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 ARAS, OBAS, ORCS, ORAD
      ORES ARES, 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: ASEE I SEE, AJEE, ASKE, ASEI
      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 DANT, BENT, BAFT, BANG
      GIRT DIRT, GERT (vf = great, or pname), GIFT, GIRG
      GONE DONE, GENE, GOFI, GONG
      HANT DANT, HENT, HAFT, HANG
      KANT DANT, KENT (whale blubber), KAFI (Swedish, whence chaft), KANG

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LANE DANE, LENE, LAFE (Pull), LANG
LINE DINE, LENE, LIFE, LING
LINT DINT, LENT, LIFT, LING
LONE DANE, LENE, LOFE, LONG
RINE DINE, RENE (= furrow or plume), RIFE, RING
SANE DANE, SENE, SAFE, SANG
SINE DINE, SENE, SIFE (Pull), SING
SONT DON'T, SENT, SOFT, SONG
TINT DINT, TENT, TIFT, TING
WANT DANT, WENT, WAFT, WANG
WART DART, WERT, WAFT, WARG
WINE DINE, WENE, WIFE, WING
WONT DON'T, WENT, WOFT, WONG (antonym of wight?)

KLMM:ARAS KRAS, ALAS, ARMS, ARAN (adj)
COOP KOOP (Pull), CLOP, COMP, COON
GAIE KAIE, GLIE, GAME, GAIN
POOP KOOP (Pull), PLOP, POMP, POON

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
JLKM: SEAT JEAT, SKAT, SELT, SEAM
LMNO: SAIT LAIT, SMIT, SANT, SAIO (vf)
MNOP: SEED MEED, SNED, SEOD, SEEP
QRST: CATS QATS, CRTS (CRTs), CASS, CATT (vf)
       RSTU TAPS RAPS, TSPS (teaspoonsful), TATS, TAPU
TUWV: BARE TARE, BURE, BAVE (Pull), BARW (vf)
       DEES TIES, DUES, DEVES (OSPD), DEEW (vf)
       REES TIES, RUES, REV, REEV (vf)
       WIDE TIDE, WUDE, WIVE, WIDW
VWXYZ: PINT VINT, PWNT, PIXT (vf), 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 BARRIE, SCRIE, SADIE (p-name), SAREE, SARIF
HIJKL: MARAS HARAS (Pull), MIRAS (Lo), MAJAS, MARKS, MARAL
DEFGH: BART (Ch) DARGE (vf), BERE, BAFTE (vf), BARGE, BARTH
       LINT (vf) DINTE (vf), LENTE (vf), LIFTE (vf), LINGE, LINTH (vf)
       LOUTE (vf) DOUTE (vf), LEUTE (vf), LOFTE (vf), LOUGE (vf), LOUTH
       (in Lincolnshire)
       LYNTE (vf) DYNTE, LENTE, LYFTE, LYNGE, LYNTH (all vf)
       SIETE (vf) DIETE (vf), SEITE, SIFTE (vf), SIEGE, SIETH

6-letter words

Even the fifth of the six words could not be found.