

LIGHTER AND HEAVIER

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The weight of a word is determined by assigning A=1, B=2 through Z=26 and adding the letter values together. The density, or average letter value, of a word is found by dividing its weight by the number of letters in the word. Words with a low density are 'lightweight' words; those with a high density are 'heavyweight' words.

HISTORY

A number of items on this subject have appeared in Word Ways:

72226 *Lightweights And Heavyweights* in which Darryl Francis searched for the lightest and heaviest words of lengths 1 - 15 letters 'to be found in major English dictionaries'.

74117 *Word Weights* by Charles Bostick in which he introduced the word term 'density'.

95154 Leonard Gordon extended Darryl's exercise to words of 16 - 24 letters. No sources given.

95253 *New Lightweights And Heavyweights* in which I extended the search to include names of animal genera and the names of two plant families. I did not include hyphenated examples. This resulted in improvements being offered for 13 of the 24 lightweights and for 12 of the 24 heavyweights.

In the above articles, all the examples are solid words.

98202 *Word Densities* in which Rex Gooch eased this restriction, extending the parameters to include hyphenated examples and multi-word designations. He also extended the overall search to encompass words of 25 - 31 letters. It is interesting to note that Rex introduced many medical and chemical terms into both of his lists.

LIGHTER AND HEAVIER

In the current article, I carry over the use of hyphenated examples, but do not admit phrases. All of my improvements are locations taken from The United States Board on Geographic Names (BGN). These are indicated by an asterisk*. **pp** = populated place.

OTHER SOURCES

DAS = Dictionary of American Slang by Wentworth and Flexner

nz = Nomenclator Zoologicus

OED = Oxford English Dictionary, Second Edition

Web2 = Webster's Second Edition

WW = Word Ways

THE LIGHTWEIGHTS

1 A (1; 1.00)	indefinite article
2 AA (2; 1.00)	type of lava (Hawaiian)
3 AAA (3; 1.00)	signet-bearer of Aspalut
4 AAAA (4; 1.00)	Tahitian interj.-laughter
5 ABABA (7; 1.40)	a beetle (nz)
6 BACABA (10; 1.667)	a palm (Web2)
7 BABABBA (11; 1.57)*	stream in Nigeria
8 BABAABAD (14; 1.75)*	pp Iran.
9 ABBA-DABBA (16; 1.78)	slang for nonsense (DAS)
10 MABABABABA (26; 2.60)*	stream in S. Africa
11 BAGHDADABAD (35; 3.18)*	pp Iran
12 CABBAGE-FACED (40; 3.33)	WW74118
13 CABBAGEHEADED (48; 3.69)	WW72227
14 CHANCACACCACCA (48; 3.43)*	mountain in Peru
15 DAMBAGAHAGEDARA (74; 4.93)*	pp Sri Lanka
16 BADILA-BEDDA-BEDDA (61; 3.81)*	B...bonarua -Is.in PapuaNG
17 GADANG-HADDAD-DANDI (88; 5.18)*	pp Chad
18 BAMBADALAWALANDAMA (107; 5.63)*	pp Guinea
19 BAIMALINGCAIFACHANG (121; 6.37)*	pp China.
20 BAGANKOEALAMENDAHARA (135; 6.75)*	pp Indonesia
21 KARAKABOA-AMBOHIMENABE (149; 7.10)*	pp Madagascar
22 AMBALAMARINA-ANDOHARANO (177; 8.05)*	pp Madagascar
23 AMBOHIBAHOAKA-SOAMIAFARA (171; 7.44)*	pp Madagascar
24 CHEDDIYARMAKANKADDAIKADU (184; 7.67)*	pp Sri Lanka
25 HAMMEREISENBACH-BREGENBACH (189; 7.56)*	pp Germany
26 SAINT-GERMAIN-LA-BLANCHE-HERBE (226; 8.69)*	pp France
27 CARBOANGIOCARDIOGRAPHICALLY (247; 9.15)	98204 inf. from. C..graphy?
28 GODOLLO-CEGLEDBERCELLI-DOMBSAG (243; 8.68)*	hills in Hungary
29 CH'A-KAN-HSI-JE-YIN-CHA-LA-KA-CHUNG-KOU (274; 9.45)*	ravine in Mongolia
30 HELLSCHEN-HERINGSAND-UNTERSCHAAR (313; 10.43)*	pp Germany
31 CHIA-NAN-TA-CHUN-HSIAO-T'IEN-CHIH-HSIEN (300; 9.68)*	canal in Taiwan

By introducing the names of locations, I managed to find lighter (less dense) examples for 21 of the 31 lengths of word in Rex Gooch's article of 98202.

