One-Tile Scrabble Records

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January 13, 2021

Abstract

What is the highest score achievable in Scrabble by playing just one tile? An exhaustive computational search gave the maximum score for each position on the board, concluding that the greatest score is equal to the number of squares: 225 (CSW19/SOWPODS), or 213 (TWS).

Figure 1: Highest scores by playing a single tile for each square (CSW19).

It is easy to show that the upper bound for invalid words is 399. We will consider valid words, first from Collins Scrabble Words (CSW19, formerly SOWPODS) and then from the less extensive NASPA Word List (NWL/TWL).

1 CSW

For each square of the board, Figure 1 shows the maximum score that can be made by playing a single tile on that square using only words from CSW. The center square H8 is excluded since Scrabble rules do not allow a single tile to be played there: the first play must overlap the center square and it must consist of at least 2 tiles. If we ignore this rule, the best one-tile play on H8 would be (CHEQUE)R(WORKS), (HYPE)R(COMPLEX) for 132 points, where previously played tiles are enclosed in brackets. Every other score in Figure 1 is possible in a valid Scrabble game, though some of the squares one in from the edge of the board require a non-trivial set-up. All combinations of words that reach each score are given in Appendix A.

Interestingly, only 15 squares can use two 15-letter words to achieve their maximum score. Six of these use new additions to CSW19: QUICK-SILVERIEST and QUARTERBACKINGS. The shortest word that appears in Appendix A is QUARTZY, while the shortest combined pair is EQUAL-IZING + ZOOPHYTIC.

The most popular word is CHEQUERWORKS, which can be used to produce the highest possible score on 40 squares (not including the center square). This is partly due to its two useful tile removals: the first R and the S.

The highest possible single-tile score over all squares is 225, due to an S on O15 forming QUICKSILVERINGS + METHOXYBENZENES. Note that their base score of 75 is also the unique highest possible base score (i.e. ignoring bonus squares). Figure 3-a shows the highest 1-tile base scores for each square. There is a noticeable upward trend from the top-left of the board to the bottom-right, which may be explained by the prevalence of common suffixes in English compared to prefixes. Double- or triple-letter squares may use different words to achieve their maximum score when we ignore the bonus: these are listed in Appendix B.

Figure 2: Highest scores by playing a single tile for each square (TWL06).

2 TWL

Figure 2 shows the equivalent diagram for scores using only words from the TWL. In most cases they are less than the maximum scores using CSW since there are fewer words available.

In this case the highest score, 213, is tied between three pairs of words, all completed (as before) with an S on O15: KATZENJAMMERS with either HYDROXYAPATITES or HYDROXYPROLINES, and MICROTECHNIQUES + HYDROXYZINES. The shortest of these words, HYDROXYZINES, has only 12 letters. It is also the most popular word, helping to max out a whopping 63 squares. Only 12 squares use two 15-letter words with the shortest word being QUARTZ and the shortest pairs being all four combinations of MEZQUITE or MEZQUITS with one of ZOOPHYTIC or SHOWBIZZY, all intersecting on a Z. The word SHOWBIZZY also appears crossed with itself on two occasions: an unexpected example of a maximum-scoring set-up that uses both blanks for the extra Z's.

All highest-scoring plays are listed in Appendix C, with the best plays by base score - where different - in Appendix D.
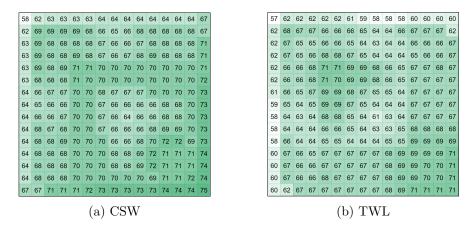
3

58	62	63	63	63	63	64	64	64	64	64	64	64	64	67
62	69	69	69	69	68	66	65	66	68	68	68	68	68	67
63	69	68	68	68	68	67	66	66	67	68	68	68	68	71
63	69	68	68	69	68	67	66	67	68	69	68	68	68	71
63	69	68	69	71	71	70	70	70	70	70	70	70	70	71
63	68	68	68	71	70	70	70	70	70	70	70	70	70	72
64	66	67	67	70	70	68	67	67	67	70	70	70	70	73
64	65	66	66	70	70	67	66	66	66	66	68	68	70	73
64	66	66	67	70	70	67	66	64	66	66	68	68	70	73
64	68	67	68	70	70	67	66	66	66	68	69	69	70	73
64	68	68	69	70	70	70	66	66	68	70	72	72	69	73
64	68	68	68	70	70	70	68	68	69	72	71	71	71	74
64	68	68	68	70	70	70	68	68	69	72	71	71	71	74
64	68	68	68	70	70	70	70	70	69	71	71	72	74
67	67	71	71	71	72	73	73	73	73	73	74	74	74	75

(a) CSW

57	62	62	62	62	62	61	59	58	58	58	60	60	60	60
62	68	67	67	66	66	66	65	64	64	66	67	67	67	62
62	67	65	65	66	66	65	64	63	64	64	66	66	66	67
62	67	65	66	68	68	67	65	64	64	64	65	66	66	67
62	66	66	68	71	71	69	69	68	66	65	67	67	68	67
62	66	66	68	71	70	69	69	68	66	65	67	67	67	67
61	66	65	67	69	69	68	67	65	65	64	67	67	67	67
59	65	64	65	69	69	67	65	64	64	64	67	67	67	67
58	64	63	64	68	68	65	64	61	63	64	67	67	67	67
58	64	64	64	66	66	65	64	63	63	65	68	68	68	68
58	66	64	64	65	65	64	64	64	65	65	69	69	69	69
60	67	66	65	67	67	67	67	67	68	69	69	69	69	71
60	67	66	66	67	67	67	67	67	68	69	69	70	70	71
60	67	66	66	68	67	67	67	67	68	69	69	70	70	71
60	62	67	67	67	67	67	67	67	68	69	71	71	71	71

(b) TWL

Figure 3: Heatmaps of highest single-tile scores ignoring bonuses.

