

**Larger The Chicken The
Larger The Egg**

Problem/Question

- Will a larger hen lay a larger egg?

Hypothesis

- If the mass of a chicken is large then the mass of the egg will be proportionally large.

Variables

- Independent Variable: The size of the chicken
- Dependant Variable: How big the egg is
- Controlled Variables: The weight of each individual chicken, how old the chicken is, how old the egg is (collection time), type of food, and the measurements.

Material List

- Scale that measured in grams
- Bird scale that measures in kilograms
- 5 chickens
- Chicken food
- Five different color markers
- Measuring tape
- Ruler
- Place to keep chickens

Procedure:

- Gather all materials
- Separate chickens
- Weigh each chicken on the kg scale
- Measure the girth of each chicken around the breast
- Measure the tarsus length of each chicken's leg
- Make a key for the eggs and color coordinate it with the chicken that produced it.
- Collect eggs at the same time every night
- Mark each egg with the color that matches the key

Procedure Continued

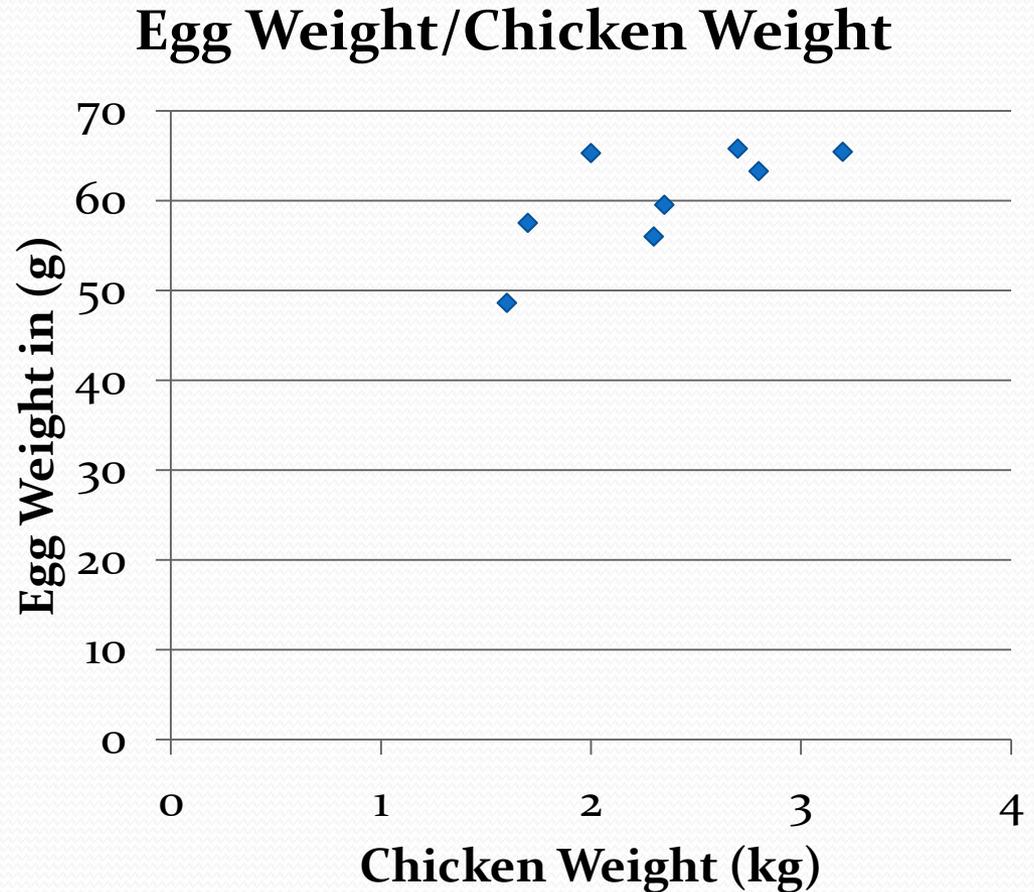
- Weigh the egg on the scale in grams
- Measure the egg from the floor to the top of the egg
- Measure around the fattest part of the egg for the circumference.
- Repeat for each egg collected

Average of Weight

Type of Chicken	Weight of Chicken	Average of Egg Weight(g)
Rhode Island Red	2.8	63.27
Turken	2.7	65.77
Chicken 1	1.7	57.5
Chicken 3	2.35	59.53
Chicken 2	2.3	56
Campine	1.6	48.6
New Hampshire Red	3.2	65.41

Egg Weight / Chicken Weight

The more body weight a chicken has then it will lay a larger egg. When the data are recorded on a scatter plot they show the relationship between the size of the egg in comparison to the Chicken. So if you had a chicken with the weight of about 2.5 kilograms the egg it laid would be around 60 grams. Or if you had a chicken with about the weight of then the egg would be around 40 grams.

