Illustrative Mathematics

8.SP Animal Brains

Alignments to Content Standards

- Alignment: 8.SP.A.1
- Alignment: 8.SP.A.2

Tags

- *This task is not yet tagged.*

Is there an association between the weight of an animal's body and the weight of the animal's brain?

a. Make a scatterplot using the following data.

Body and brain weight by animal. Source: http://mste.illinois.edu/malcz/DATA/BIOLOGY/Animals.html		
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
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
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
Mole	0.122	3
Pig	192	180

b. Do there appear to be outliers in this data? Which animals appear to be outliers? Explain how you identified these outliers.

c. Removing the outliers from the data set, make a new scatterplot of the remaining animal body and brain weights.

d. Does there appear to be a relationship between body weight and brain weight? If yes, write a brief description of the relationship.

e. Take a piece of uncooked spaghetti and use that spaghetti to informally fit a line to the data. Attempt to place your line so that the vertical distances from the points to the line are as small as possible.

f. How well does the spaghetti line appear to fit the data? Explain.