3 Computation

Consider the slightly larger CSW list. It has around 279,500 words, meaning that a brute-force search of all combinations on 120 squares (due to reflective symmetry) would take in the order of 10^{14} checks. This is doable within a reasonable amount of time assuming efficient sub-word checking and score calculation, but we can improve on this algorithm greatly.

The results above were found by first setting reasonably tight lower bounds. A small subset of 15-letter words was brute-force checked, empirically chosen such that all squares had at least one valid scoring play. The entire dictionary was then processed to create, for each position 1-15 and each letter a-z, a list of words such that the given letter can be removed from the word at the given position on the board leaving behind valid sub-words or single letters. Each list was sorted by the words' base scores. Note that "position" does not mean the index in the word: FLEXOGRAPHIC could have the O removed from position 5, 6, 7, or 8 (FLEX_GRAPHIC___, _FLEX_GRAPHIC__, __FLEX_GRAPHIC_, ___FLEX_GRAPHIC). The sizes of these lists ranged from 0 to 80,617 with a mean of 7347 words. For each letter on each square, pairs of words in the corresponding positional lists were checked. The mean number of checks per letter per square was still over 2×10^8, but by considering only those whose combined base score at least matched the previously established lower bound (taking bonus squares into account) this was reduced to only 805, giving a total number of checks of around 2.5×10^6. Further optimisations are possible but this was found to be sufficient as the search was completed in only a few seconds.

Appendices

A Best Plays Using Words from CSW19

Highest scoring single-tile plays for each square, using only valid words from CSW19. Since the board is symmetrical across the main diagonal, squares are not listed if their reflected counterpart has already appeared. The words are given in (column, row) order, where letters indicate columns and numbers indicate rows (this can vary by region). For example, the best single-tile play on A4 is a 'Z' completing BENZALDEHYDES in column A and ZOOPHITIC in row 4. Previously played tiles are enclosed with brackets and blank tiles are shown in lower case. Occasionally the words can be swapped to give the same score or blanks can be moved; these minor variations are not listed.

A1 P(RECOGNIZING), P(REQUALIFYING)
A2 (E)P(OXIDIZING), P(REQUALIFYING)
A3 (HA)P(HAZARDRY), P(REQUALIFYING)
A4 (BEN)Z(ALDEHYDES), Z(OOPHYTIC)
A5
A6 } (HA)P(HAZARDRY), P(REQUALIFYING)

A7
A8
A9 } (SCHIZO)P(HYTE), P(REQUALIFYING)
A10
A11
A12 (EQUALI)Z(ING), Z(OOPHYTIC)
A13
A14 } (HYDROXYZINE)S, S(JAMBOKkING)
A15 (METHOXYBENZENE)S, S(JAMBOKkING)
B2
B3
B4 } (E)X(CHEQUERING), (E)X(TEMPORIZATION)
B5
B6 { (E)X(CHEQUERED), (E)X(TEMPORIZATION)
    { (BEN)Z(ALDEHYDES), Z(OOPHYTIC)
B7 (E)X(CHEQUERS), (E)X(TEMPORIZATION)
B8 (E)X(CHEQUER), (E)X(TEMPORIZATION)
B9 (HIGHJACK)E(D), (D)E(OXYGENIZING)

B10 (QUADRUPLE)X(ING), (E)X(TEMPORIZATION)

B11⎫ ⎧(EXCHEQUER)E(D), (D)E(MYTHOLOGIZING)
B12⎭ ⎨(JACKHAMMER)E(D), (D)E(OXYGENIZING)
⎩(QUADRUPLE)X(ING), (E)X(TEMPORIZATION)

B13⎫ ⎧(EXCHEQUER)E(D), (D)E(MYTHOLOGIZING)
B14⎭ ⎩(JACKHAMMER)E(D), (D)E(OXYGENIZING)

B15 (METHOXYBENZENE)S, S(JAMBOKkING)

C3 (E)X(CHEQUERING), (E)X(TEMPORIZING)

C4⎫ ⎧(E)X(CHEQUERING), (E)X(TEMPORIZING)
C5⎭ ⎩(HYP)O(MIXOLYDIAN), (ZO)O(GEOGRAPHICAL)

C6 (PSYCH)O(SEXUALITY), (ZO)O(GEOGRAPHICAL)

C7 (CRYPTO)Z(OOLOGY), (ME)Z(QUITES)

C8 (FLEX)O(GRAPHIC), (ZO)O(PSYCHOLOGY)

C9 (CRYPTO)Z(OOLOGY), (ME)Z(QUITES)

C10 ⎧(EXCHEQUER)E(D), (D)E(MYTHOLOGIZED)
⎩(QUADRUPLE)X(ING), (E)X(TEMPORIZING)

C11⎫
C12⎪
C13⎬ (JACKHAMMER)E(D), (D)E(OXYGENIZING)
C14⎭

C15 (METHOXYBENZENE)S, (DI)S(QUALIFYING)

D4 (E)X(CHEQUERING), (E)X(TEMPORIZING)

D5 (PHOT)O(XYLOGRAPHY), (MEL)O(DRAMATIZING)

D6 ⎧(PHOT)O(OXIDIZING), (HEM)O(DYNAMICALLY)
⎨(PHOT)O(OXIDIZING), (HYP)O(GLYCAEMIC)
⎩(ZINC)O(GRAPHICAL), (HYP)O(MIXOLYDIAN)

D7 ⎧(PHOT)O(OXIDIZED), (HEM)O(DYNAMICALLY)
⎩(PHOT)O(OXIDIZED), (HYP)O(GLYCAEMIC)

D8 (CRYPTO)Z(OOLOGY), (BEN)Z(ANTHRACENES)

D9 (TRANQUIL)I(ZING), (HEM)I(CRYPTOPHYTE)

D10 ⎧(EXCURSION)I(ZING), (HEM)I(CRYPTOPHYTE)
⎩(QUIZzICAL)I(TIES), (HEM)I(CRYPTOPHYTE)