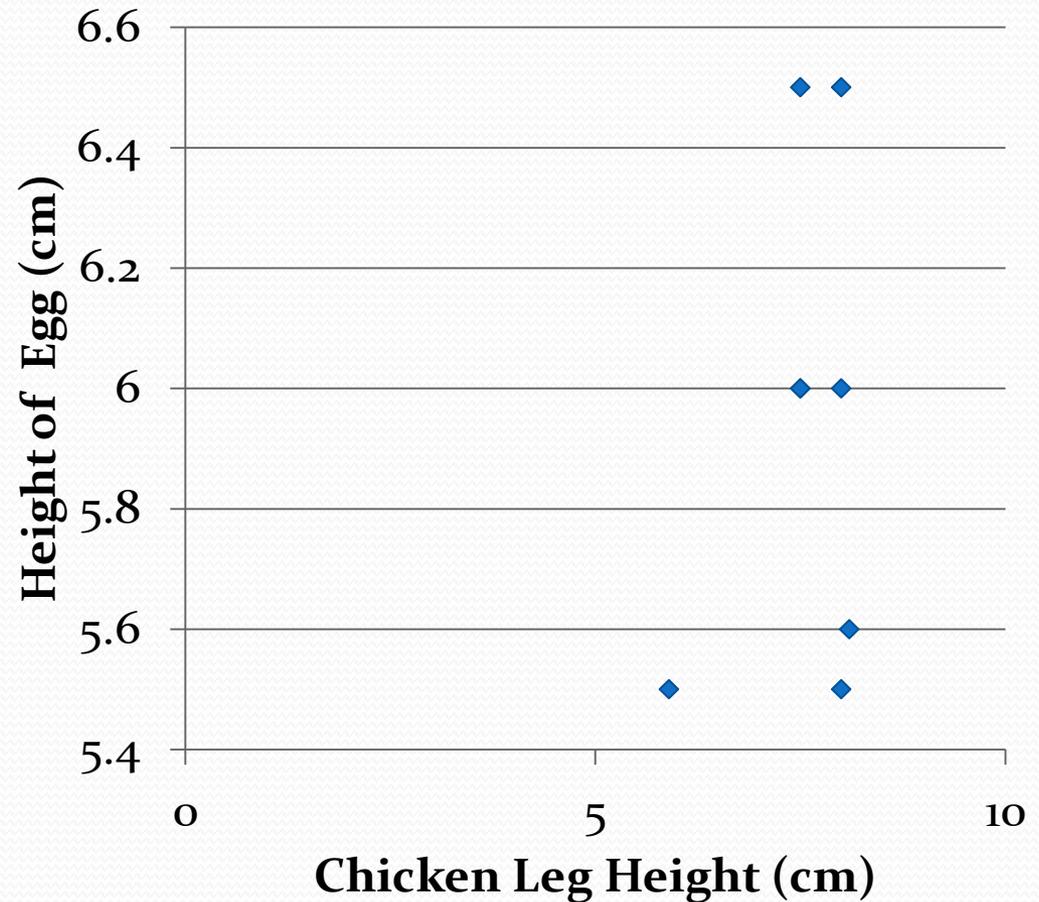


Average of Height

Type of Chicken	Height of Chicken Tarsus (cm)	Average Height of Egg (cm)
Rhode Island Red	8	6
Chicken 3	8.1	5.53
Chicken 2	8	5.5
Chicken 1	7.5	5.75
Campine	5.9	5.5
New Hampshire Red	8	6.5
Turken	7.5	6

Height of Egg/ Height of Chicken Leg

The graph with the comparison of the tarsus to the height of the egg had no relationship other than that it was it was all grouped together in one place you could no predict any information.

