HALFWAY WORDS

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Letters and numerals stand as atoms and opposing symbols of a basic dichotomy: literature versus science, intuition versus logic, creativity versus automation. Since the gematria of Biblical times, mankind has delighted to marry the two elements by forms of letter arithmetic.

This article introduces a form of letter arithmetic called halfway words. These are trios of words where every letter in the middle word is exactly midway in the alphabet between the corresponding letters in the end words: AGE-JIG-SKI, NAVY-TERN-ZINC, CASED-DITCH-EQUAL. J is exactly halfway between A and S in the alphabet, I is halfway between G and K, and G is halfway between E and I; thus, JIG is halfway between AGE and SKI. Similarly, TERN is halfway between NAVY and ZINC, and DITCH halfway between CASED and EQUAL. Halfway words are closely related to collinear words, discussed in the May 1991 and August 1991 Kickshaws; significant differences are described at the end of this article.

Some 66 halfway trios are found among the two-letter words in the Official Scrabble Players Dictionary, including AD-HE-OF, AD-HI-ON, ID-OF-UH, IF-LO-OX, and LA-RE-XI. Three-letter and four-letter halfway trios number in the thousands. Twenty-six examples of each (one for each letter of the alphabet) are given below.

all-hop-out, avid-cuff-etch  no-w-pro-rug, navy-peso-ripe
bad-eel-hit, back-echo-hems  oil-ten-yap, onyx-rots-upon
cup-ion-oil, city-mess-warm  pus-sop-vim, plug-rook-trio
dim-her-law, dawn-hero-limp  qua-roh-sic, quip-omen-meal
ego-get-icy, ecru-meow-ugly  rid-son-tux, raft-ship-toll
fex-icy-lax, flap-mock-tref  sky-too-use, sign-memo-gasp
gnu-mow-spy, guru-prop-yolk  tax-wet-zip, tong-whom-zaps
hep-lot-pyx, hark-mesh-tite  ugh-ken-act, unit-toes-spar
irk-nor-sly, iced-kill-most  vow-rho-nag, view-rein-name
jut-nor-rip, jack-olio-twos  wow-ump-ski, wigs-reel-mace
kin-mop-our, king-glop-copy  xis-mop-bum, yxst-mols-beer
lid-pen-tax, lieu-plot-toys  yip-pen-gal, your-shop-main
mug-ski-yak, mind-pope-surf  zip-too-nun, zips-wool-tune

Halfway word trios of five letters or more are far less common, and therefore more intriguing. For each letter of the alphabet except X, a pair of halfway word trios is provided.

audit-gongs-mixer, axiom-broil-cluck
beaus-knell-twice, bijou-denim-farce
cigar-jokes-quoit, cased-ditch-equal
diode-hello-laity, disco-comet-buggy
eruct-molds-ulcer, elude-comic-arena
faked-neigh-vigil, forum-drops-bulky
grace-mohel-slogs, gonad-flick-eider
hired-ketch-naval, halve-ghoul-forts
incur-gills-educt, imide-knell-moats
japed-perch-vital, jived-notch-rural
knurl-oomph-spend, kaput-germs-citer
loopy-orlop-ruing, licit-gongs-buyer
mousy-polio-siege, moxie-gruel-auras
nixed-pouch-rural, nitro-helot-badly
orbit-hokes-altar, oiled-hooch-aural
power-slugs-visit, parse-scull-vekses
quest-tolls-wiser, quite-knell-egads
ranch-scoff-tepid, rival-ketch-dared
spike-knell-clams, solve-photo-marry
table-rhino-poppy, tatty-shift-rodeo
ulcer-rolls-crust, usual-strep-quoit
vague-tempo-risky, valid-scoff-perch
wafer-reels-midst, wrock-nurse-exurb
yeggs-video-smack, yogic-sleek-micas
zooi-id-oriel-ducat, zoned-slick-lidar

Six-letter combinations are extremely rare. The 28 examples below were all that I could find. All words in this list and the preceding lists are found in the OSPD, except for MITIOR, PORTIO and ZOOTIC, all found in Stedman’s Medical Dictionary.

