; usually capitalized).

**Words To Know**

- aristocrat** - simple substitution cipher with word divisions.
- ciphertext (CT)** - the text produced by applying an encryption method/system to a plaintext message.
- con** - a construction; a cipher problem.
- crib** - a piece of the plaintext. The Caesar tip is a crib enciphered using the Caesar cipher.
- nom** - code name (nom-de-plume) used by some members for anonymity and informality.
- patristocrat** - an Aristocrat cipher in 5-letter groups without word divisions.
- plaintext (pt)** - original message before encipherment.
- sol** - a solution.

**Frequency Charts**

A frequency chart is a table that shows the count of each letter in a block of ciphertext.

The first few entries in the frequency chart for the above con are as follows:

A	Z	N	P	J	K	R	S	B	Q	T	X	G	I
9	8	7	7	6	6	6	6	5	5	5	5	4	4

Compare the frequency chart to the high-frequency letters for a language. For example, the high-frequency letters for english are ETAONIRSH (see The ACA and You, page 14 and 18). This information can be helpful in determining the identity of a ciphertext letter.

**Things To Look For**

Read the title and think of any words that may appear in the plaintext based on the subject. Languages have distinct characteristics that aid in solving a con. In English, the following are common word beginnings:

an at be de dr en in no pre pro re se th un

The following are common word endings:

ance ant ate (a)ble ded ed en er ere es ese es est ful ght ine ing ion is ist ive ll lly ment ous rst ses sts tion

The following are common short words:

an and are from has have her his in into is it on once not see than that the there these this those to was why you

**Pattern Words**

Pattern words have one or more letters that are repeated. These repeated letters provide a clue to the word's identity.

Start by taking a word and assigning numbers to each letter starting at the left with 1. Use the same number for repeated letters. Now you can look for the number based pattern in a pattern word list to see which words match the pattern.

Common pattern words worth memorizing:

1231	123142	12342
that	people	which
122	12343	123314
all	there	little
off	these	
see	where	
too		

Example pattern words and results from the above con:

QAABJI	IZPMZIA	TPKNNAT
122345	1234215	1234451
accept	garbage	dragged
effort		dropped
seeing		schools

**Where to go from here?**

Try out some of the lower number cons. As the numbers get larger, the cons get more difficult so don't get frustrated if you can't solve them all at first.

The ACA website (<http://www.cryptogram.org>) has many great resources for new members. Definitely check out the Young Tyros Newsletters in the Resources section.

The ACA and You is also a great reference guide for learning new techniques and cipher types.

Be sure to keep an eye out for the "For Sale" section in the latest copy of the Cryptogram. There are many great publications created by ACA members.

\* Some of the information provided in this document has been extracted from The ACA and You. Refer to it for more detailed explanations and information.