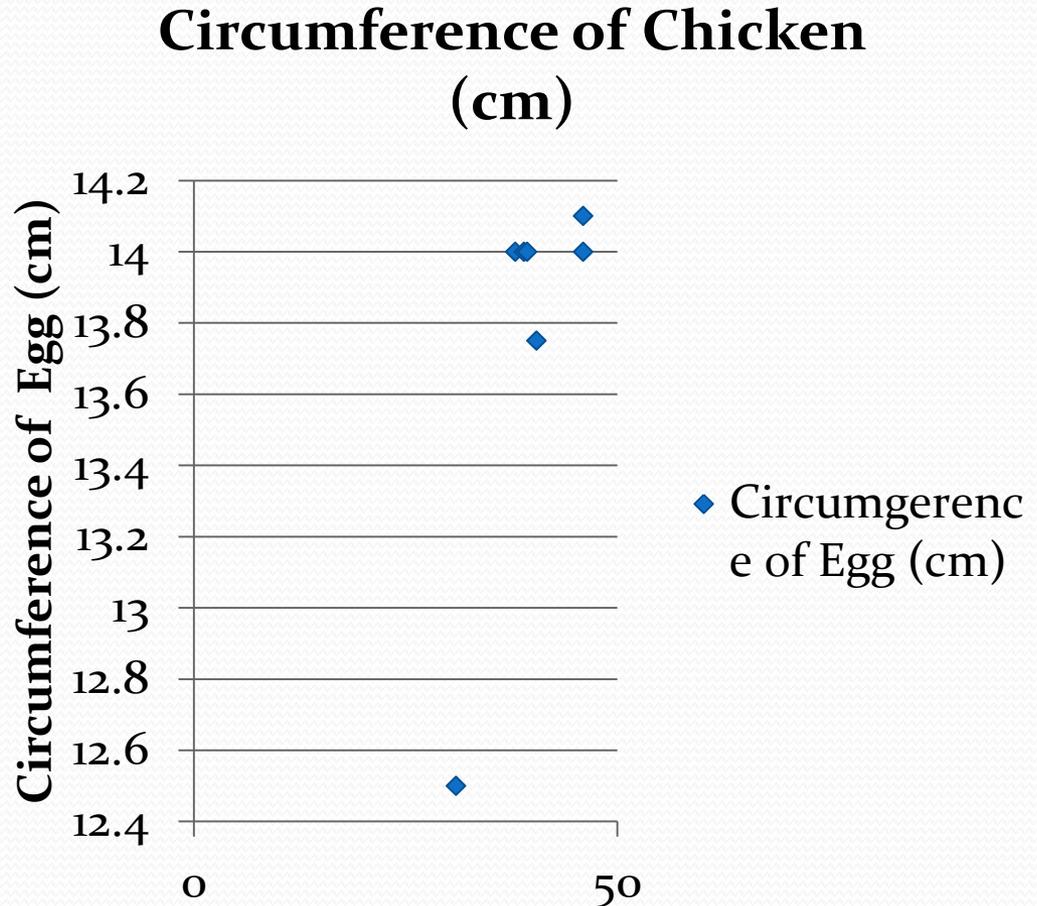


Average of Circumference

Type of Chicken	Average Circumference of Chicken (cm)	Average circumference of Egg (cm)
Rhode Island Red	46	14
Chicken 3	46	14.1
Chicken 2	40.5	13.75
Chicken 1	39.4	14
Turken	39	14
Campine	31	12.6
New Hampshire Red	41	14

Circumference of Egg/ Chicken Circumference

In the graph of the circumference of the chicken and the circumference of the egg it made a cluster in a line. With this information you can predict the circumference of the egg based on the circumference of the chicken's girth and visa versa. So if you had a chicken with a 35 cm girth then you could predict that the egg would be 12 cm in circumference.



Conclusion

- In conclusion my hypothesis was supported by the data above. If a chicken has a greater mass, then the chicken's egg will be proportionally large. My findings are very important. With this knowledge I know that when I pick out a larger breed of chicken then I will have to feed the chicken more, but there is more meat on it and it produces a larger egg. Some people might want to know my discovery so when they go to pick out a breed of chicken they will know the heavier the chicken is the heavier the egg that chicken produces.

Other Experiments

- Some other experiments that could expand on this experiment would be if you controlled the amount of food each chicken consumed or if you kept the experiment in only one breed.