D11 (CONTEXTUAL)I(ZING), (HEM)I(CRYPTOPHYTE)

D12 ⎧(CONTEXTUAL)I(ZED), (HEM)I(CRYPTOPHYTE)
⎨(JABBERWOCK)I(ES), (HEM)I(CRYPTOPHYTE)
⎨(JACKHAMMER)E(D), (D)E(OXYGENIZING)
⎩(QUICKSILVER)I(EST), (HEM)I(CRYPTOPHYTE)

D13 $\begin{cases} \text{(JABBERWOCK)I(ES), (HEM)I(CRYPTOPHYTE)} \\ \text{(JACKHAMMER)E(D), (D)E(OXYGENIZING)} \end{cases}$

D14 (JACKHAMMER)E(D), (D)E(OXYGENIZING)

D15 $\begin{cases} \text{(QUADRUPLE)X, (E)X(TEMPORIZING)} \\ \text{(CHALCEDONY)X, (E)X(TEMPORIZING)} \end{cases}$

$\left.\begin{matrix} \text{E5} \\ \text{E6} \end{matrix}\right\}$ (HYPE)R(CIVILIZED), (HYPE)R(EXCITEMENT)

E7 $\begin{cases} \text{(QUARTE)R(BACKINGS), (HYPE)R(CIVILIZED)} \\ \text{(QUARTE)R(BACKINGS), (HYPE)R(IMMUNIZING)} \end{cases}$

$\left.\begin{matrix} \text{E8} \\ \text{E9} \\ \text{E10} \end{matrix}\right\}$ $\begin{cases} \text{(CHEQUE)R(WORKS), (HYPE)R(CIVILIZED)} \\ \text{(CHEQUE)R(WORKS), (HYPE)R(IMMUNIZING)} \end{cases}$

$\left.\begin{matrix} \text{E11} \\ \text{E12} \\ \text{E13} \\ \text{E14} \end{matrix}\right\}$ (JABBERWOCK)Y, (TACH)Y(PHYLAXIS)

E15 (METHOXYBENZENE)S, (DI)S(QUALIFYING)

F6 (BEN)Z(ALDEHYDES), (BEN)Z(ALDEHYDES)

F7 $\begin{cases} \text{(CHEQUE)R(WORKS), (HYPE)R(CIVILIZED)} \\ \text{(QUARTE)R(BACKINGS), (HYPE)R(CIVILIZED)} \end{cases}$

$\left.\begin{matrix} \text{F8} \\ \text{F9} \end{matrix}\right\}$ (CHEQUE)R(WORKS), (HYPE)R(CIVILIZED)

F10 (PHOSPHORI)Z(ING), (ME)Z(QUITES)

$\left.\begin{matrix} \text{F11} \\ \text{F12} \\ \text{F13} \end{matrix}\right\}$ (JABBERWOCK)Y, (TACH)Y(PHYLAXIS)

F14 $\begin{cases} \text{(QUART)Z(Y), (BEN)Z(ALDEHYDES)} \\ \text{(SHOWBIz)Z(Y), (BEN)Z(ALDEHYDES)} \end{cases}$

F15 (METHOXYBENZENE)S, (CYBER)S(QUATTING)

G7 $\begin{cases} \text{(CRYPTO)Z(OOLOGIES), (CRYPTO)Z(OOLOGIES)} \\ \text{(CRYPTO)Z(OOLOGIES), (CRYPTO)Z(OOLOGIST)} \\ \text{(CRYPTO)Z(OOLOGIST), (CRYPTO)Z(OOLOGIST)} \end{cases}$

G8 $\begin{cases} \text{(FLEX)O(GRAPHIC), (PSYCH)O(ANALYZED)} \\ \text{(PSYCH)O(DYNAMIC), (PHOT)O(OXIDIZED)} \\ \text{(CHEQUE)R(WORKS), (HYPE)R(IMMUNIZE)} \\ \text{(PSYCHOS)O(MIMETIC), (PHOT)O(OXIDIZED)} \end{cases}$

G9 $\begin{cases}$ (RHYTHMI)Z(ING), (CRYPTO)Z(OOLOGIES) \\ (RHYTHMI)Z(ING), (CRYPTO)Z(OOLOGIST) $\end{cases}$

G10 (CHEQUE)R(WORKS), (HYPE)R(IMMUNIZE)

G11
G12 $\Big\}$ (JABBERWOCK)Y, (TACH)Y(PHYLAXIS)

G13 $\begin{cases}$ (RHYTHMI)Z(ED), (CRYPTO)Z(OOLOGIES) \\ (RHYTHMI)Z(ED), (CRYPTO)Z(OOLOGIST) $\end{cases}$

G14 $\begin{cases}$ (JABBERWOCK)Y, (TACH)Y(PHYLAXIS) \\ (PSYCHOANALYZE)R(S), (CHEQUE)R(WORKS) \\ (PSYCHOANALYZE)R(S), (QUARTE)R(BACKINGS) $\end{cases}$

G15 (METHOXYBENZENE)S, (JOCKEY)S(HIPS)

H8
H9 $\Big\}$ (CHEQUE)R(WORKS), (HYPE)R(COMPLEX)

H10 $\begin{cases}$ (CHEQUE)R(WORKS), (HYPE)R(COMPLEX) \\ (QUICKSTEP)P(ING), (SCHIZO)P(HYTE) $\end{cases}$

H11 $\begin{cases}$ (METAPHYSIC)I(ZING), (COMPLEX)I(FY) \\ (METAPHYSIC)I(ZING), (SUBJECT)I(VISING) \\ (QUICKSTEP)P(ING), (SCHIZO)P(HYTE) $\end{cases}$

H12 (PHOSPHORI)Z(ING), (CRYpTO)Z(OOLOGY)

H13 (ZANTHOXYLUM)S, (JOCKEY)S(HIPS)

H14 (PSYCHOANALYZE)R(S), (CHEQUE)R(WORKS)

H15 (METHOXYBENZENE)S, (JOCKEY)S(HIPS)