At least three of the above examples deserve a special mention for being particularly lightweight for their length:

the 16-letter BADILA-BEDDA-BEDDA with a density of 3.81

the 25-letter HAMMEREISENBACH-BREGENBACH with a density of 7.56

the 28-letter GONDOLLO-CEGLEDBERCELLI-DOMBSAG with a density of 8.68

The 30-letter example is the only word with a density in excess of 10.00.

Two other words catch the eye. MABABABABA with its uninterrupted quadruple bigram BA; and CHANCACACCACCA with its A/C run of 10 letters which include the 7-letter palindromic sequence ACCACCA.

THE HEAVYWEIGHTS

1	Z (26; 26.00)	the letter Z
2	ZY (51; 25.50)	inflexional 'see' -Kent(OED)
3	ZYX (75; 25.00)	a flea (nz)
4	ZYWY (99; 24.75)	pp Poland
5	ZZYZX (152; 25.33)	community in California
6	ZYZZYX (152; 25.33)	a hymenopteran (nz)
7	UYUZYUT (159; 22.71)*	Ostrov U...= Is. in Russia
8	ZYZZYZUS (194; 24.25)	a coelenterate (nz)
9	SYUYUTLYU (189; 21.00)*	pp Bulgaria
10	TUZZY-MUZZY (229; 22.90)	a posy of flowers(OED)
11	PRZYBYSZOWY (220; 20.00)*	pp Poland
12	ZYUYDOSTOVYY (242; 20.18)*	Zaliv Z.. Kuttuk pp Azerbaijan
13	URLYUTYUPSKIY (243; 18.71)*	pp Kazakhstan.
14	YSPYTTY-YSTWYTH (298; 20.71)*	pp Wales
15	YUKARY-OYSYUZLYU (298; 19.33)*	pp Azerbaijan
16	TSZYANTSZYUN'MYAO (284; 17.75)*	pp China
17	SYR-NOVOROSSIYSKIY (297; 17.47)*	pp Uzbekistan
18	VOLODYMUR-VOLYNS'KYY (317; 17.61)*	pp Ukraine
19	ROQUEFORT-SUR-SOULZON (315; 16.58)*	pp France
20	NOVO-TSURUKHTUYEVSKIY (341; 17.05)*	pp Russia
21	TOLSTOVO-VASYUKOVSKOYE (349; 16.62)*	pp Russia
22	NOVO-TSURUKHAYTUYEVSKIY (367; 16.68)*	pp Russia
23	YUZHNO-EKSPLOYTATSIONNYY (374; 16.26)*	pp Russia
24	TRANSURETEROURETEROSTOMY (368; 15.33)	WW98205
25	URETEROTRIGONOENTEROSTOMY (369; 14.76)	WW98205
26	COLPOCYSTOURETEROCYSTOTOMY (400; 15.38)	WW98205
27	TRANSURETEROURETEROSTOMIZES (402; 14.89)	WW98205
28	TRANSURETEROURETEROSTOMIZING (408; 14.57)	WW98205
29	URETEROTRIGONOENTEROSTOMIZING (409; 14.10)	WW98205
30	CONJUNCTIVODACRYOCYSTOSTOMIZES (420; 14.00)	WW98205
31	TZU-YUN-MIAO-TSU-PU-I-TSU-TZU-CHIH-HSIEN (481; 15.52)*	pp China

Heavier (more dense) examples were found for 16 of the 31 lengths of word. More than half of these are locations sited within the boundaries of the erstwhile USSR. I have replaced Rex's ZZ, ZZZ and ZZZZ(!) but have not asterisked the replacements.

Five of the above examples are particularly heavy for their length:

the 8-letter ZYZZYZUS with a density of 24.25

the 10-letter TUZZY-MUZZY with a density of 22.90

the 14-letter YSPYTTY-YSTWYTH with a density of 20.71

the 26-letter COLPOCYSTOURETEROCYSTOTOMY with a density of 15.38

With its multiple hyphens, the 31-letter TZU-YUN-MIAO-TSU-PU-I-TSU-TZU-CHIH-HSIEN, with a density of 15.52, is exceptionally dense for its length.

None of the heavyweight examples have a density of less than 14.00.