bulbar-kopeck-tithed     moulin-phloem-sacral
capote-merino-witchy     moulin-pirogi-scored
caveat-heughs-mitior      mullas-propel-sortie
dipped-mensch-valval      muckae-trined-zootic
faunae-helped-picric      octavo-repent-uglify
fulham-kronen-portio      papyri-sermon-vitals
fusile-googol-hikers      pavise-scroll-venues
glebae-nocked-uratic      pulped-smooch-vernai
ickier-knolls-mysost      purist-smolts-velour
living-nereid-panada      raphae-termed-vitric
luffas-pommen-tittle      rawst-skulls-tesser
mental-scorched-yapped    rental-scorch-tapped
misfit-reniga-waller      senior-timers-umlaut
moper-prongs-sunlit      tactic-weewe-zigzag

Only five seven-letter examples are known to me. These words are found in the OSPD, except for TAILGUT and XANTHAN, found in Stedman’s Medical and Webster’s II New Riverside, respectively.
auxetic-grumped-morulae   fierier-megohms-tailgut
milltier-pommels-sunfast  pillbox-tempehs-xanthan
ballast-kennels-tippier
Half the alphabet has place numbers evenly divisible by two: B, D, F, ..., Z; the rest are called odd. To sandwich a halfway word, two end words must fall into identical groups at each position. For example, ABLE is odd-even-even-odd (OEEO). Any other word that mates with ABLE to produce a halfway word must also be OEEO. All four-letter words fall into 16 mutually exclusive groups (OOOO, OEEO, EEOO, etc.). Seven-letter words fall into 128 such groups. Thus, ABLE has potential matches among 1/16th of all four-letter words, but ABILITY has potential matches among only 1/128th of all seven-letter words. And ten-letter words are separated into 1024 unique groups! Additionally, end words of each trio must differ from each other at every position, a condition that becomes increasingly restrictive with length.

On the other hand, halfway words are somewhat easier to find than one might expect because of an amazing symmetry, previously noted in *Word Ways*, among the vowels and semi-vowels:

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A E I O U W Y
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Not only are all vowels and semi-vowels odd-numbered (an event whose probability is less than one percent), but E is exactly halfway in the alphabet between A and I, O halfway between I and U, W halfway between U and Y, and O halfway between E and Y!

A natural corollary to halfway words is third-way words. These are quartets of words where each letter of the first word differs from the same position in the last word by a multiple of three, and the letters of the middle words fall exactly one-third and two-thirds of the distance between those two end letters. Besides AX-ES-IN-MI, other third-way quartets found in the OSPD are

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act-fir-kop-pun  cry-dor-elk-fid  feh-ill-lip-off
alp-coo-ern-gum  cry-dos-elm-fig  ivy-lot-oho-raj
ark-col-elm-gin  cry-for-ilk-lid  raj-sel-tin-ump
ars-coo-elk-gig   dud-irk-nor-sly
ave-bog-chi-dak   fig-ilk-loo-ors   rids-slim-tong-ursa
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How do halfway words differ from collinear words? Halfway words number letters strictly arithmetically, from 1 to 26. N is halfway from B to Z, and also halfway from Z to B. Collinear words derive from geometry: (a) letters are considered to continue cyclically in an infinite line ABC...XYZABC...XYZABC..., so A is the 1st, 27th, 53rd, etc. letter; (b) the final letter of a trio must have a number higher than the starting letter. Thus for collinear words, N is halfway from B to Z, but A is halfway from Z to B. As a result, collinear midpoints are not unique: AID-JEL-SAT and AID-WRY-SAT are both collinear. Indeed, JEL, JERY, JRL, JRY, WEL, WEY, WRL and WRY are all possible midpoints on the AID-SAT line.

I close with a brief list of words often occurring in trios: JELL, LEI, MEMO, OHM, IRK, HELL, PHI, LOO, IMP, FIX, RHO, SOIL, ELK and MOM occurred at least 20 times apiece. Mavens may want to experiment with these words first.