I9 $\begin{cases}$ (ME)Z(QUITES), (CRYPTO)Z(OOLOGY) \\ (EQUALI)Z(ING), (CRYPTO)Z(OOLOGY) $\end{cases}$

I10 (QUICKSTEP)P(ING), (SCHIZO)P(HYTE)

I11 $\begin{cases}$ (JABBERWOCK)I(ES), (PHOSPHOR)I(ZING) \\ (METAPHYSIC)I(ZING), (COMPLEX)I(FY) \\ (METAPHYSIC)I(ZING), (SUBJECT)I(VISING) \\ (METAPHYSIC)I(ZING), (QUINCUNX)I(AL) \\ (QUICKSTEP)P(ING), (SCHIZO)P(HYTE) $\end{cases}$

I12 $\begin{cases}$ (HYDROXYZINE)S, (WHIPJACK)S \\ (ZANTHOXYLUM)S, (JOCKEY)S(HIPS) $\end{cases}$

I13 (PHOSPHORI)Z(ED), (CRYpTO)Z(OOLOGY)

I14 (PSYCHOANALYZE)R(S), (CHEQUE)R(WORKS)

I15 (METHOXYBENZENE)S, (JOCKEY)S(HIPS)

J10 (EQUALI)Z(ING), (PHOSPHORI)Z(ED)

J11 (METAPHYSIC)I(ZING), (XYLOGRAPH)I(CAL)

J12
J13 } (QUICKSILVER)I(SH), (SYCOPHANT)I(ZING)

J14 (QUART)Z(Y), (PHOSPHORI)Z(ING)

J15 (METHOXYBENZENE)S, (JOCKEY)S(HIPS)

K11 (JABBERWOCK)I(ES), (METAPHYSIC)I(ZING)

K12
K13 } (QUICKSILVER)I(SH), (METAPHYSIC)I(ZING)

K14 {
(HYDROXYZINE)S, (CHEQUEBOOK)S
(HYDROXYZINE)S, (JABBERWOCK)S
(HYDROXYZINE)S, (JACKHAMMER)S
(PSYCHOANALYZE)R(S), (CHEQUE)R(WORK)
(TRANQUILIZING)L(Y), (XANTHOPHYL)L(OUS)
(ZINJANTHROPUS)E(S), (EXCHEQUER)E(D)

K15 {
(METHOXYBENZENE)S, (JOCKEY)S(HIPS)
(METHOXYBENZENE)S, (JOCKEYSHIP)S

L12
L13 } {
(CHEQUERWORK)S, (HYDROXYZINE)S
(QUICKSILVER)I(SH), (METAPHYSIC)I(ZED)

L14 (CHEQUERWORK)S, (HYDROXYZINE)S

L15 (CHALCEDONY)X, (QUADRUPLE)X(ING)

M13
M14 } (CHEQUERWORK)S, (HYDROXYZINE)S

M15 (METHOXYBENZENE)S, (CHEQUERWORK)S

N14 (EXTRAJUDICIAL)L(Y), (TRANQUILIZING)L(Y)

N15 (METHOXYBENZENE)S, (CHEQUERWORK)S

O15 (QUICKSILVERING)S, (METHOXYBENZENE)S

B   Best Plays Without Bonuses (CSW19)

Highest scoring plays are the same as in Appendix A unless given below. Only tiles which normally have double- or triple-letter bonuses will appear here.

A4 (HA)P(HAZARDRY), P(REQUALIFYING)

A12 (HYDROXYZINE)S, S(JAMBOKkING)

B6 (E)X(CHEQUERED), (E)X(TEMPORIZATION)

B10 {
(EXCHEQUER)E(D), (D)E(MYTHOLOGIZING)
(QUADRUPLE)X(ING), (E)X(TEMPORIZATION)

C7 $\begin{cases} \text{(PSYCH)O(SEXUALLY), (ZO)O(GEOGRAPHICAL)} \\ \text{(CHEM)O(TAXONOMY), (ZO)O(PHYTOLOGICAL)} \\ \text{(CHEM)O(TAXONOMY), (ZO)O(PSYCHOLOGIES)} \end{cases}$

C9 (HIGHJACK)E(D), (D)E(OXYGENIZING)

D8 $\begin{cases} \text{(FLEX)O(GRAPHIC), (ZO)O(PSYCHOLOGY)} \\ \text{(ZINC)O(GRAPHIC), (HYP)O(MIXOLYDIAN)} \\ \text{(JUMBO)I(ZING), (HEM)I(CRYPTOPHYTE)} \\ \text{(LIQUID)I(ZING), (HEM)I(CRYPTOPHYTE)} \\ \text{(LEXICAL)I(ZING), (HEM)I(CRYPTOPHYTE)} \\ \text{(TZADDIQ)I(M), (HEM)I(CRYPTOPHYTE)} \end{cases}$

D15 (METHOXYBENZENE)S, (DI)S(QUALIFYING)

F6 (HYPE)R(EXCITABLE), (HYPE)R(CIVILIZED)

F10 (CHEQUE)R(WORKS), (HYPE)R(CIVILIZED)

F14 (JABBERWOCK)Y, (TACH)Y(PHYLAXIS)

G7 (PSYCH)O(DYNAMICS), (PHOT)O(OXIDIZED)

G9 (CHEQUE)R(WORKS), (HYPE)R(IMMUNIZE)

G13 (JABBERWOCK)Y, (TACH)Y(PHYLAXIS)

H12 (ZANTHOXYLUM)S, (JOCKEY)S(HIPS)

I9 (APOTHEGM)A(TIZES), (HYDROXYL)A(MINES)

I13 $\begin{cases} \text{(HYDROXYZINE)S, (WHIPJACK)S} \\ \text{(ZANTHOXYLUM)S, (JOCKEY)S(HIPS)} \end{cases}$

J10 (QUICKSTEP)P(ING), (SCHIZO)P(HYTE)

J14 (PSYCHOANALYZE)R(S), (CHEQUE)R(WORKS)

L15 (METHOXYBENZENE)S, (CHEQUERWORK)S

C   Best Plays Using Words from TWL06

Most of the best-scoring plays are different from those in Appendix A, so a full list is given here (minus reflected squares).

