

LIGHTWEIGHTS AND HEAVYWEIGHTS

DARRYL FRANCIS

Hounslow, Middlesex, England

With our penchant for words and their letter arrangements, distributions, patterns and so on, we are ever on the lookout for novel ideas. One which occurred to us some while ago was to search for what we eventually called lightweight words and heavyweight words, or lightweights and heavyweights.

If each letter of the alphabet is assigned a weight, whether it's pounds, ounces or micrograms, then every word has a weight corresponding to the sum of the weights of the constituent letters. The logical way to assign weights to letters is to make the weights correspond to the positions of the letters in the alphabet. Thus, A has a weight of 1 unit, B 2 units, and so on, through to Z, which has a weight of 26 units.

Of course, the lightest word is going to be the indefinite article A. But what is the lightest two-letter word? What about other word lengths? We decided to undertake a search for the lightest words of all lengths up to and including fifteen letters. The fifteen lightweights presented below are the lightest ones that we have been able to find. Can the reader improve on any of our lightweights? In the list we have appended to each word its total weight and the average letter weight, that is, the total letter weight divided by the number of letters in the word. As might be expected, the average letter weight slowly increases with the length of the word; however, there are occasional reversals.

1. a (1; 1.00)
2. aa (2; 1.00)
3. baa (4; 1.33)
4. abba (6; 1.50)
5. caaba (8; 1.60)
6. bacaba (10; 1.67)
7. cachaca (20; 2.86)
8. Fabaceae (24; 3.00)
9. abdicable (39; 4.33)
10. Galacaceae (39; 3.90)
11. cabbagehead (39; 3.55)

12. Baba-Abdallah (47; 3.92)
13. cabbageheaded (48; 3.69)
14. Hamamelidaceae (81; 5.79)
15. Coleochaetaceae (102; 6.80)

The fourteen-letter specimen here is additionally interesting since it is the longest known word with all its letters taken from the first half of the alphabet.

The reader will realise that having chased up fifteen lightweight words, we could hardly ignore the challenge of searching out fifteen heavyweight words. That is, those words which have the greatest weights for each of the word lengths from one to fifteen letters. Again, we hope that the reader will be able to improve on some of the words we have found. Here are our fifteen heavyweights:

1. z (26; 26.00)
2. wy (48; 24.00)
3. zuz (73; 24.33)
4. Zu-zu (94; 23.50)
5. wuzzy (121; 24.20)
6. xystus (128; 21.33)
7. Zyzomys (149; 21.29)
8. untrusty (158; 19.75)
9. Zorotypus (175; 19.44)
10. tuzzymuzzy (229; 22.90)
11. trustworthy (207; 18.82)
12. untumultuous (218; 18.17)
13. untrustworthy (242; 18.61)
14. tumultuousness (240; 17.14)
15. untrustworthily (263; 17.53)

Perhaps some enterprising Word Ways reader would like to extend our work, investigating words with more than fifteen letters. We would be pleased to hear from any such reader.

All of the thirty words listed in this article can be found in major English-language dictionaries.