

Practical Use of Logarithmic Scale

Scientists and engineers often need to determine the relationship between certain types of measurements. You might expect that mathematical relationships come up quite often in physics, but such relationships also come up in biology. Below is a table listing the weight of the brain and body of a variety of animals. Plot the data (one or more logarithmic scales may be useful). Identify the type of trend that you see, and identify any outliers. Give an estimate of the function relating body weight to brain weight.

Animal	Body Weight (kg)	Brain Weight (g)
Mountain beaver	1.35	465
Cow	465	423
Grey wolf	36.33	119.5
Goat	27.66	115
Guinea pig	1.04	5.5
Dipliodocus	11700	50
Asian elephant	2547	4603
Donkey	187.1	419
Horse	521	655
Potar monkey	10	115
Cat	3.3	25.6
Giraffe	529	680
Gorilla	207	406
Human	62	1320
African elephant	6654	5712
Triceratops	9400	70
Rhesus monkey	6.8	179
Kangaroo	35	56
Golden hamster	0.12	1
Mouse	0.023	0.4
Rabbit	2.5	12.1
Sheep	55.5	175
Jaguar	100	157
Chimpanzee	52.16	440
Brachiosaurus	87000	154.5
Mole	0.122	3
Pig	192	180