A1 $\begin{cases} \text{P(REFREEZING), P(REQUALIFYING)} \\ \text{P(RESPECIFYING), P(REQUALIFYING)} \end{cases}$

$\left.\begin{matrix} \text{A2} \\ \text{A3} \end{matrix}\right\}$ (E)P(OXIDIZING), P(REQUALIFYING)

A4 (BEN)Z(ALDEHYDES), Z(OOPHYTIC)

$\left.\begin{matrix} \text{A5} \\ \text{A6} \end{matrix}\right\}$ (E)P(OXIDIZING), P(REQUALIFYING)

A7 (E)P(OXIDIZED), P(REQUALIFYING)

A8 $\begin{cases} \text{(E)P(OXIDIZE), P(REQUALIFYING)} \\ \text{(HA)P(HAZARDS), P(REQUALIFYING)} \end{cases}$

A9 $\begin{cases} \text{(BACKFLIP)P(ED), P(REQUALIFYING)} \\ \text{(HA)P(HAZARD), P(REQUALIFYING)} \\ \text{(SCHIZO)P(ODS), P(REQUALIFYING)} \end{cases}$

A10 $\begin{cases} \text{(BACKFLIP)P(ED), P(REQUALIFYING)} \\ \text{(SCHIZO)P(ODS), P(REQUALIFYING)} \end{cases}$

A11 $\begin{cases} \text{(BACKFLIP)P(ED), P(REQUALIFYING)} \\ \text{(SCHIZO)P(ODS), P(REQUALIFYING)} \\ \text{(FELLOWSHIP)P(ED), P(REQUALIFYING)} \end{cases}$

A12 (SHOWBIz)Z(Y), Z(OOPHYTIC)

$\left.\begin{matrix} \text{A13} \\ \text{A14} \\ \text{A15} \end{matrix}\right\}$ $\begin{cases} \text{(HYDROXYZINE)S, S(QUASHING)} \\ \text{(HYDROXYZINE)S, S(WITCHGRASSES)} \\ \text{(KATZENJAMMER)S, S(EXPLOITATIONS)} \end{cases}$

B2 (E)X(CHANGEABILITY), (E)X(TEMPORIZATION)

$\left.\begin{matrix} \text{B3} \\ \text{B4} \end{matrix}\right\}$ (E)X(TEMPORIZING), (E)X(CHANGEABILITY)

B5 $\begin{cases} \text{(E)X(CHEQUERS), (E)X(TEMPORIZATION)} \\ \text{(E)X(OPHTHALMIC), (E)X(TEMPORIZATION)} \\ \text{(E)X(TEMPORIZED), (E)X(CHANGEABILITY)} \\ \text{(PHOT)O(OXIDATIVE), (C)O(ENZYMATICALLY)} \end{cases}$

B6 (BEN)Z(ALDEHYDES), Z(OOPHYTIC)

B7 (E)X(CHEQUERS), (E)X(TEMPORIZATION)

B8 (E)X(CHEQUER), (E)X(TEMPORIZATION)

B9 $\begin{cases} \text{(HIGHJACK)E(D), (R)E(CONTEXTUALIZE)} \\ \text{(JACKFISH)E(S), (D)E(MYTHOLOGIZING)} \\ \text{(JUKEBOX)E(S), (D)E(MYTHOLOGIZING)} \\ \text{(QUADPLEX)E(S), (D)E(MYTHOLOGIZING)} \end{cases}$

B10 $\begin{cases} \text{(ME)Z(QUITE), Z(OOPHYTIC)} \\ \text{(ME)Z(QUITS), Z(OOPHYTIC)} \\ \text{(SHOWBIz)Z(Y), Z(OOPHYTIC)} \end{cases}$

B11 (JACKHAMMER)E(D), (R)E(CONTEXTUALIZE)

$\left.\begin{matrix} \text{B12} \\ \text{B13} \end{matrix}\right\}$ (HYPOPHARYNX)E(S), (R)E(ACCLIMATIZING)

B14 $\begin{cases} \text{(ARCHAEOPTERYX)E(S), (D)E(MYTHOLOGIZING)} \\ \text{(HYPOPHARYNX)E(S), (R)E(ACCLIMATIZING)} \\ \text{(PARAMYXOVIRUS)E(S), (D)E(MYTHOLOGIZING)} \end{cases}$

B15 $\begin{cases} \text{(HYPERIMMUNIZE)D, (A)D(JUDICATORY)} \\ \text{(PHOTOOXIDIZE)D, (A)D(JUDICATORY)} \\ \text{(VENTRILOQUIZE)D, (A)D(JUDICATORY)} \end{cases}$

C3 $\begin{cases} \text{(E)X(CHEQUERS), (E)X(TEMPORIZING)} \\ \text{(E)X(OPHTHALMIC), (E)X(TEMPORIZING)} \end{cases}$

C4 $\begin{cases} \text{(E)X(CHEQUERS), (E)X(TEMPORIZING)} \\ \text{(E)X(OPHTHALMIC), (E)X(TEMPORIZING)} \\ \text{(MEL)O(DRAMATIZING), (EX)O(ERYTHROCYTIC)} \end{cases}$

$\left.\begin{matrix} \text{C5} \\ \text{C6} \end{matrix}\right\}$ (PHOT)O(OXIDIZING), (BI)O(MECHANICALLY)

C7 $\begin{cases} \text{(CRYPTO)Z(OOLOGY), (ME)Z(QUITE)} \\ \text{(CRYPTO)Z(OOLOGY), (ME)Z(QUITS)} \\ \text{(E)X(CHEQUERS), (E)X(TEMPORIZING)} \end{cases}$

C8 (E)X(CHEQUER), (E)X(TEMPORIZING)

