This article responds to the challenge posed by Susan Thorpe on page 212 of the August 2001 issue of Word Ways. We seek a word that still produces valid words when the first letter is replaced by A, and when the second letter is replaced by B, etc. However, much of this article is taken up with two generalisations. The first is to examine other word lengths. In the second, we depart from the concept of invariance, in which the position of a letter in the word is the same as its position in the alphabet, and merely require that successive positions in the words be occupied by successive letters of the alphabet. All words are in the OED or Webster 2, except those marked Ch (Chambers), EDD (English Dialect Dictionary), Lo (Longman), OSPD (Official Scrabble Players Dictionary), Pull (Pulliam). Pname = personal name, and vf = OED variant form.

4-letter words

Firstly, I respond directly to her challenge:

**ABCD:** ORAS, OBAS, ORCS, ORAD
    ORES, OBES, ORCS, ORED (Susan Thorpe example)
    OWLE (vf), AWLE, OBLE, OWCE (vf), OWLD
    SPAC (vf), APAC (phrase?), SBAC, SPCC (acronym), SPAD
    USEL, ASEL, UBEL (German übel, whence evil), USCL (United Society for Christian Literature), USED

Next, I looked for similar sets of words, but with BCDE, CDEF, etc. in place of ABCD. The numbers of examples found (notice the zero counts!) were A 5, B 37, C 11, D 157, E 8, F 1, G 3, H 26, I 1, J 28, K 77, L 9, M 37, N 5, O 0, P 2, Q 16, R 16, S 1, T 39, U 0, V 31, W(XYZ) 1.

Tackling the difficult ones first (which will yield some awkward answers):

**FGHI:** WELY, FELY (vf), WGLY (vf), WEHY, WELI (Pull)
    GHIJ: CLUB, GLUB, CHUB, CLIB, CLUJ (Web3)
    CLUM (Pull), GLUM, CHUM, CLIM, CLUJ (Web3)
    CLUT (vf), GLUT, CHUT, CLIT, CLUJ (Web3)
**IJKL:** ASE, I SEE, AJEE, ASKE, ASEL
**PQRS:** SAAT (vf), PAAT (vf), SQAT (vf), SART, SAAS (EDD)
    SEAT, PEAT, SQAT (vf), SERT, SEAS
**WXYZ:** ONES, WNES, OXES (OSPD), ONYS, ONEZ

Now a small selection from the ones with most answers:

**DEFG:** BANT, DENT, BAFT, BANG
    GIRT, DIRT, GERT (vf = great, or pname), GIFT, GIRG
    GONE, DONE, GENE, GOF, GONG
    HANT, DANT, HENT, HAFT, HANG
**KANT:** DANT, KENT (whale blubber), KAF (Swedish, whence chaft), KANG

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Finally, some examples with other alphabetic sequences having some everyday words:

**HIJK:** MANA HANA (Old English, a cock), MINA, MAJA, MANK
MARO HARO, MIRO, MAJO, MARK
PUNA HUNA (in Highlands), PINA, PUJA, PUNK
RACE HACE, RICE, RAJE, RACK

**JKLM:** SEAT JEAT, SKAT, SELT, SEAM

**LMNO:** SAIT LAIT, SMIT, SANT, SAIO (vI)

**MNOP:** SEED MEED, SNED, SEOD, SEEP

**QRST:** CATS QATS, CRTS (CRTs), CASS, CATT (vI)

**RSTU:** TAPS RAPS, TSPS (teaspoonsful), TATS, TAPU

**TUVW:** BARE TARE, BURE, BAVE (Pull), BARW (vI)
DEES TEES, DUES, DEVS (OSPD), DEEW (vI)
REES TEES, RUES, REVS, REEW (vI)
WIDE TIDE, WUDE, WIVE, WIDW

**VWXYZ:** PINT VINT, PWNT, PI XT (vI), PINY

### 5-letter words
Examples here are much scarcer, and use mainly obsolete words; there are single examples for BCDEF and HIJKL, and five for DEFGH:

**BCDEF:** SARI E BARIE, SCRIE, SADIE (p-name), SAREE, SARIF

**HIJKL:** MARAS HARAS (Pull), MIRAS (Lo), MAJAS, MARKS, MARAL

**DEFGH:** BARTE (Ch) DARTE (vI), Berte, BAFTE (vI), BARGE, BARTH
LINTE (vI) DINTE (vI), LENTE (vI), LIFTE (vI), LINGE, LINTH (vI)
LOUTE (vI) DOUTE (vI), LEUTE (vI), LOFTE (vI), LOUGE (vI), LOUTH

   (in Lincolnshire)
LYNTE (vI) DYNT E, LENTE, LYFTE, LYNGE, LYNTH (all vI)
SIE TE (vI) DIETE (vI), SEE TE, SIFTE (vI), SIEGE, SIETH

### 6-letter words
Even the fifth of the six words could not be found.