AEGINRST has over 150 transposals, previously listed and discussed at length in Word Ways and Making the Alphabet Dance. What about the subsets of those letters? There are eight ways of selecting seven letters from AEGINRST, and all of them can be rearranged to form valid words. All are common and in Webster’s Third.

AEGNRS regains AEGINRT granite AEGINST seating AEGIRST gaiters
AEINRST stainer AGENRST strange AGINRST staring EGINRST resting

There are 28 ways of selecting six letters from AEGINRST, and all of them can be rearranged to form valid word. 26 are in Webster’s Third; two are further discussed in notes at the end of this article.

AEGINR regain AEGINS easing AEGINRT eating AEGIRST agrise
AEGIRT gaiter AEGIST ageist (1) AEGINT eating AEGNRT garnet
AEGNST agents AEGRST grates AEINRS arisen AEINRT retain
AEINST tisane AEIRST satire AENRST astern AGINRS grains
AGINRT rating AGINST giants AGIRST gratis AGNRST grants
AINRST strain EGINRS singer EGINRT engirt EGINST ingest
EGIRST tigers EGNRST streng (2) EINRST insert GINRST string

There are 56 ways of selecting five letters from AEGINRST, and all but one of them, the all-consonant GNRST, can be arranged to form valid words. 50 can be found in Webster’s Third.

AEGIN gaine AEGIR aegir AEGIS aegis AEGIT Getai
AEGNR anger AEGNS geans AEGNT agent AEGRS rages
AEGRT great AEGST stage AEINR reina AEINS anise
AEINT entia AEIRST arise AEIRRT irate AEIST iteas
AENRS snare AENRT antre AENST antes AERST stare
AGINR grain AGINS gains AGINT giant AGIRRT gair
AGIRT tragic AGIST agist AGNRS gran AGNRRT grant
AGNST gnats AGRST strag (3) AINRST rains AINRT train
AINST stain AIRST stair ANRST rants EGINR reign
EGINS singe EGINT tinge EGIRTS grise EGIRT tiger
EGIST tiges EGNRS grens (5) EGNRT grent (5) EGNST gents
EGRST grets (4) EINRS siren EINRT inert EINST inset
EIRST tries ENRST stern GINRS rings GINRT grint (5)
GINST sting GIRST grist GNRST INRST snirt

There are 70 ways of selecting four letters from AEGINRST, and 58 can be found in Webster’s Third. The five all-consonant words cannot be solved.
There are 56 ways of selecting three letters from AEGINRST, and all but the 10 all-consonant combinations can be rearranged to form valid words. 44 of these can be found in Webster’s Third. 

(1) AGEIST is not in the original printings of Web3, but can be found in 6000 Words and 12000 Words
(2) STRENG is found in Web2
(3) STRAG is found in Web 2; the two-word term G STAR can be found in Web3
(4) one more word can be found in Web2: GRETS
(5) three more words can be found in the OED: GRENS, GRENT, GRINT
(6) three more words can be found in Web2: AINE, SAIE, GRET. In Web2, AINE has a circumflex over the I and an acute accent over the E; this can be replaced by AINE from the OED, with no accents
(7) four more words can be found in the OED: GAIE, GAIS, GEIR, GREN
(8) one word can be found in Web2: NIE
(9) one word can be found in the OED: GAI