C9 $\begin{cases} \text{(CRYPTO)Z(OOLOGY), (ME)Z(QUITE)} \\ \text{(CRYPTO)Z(OOLOGY), (ME)Z(QUITS)} \end{cases}$

C10 $\begin{cases} \text{(DIPHTHONG)I(ZING), (AX)I(SYMMETRICAL)} \\ \text{(EXCHEQUER)S, (MI)S(EMPHASIZING)} \\ \text{(HAPHAZARD)N(ESSES), (NO)N(OBJECTIVITY)} \end{cases}$

C11 $\begin{cases} \text{(DIPHTHONG)I(ZING), (AX)I(SYMMETRICAL)} \\ \text{(EXCHEQUER)S, (MI)S(EMPHASIZING)} \\ \text{(JACKHAMMER)E(D), (D)E(MYTHOLOGIZED)} \\ \text{(JACKHAMMER)E(D), (D)E(SEXUALIZING)} \\ \text{(JACKHAMMER)E(D), (R)E(HYPNOTIZING)} \end{cases}$

C12 (HYPOPHARYNX)E(S), (R)E(ACCLIMATIZED)

C13 $\begin{cases} \text{(HYPERPYREXIA)S, (MI)S(CHARACTERIZE)} \\ \text{(HYPOPHARYNX)E(S), (R)E(ACCLIMATIZED)} \end{cases}$

C14 $\begin{cases} \text{(ARCHAEOPTERYX)E(S), (D)E(MYTHOLOGIZED)} \\ \text{(HYDROXYLAMINE)S, (MI)S(CHARACTERIZE)} \\ \text{(HYPERPYREXIA)S, (MI)S(CHARACTERIZE)} \\ \text{(HYPOPHARYNX)E(S), (R)E(ACCLIMATIZED)} \\ \text{(PARAMYXOVIRUS)E(S), (D)E(MYTHOLOGIZED)} \end{cases}$

C15 $\begin{cases} \text{(HYDROXYAPATITE)S, (MI)S(CHARACTERIZE)} \\ \text{(HYDROXYAPATITE)S, (MI)S(EMPHASIZING)} \\ \text{(HYDROXYPROLINE)S, (MI)S(CHARACTERIZE)} \\ \text{(HYDROXYPROLINE)S, (MI)S(EMPHASIZING)} \end{cases}$

D4 (MEL)O(DRAMATIZING), (HYP)O(PHARYNXES)

$\left.\begin{array}{l}\text{D5}\\\text{D6}\end{array}\right\}$ (PHOT)O(OXIDIZING), (HEM)O(DYNAMICALLY)

D7 (PHOT)O(OXIDIZED), (HEM)O(DYNAMICALLY)

$\left.\begin{array}{l}\text{D8}\\\text{D9}\end{array}\right\}$ (CRYPTO)Z(OOLOGY), (BEN)Z(ANTHRACENES)

D9 (DIFFRACT)O(METRIC), (HYP)O(PHARYNXES)

D10 $\begin{cases}\text{(DIPHTHONG)I(ZING), (AX)I(SYMMETRICAL)}\\\text{(EXCHEQUER)S, (MI)S(EMPHASIZING)}\\\text{(HAPHAZARD)N(ESSES), (NO)N(OBJECTIVITY)}\end{cases}$

D11 $\begin{cases}\text{(DIPHTHONG)I(ZING), (AX)I(SYMMETRICAL)}\\\text{(EXCHEQUER)S, (MI)S(EMPHASIZING)}\\\text{(JACKHAMMER)E(D), (D)E(SEXUALIZING)}\\\text{(JACKHAMMER)E(D), (R)E(HYPNOTIZING)}\\\text{(PSYCHOPATH)O(LOGY), (MEL)O(DRAMATIZING)}\end{cases}$

D12 (HYPOPHARYNX)E(S), (D)E(FORMALIZING)

D13 (SUBJECTIVIZE)D, (QUA)D(PLEXES)

D14 $\begin{cases}\text{(PSYCHOANALYZE)D, (QUA)D(PLEXES)}\\\text{(SUBJECTIVIZE)D, (QUA)D(PLEXES)}\end{cases}$

D15 $\begin{cases}\text{(JAMBEAU)X, (E)X(TEMPORIZING)}\\\text{(QUART)Z, (BEN)Z(ALDEHYDES)}\end{cases}$

$\left.\begin{array}{l}\text{E5}\\\text{E6}\end{array}\right\}$ (HYPE)R(CIVILIZED), (HYPE)R(EXCITEMENT)

E7 $\begin{cases}\text{(PSYCH)O(DYNAMICS), (PHOT)O(OXIDIZING)}\\\text{(QUARTE)R(BACKING), (HYPE)R(CIVILIZED)}\\\text{(QUARTE)R(BACKING), (HYPE)R(IMMUNIZING)}\end{cases}$

E8 $\begin{cases}\text{(QUARTE)R(BACKING), (HYPE)R(CIVILIZED)}\\\text{(QUARTE)R(BACKING), (HYPE)R(IMMUNIZING)}\end{cases}$

E9 $\begin{cases}\text{(QUARTE)R(BACKED), (HYPE)R(CIVILIZED)}\\\text{(QUARTE)R(BACKED), (HYPE)R(IMMUNIZING)}\end{cases}$

E10 $\begin{cases}\text{(QUARTE)R(BACKS), (HYPE)R(CIVILIZED)}\\\text{(QUARTE)R(BACKS), (HYPE)R(IMMUNIZING)}\\\text{(CHOLECYST)O(KININ), (PHOT)O(OXIDIZING)}\end{cases}$

E11 $\begin{cases}\text{(QUARTE)R(BACK), (HYPE)R(CIVILIZED)}\\\text{(QUARTE)R(BACK), (HYPE)R(IMMUNIZING)}\\\text{(SYMPATHIZE)R(S), (HYPE)R(EXCITEMENT)}\end{cases}$

$\left.\begin{array}{l}\text{E12}\\\text{E13}\end{array}\right\}$ (HYDROXYZINE)S, (JACK)S(HAFTS)

