Graphing Salamander Trends

Determine the greatest predictor of number of salamanders found by creating three separate graphs for each of the three Wood Cookie Sets (total of 9 graphs): Diameter of average cookie (cm) to # of Salamanders found, Thickness of cookie (cm) to # of Salamanders found, and Distance from Stream (m) to # of Salamanders found. The Number of Salamanders found is placed on the Y-axis.

Wood Cookie Identification	Diameter of cookie (cm)	Thickness of cookie (cm)	Distance from Stream (m)	Number of Salamanders
A1	39.5	10.2	0	11
A2	40.8	9	10	5
A3	38.8	9.6	20	5
A4	41.7	9.4	30	8
A5	34.4	8	40	6
A6	32.2	10	50	4
A7	33.2	8.4	60	1
A8	34.7	9	70	1
A9	31.4	9.6	80	7
A10	38.4	7.8	90	2

Wood Cookie Identification	Diameter of cookie (cm)	Thickness of cookie (cm)	Distance from Stream (m)	Number of Salamanders
B1	32.1	9	0	10
B2	35.7	8	10	2
B3	35.1	9.6	20	3
B4	33.1	9.2	30	4
B5	32.4	8.2	40	6
B6	33.8	9	50	3
B7	31.4	9	60	3
B8	33.1	8.6	70	2
B9	30.8	9	80	3
B10	31.4	3.8	90	1

Wood Cookie Identification	Diameter of cookie (cm)	Thickness of cookie (cm)	Distance from Stream (m)	Number of Salamanders
C1	35.9	9.8	0	16
C2	32.6	8.8	10	10
C3	37.5	6.8	20	12
C4	33.2	7	30	7
C5	35.3	6.8	40	4
C6	34.8	8	50	3
C7	34.9	7	60	2
C8	31.5	6	70	3
C9	38.5	15.2	80	4
C10	32.1	3.8	90	0

"A" Wood Cookie Identification Graphing Set

For 1-3, graph the following for Wood Cookie set "A." Remember to label your axes.

1. Diameter of cookie (cm) to Number of Salamanders found
2. Thickness of cookie (cm) to Number of Salamanders found
3. Distance from Stream (m) to Number of Salamanders found

"B" Wood Cookie Identification Graphing Set

For 4-6, graph the following for Wood Cookie set "B." Remember to label your axes.

4. Diameter of cookie (cm) to Number of Salamanders found
5. Thickness of cookie (cm) to Number of Salamanders found
6. Distance from Stream (m) to Number of Salamanders found

"C" Wood Cookie Identification Graphing Set

For 7-9, graph the following for Wood Cookie set "C." Remember to label your axes.

7. Diameter of cookie (cm) to Number of Salamanders found
8. Thickness of cookie (cm) to Number of Salamanders found
9. Distance from Stream (m) to Number of Salamanders found

Graphing Trends Questions

10. What trends in salamander abundance are you seeing as diameter of cookie, thickness of cookie, and distance to stream change?

11. What is the best predictor variable to explain the number of salamanders found under each cookie?

12. What is the best way to know that the graphed results are dependable or just a one-time occurrence?

13. Combine all three replicate trials (A1+B1+C1, etc) of number of salamanders found and average the three to more clearly show the trend. Round to whole salamander (i.e. 5.9 = 6). Place information below.

Wood Cookie Number	Average number of salamanders found
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

14. Graph the average number of salamanders found under each cookie number to distance in meters from the stream. Remember to label your axes.

15. After graphing #14 wait for your teacher to give out a Comparison Graph worksheet. Check your completed graph from #14 to Graph A. Compare the three average graphing sets and decide what the best predictor variable is for explaining the number of salamanders found under each cookie.