13

E14 (DEMYTHOLOGIZE)R(S), (HYPE)R(EXCITEMENT)

E15 $\begin{cases}\text{(DEMYTHOLOGIZE)R, (HYPE)R(EXCITEMENT)} \\ \text{(HYDROXYZINE)S, (JACK)S(HAFTS)}\end{cases}$

F6 (BEN)Z(ALDEHYDES), (BEN)Z(ALDEHYDES)

F7 (PSYCH)O(DYNAMICS), (PHOT)O(OXIDIZING)

$\left.\begin{matrix}\text{F7} \\ \text{F8}\end{matrix}\right\}$ (QUARTE)R(BACKING), (HYPE)R(CIVILIZED)

F9 (QUARTE)R(BACKED), (HYPE)R(CIVILIZED)

F10 $\begin{cases}\text{(ME)Z(QUITE), (BEN)Z(ALDEHYDES)} \\ \text{(ME)Z(QUITS), (BEN)Z(ALDEHYDES)} \\ \text{(SHOWBIz)Z(Y), (BEN)Z(ALDEHYDES)}\end{cases}$

F11 (QUARTE)R(BACK), (HYPE)R(CIVILIZED)

$\left.\begin{matrix}\text{F12} \\ \text{F13}\end{matrix}\right\}$ (HYDROXYZINE)S, (JACK)S(HAFTS)

F14 (SHOWBIz)Z(Y), (BEN)Z(ALDEHYDES)

F15 (HYDROXYZINE)S, (JACK)S(HAFTS)

G7 $\begin{cases}\text{(CRYPTO)Z(OOLOGIES), (CRYPTO)Z(OOLOGIES)} \\ \text{(CRYPTO)Z(OOLOGIES), (CRYPTO)Z(OOLOGIST)} \\ \text{(CRYPTO)Z(OOLOGIST), (CRYPTO)Z(OOLOGIST)}\end{cases}$

G8 $\begin{cases}\text{(FLEX)O(GRAPHIC), (PSYCH)O(ANALYZED)} \\ \text{(PSYCH)O(DYNAMIC), (PHOT)O(OXIDIZED)}\end{cases}$

G9 $\begin{cases}\text{(CRYPTO)Z(OOLOGY), (CRYPTO)Z(OOLOGIES)} \\ \text{(CRYPTO)Z(OOLOGY), (CRYPTO)Z(OOLOGIST)} \\ \text{(CRYPTO)Z(OOLOGY), (ME)Z(QUITE)} \\ \text{(CRYPTO)Z(OOLOGY), (ME)Z(QUITS)}\end{cases}$

G10 (CHOLECYST)O(KININ), (PHOT)O(OXIDIZED)

G11 (HAPHAZARD)R(Y), (QUARTE)R(BACKING)

G12 (HYDROXYZINE)S, (JACK)S(HAFTS)

G13 $\begin{cases}\text{(SHOWBIz)Z(Y), (CRYPTO)Z(OOLOGIES)} \\ \text{(SHOWBIz)Z(Y), (CRYPTO)Z(OOLOGIST)}\end{cases}$

G14 $\begin{cases}\text{(DEMYTHOLOGIZE)R(S), (HYPE)R(COMPLEX)} \\ \text{(HYDROXYZINE)S, (JACK)S(HAFTS)}\end{cases}$

G15 (HYDROXYZINE)S, (JACK)S(HAFTS)

H8 $\begin{cases}\text{(FLEX)O(GRAPHIC), (PSYCH)O(ANALYZE)} \\ \text{(PSYCH)O(DYNAMIC), (PHOT)O(OXIDIZE)} \\ \text{(QUARTE)R(BACKING), (HYPE)R(COMPLEX)}\end{cases}$

H9 (QUARTE)R(BACKED), (HYPE)R(COMPLEX)

H10
H11 } (HAPHAZARD)R(Y), (QUARTE)R(BACKING)

H11 (PHYTOTOXIC)I(TIES), (JEOPARD)I(ZING)

H12 (QUART)Z(OSE), (CRYPTO)Z(OOLOGY)

H13 (HYDROXYZINE)S, (JACK)S(HAFTS)

H14 {
(DEMYTHOLOGIZE)R(S), (HYPE)R(COMPLEX)
(HYDROXYZINE)S, (JACK)S(HAFTS)
}

H15 (HYDROXYZINE)S, (JACK)S(HAFTS)

I9 {
(ME)Z(QUITE), (CRYPTO)Z(OOLOGY)
(ME)Z(QUITS), (CRYPTO)Z(OOLOGY)
}

I10 {
(DIPHTHONG)I(ZING), (SUBJECT)I(VISING)
(DIPHTHONG)I(ZING), (QUINCUNX)I(AL)
(HAPHAZARD)R(Y), (QUARTE)R(BACKED)
}

I11 {
(PHYTOTOXIC)I(TIES), (JEOPARD)I(ZING)
(PHYTOTOXIC)I(TIES), (TRANQUIL)I(ZING)
}

I12 (HYDROXYZINE)S, (JACK)S(HAFTS)

I13 {
(QUART)Z(ES), (CRYPTO)Z(OOLOGY)
(SHOWBIz)Z(ES), (CRYPTO)Z(OOLOGY)
}

I14
I15 } (HYDROXYZINE)S, (JACK)S(HAFTS)

J10 {
(ME)Z(QUITE), (SHOWBIz)Z(Y)
(ME)Z(QUITS), (SHOWBIz)Z(Y)
(SHOWBIz)Z(Y), (SHOWBIz)Z(Y)
}

J11 {
(PHYTOTOXIC)I(TIES), (COPOLYMER)I(ZING)
(PHYTOTOXIC)I(TIES), (QUIZzICAL)I(TIES)
(QUIXOTICAL)L(Y), (HAPHAZARD)L(Y)
}

J12 (HYDROXYZINE)S, (CHEAPJACK)S

J13 {
(HYDROXYZINE)S, (CHEAPJACK)S
(KATZENJAMMER)S, (EXCHEQUER)S
}

J14 {
(SHOWBIz)Z(Y), (ME)Z(QUITE)
(SHOWBIz)Z(Y), (ME)Z(QUITS)
(SHOWBIz)Z(Y), (SHOWBIz)Z(Y)
}

J15 {
(HYDROXYZINE)S, (CHEAPJACK)S
(KATZENJAMMER)S, (EXCHEQUER)S
}

K11 {
(HAPHAZARD)L(Y), (QUIXOTICAL)L(Y)
(PHYTOTOXIC)I(TIES), (COPOLYMER)I(ZING)
(PHYTOTOXIC)I(TIES), (QUIZzICAL)I(TIES)
}

15

K12
K13
K14 } (HYDROXYZINE)S, (JACKHAMMER)S
K15
L12

L13 } { (HYDROXYZINE)S, (JACKHAMMER)S
L14 } { (STOCKJOBBING)S, (HYDROXYZINE)S

L15 (MICROTECHNIQUE)S, (HYDROXYZINE)S

M13 } (HYPERPYREXIA)S, (KATZENJAMMER)S
M14

M15 { (HYDROXYAPATITE)S, (KATZENJAMMER)S
{ (HYDROXYPROLINE)S, (KATZENJAMMER)S
{ (MICROTECHNIQUE)S, (HYDROXYZINE)S

N14 (HYPERPYREXIA)S, (KATZENJAMMER)S

N15 } { (HYDROXYAPATITE)S, (KATZENJAMMER)S
O15 } { (HYDROXYPROLINE)S, (KATZENJAMMER)S
{ (MICROTECHNIQUE)S, (HYDROXYZINE)S

D   Best Plays Without Bonuses (TWL06)

Highest scoring plays are the same as in unless given below.

A4 (E)P(OXIDIZING), P(REQUALIFYING)

A12 { (HYDROXYZINE)S, S(QUASHING)
{ (HYDROXYZINE)S, S(WITCHGRASSES)

B6 { (E)X(CHEQUERS), (E)X(TEMPORIZATION)
{ (PHOT)O(OXIDATIVE), (C)O(ENZYMATICALLY)

B10 { (BODYCHECK)E(D), (D)E(MYTHOLOGIZING)
{ (HAPHAZARD)N(ESSES), (U)N(EXCEPTIONABLY)
{ (HIGHJACK)E(D), (R)E(CONTEXTUALIZE)
{ (JACKFISH)E(S), (D)E(MYTHOLOGIZING)
{ (JACKLIGHT)E(D), (D)E(MYTHOLOGIZING)
{ (JUKEBOX)E(S), (D)E(MYTHOLOGIZING)
{ (QUADPLEX)E(S), (D)E(MYTHOLOGIZING)
{ (SQUAWFISH)E(S), (D)E(MYTHOLOGIZING)

C7 { (E)X(CHEQUERS), (E)X(TEMPORIZING)
{ (PHOT)O(OXIDIZED), (BI)O(MECHANICALLY)

C9
$\begin{cases} \text{(HIGHJACK)E(D), (D)E(POLYMERIZING)} \\ \text{(JACKFISH)E(S), (D)E(MYTHOLOGIZED)} \\ \text{(JUKEBOX)E(S), (D)E(MYTHOLOGIZED)} \\ \text{(QUADPLEX)E(S), (D)E(MYTHOLOGIZED)} \end{cases}$

D8 (PHOT)O(OXIDIZE), (HEM)O(DYNAMICALLY)

D15
$\begin{cases} \text{(HYDROXYAPATITE)S, (MI)S(EMPHASIZING)} \\ \text{(HYDROXYPROLINE)S, (MI)S(EMPHASIZING)} \end{cases}$

F6 (HYPE)R(EXCITABLE), (HYPE)R(CIVILIZED)

F10
$\begin{cases} \text{(CHOLECYST)O(KININ), (PHOT)O(OXIDIZING)} \\ \text{(QUARTE)R(BACKS), (HYPE)R(CIVILIZED)} \end{cases}$

F14
$\begin{cases} \text{(DEMYTHOLOGIZE)R(S), (HYPE)R(COMPLEX)} \\ \text{(DEMYTHOLOGIZE)R(S), (HYPE)R(EXCITABLE)} \\ \text{(HYDROXYZINE)S, (JACK)S(HAFTS)} \end{cases}$

G7 (PSYCH)O(DYNAMICS), (PHOT)O(OXIDIZED)

G9 (QUARTE)R(BACKED), (HYPE)R(IMMUNIZE)

G13
H12 $\Big\}$ (HYDROXYZINE)S, (JACK)S(HAFTS)

I9
$\begin{cases} \text{(HYDROXYL)I(C), (JEOPARD)I(ZING)} \\ \text{(HYDROXYL)I(C), (TRANQUIL)I(ZING)} \\ \text{(MAXIMIZE)R(S), (QUARTE)R(BACKED)} \\ \text{(ME)Z(QUITE), (CRYPTO)Z(OOLOGY)} \\ \text{(ME)Z(QUITS), (CRYPTO)Z(OOLOGY)} \\ \text{(QUINCUNX)I(AL), (RHYTHM)I(ZING)} \\ \text{(QUINCUNX)I(AL), (JEOPARD)I(ZING)} \\ \text{(SUBJECT)I(VISING), (OXYGEN)I(ZING)} \\ \text{(SUBJECT)I(VISING), (RHYTHM)I(ZING)} \\ \text{(SUBJECT)I(VISING), (TRANQUIL)I(ZING)} \end{cases}$

I13 (HYDROXYZINE)S, (JACK)S(HAFTS)

J10 (QUINCUNX)I(AL), (DIPHTHONG)I(ZING)

J14
$\begin{cases} \text{(EXTRAJUDICIAL)L(Y), (QUIZzICAL)L(Y)} \\ \text{(HYDROXYZINE)S, (CHEAPJACK)S} \\ \text{(KATZENJAMMER)S, (EXCHEQUER)S} \end{cases}$