

Name _____

Analyzing Data

1. Mouse Experiment

An experiment studies the effects of an experimental drug on the number of offspring a mother mouse has. 10 female mice are given the drug and then impregnated. The number of mice in their litters is compared to the litters of mice that did not take the drug.



Number of Babies in Litter										
Group A (drug)	5	6	4	8	5	2	7	12	12	8
Group B (control)	4	4	6	6	5	6	4	7	5	3

Based on the data, What sort of data processing would be suitable? (mean, median, mode, range?)

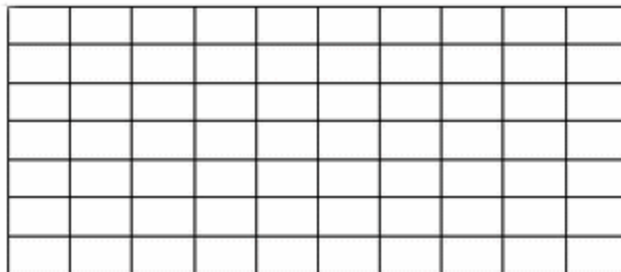
Based on your data processing make a conclusion...did the drug work?

2. Cow Growth Rates

A type of feed claims to boost the growth rate of cows. The feed is tested on two twin newborn cows. Bessie receives the experimental feed, and Bertha receives regular corn feed. Their weights are recorded below.

Month	April	May	June	July	Aug
Bessie	100 lbs	210 lbs	260 lbs	320 lbs	400 lbs
Bertha	100 lbs	250 lbs	290 lbs	340 lbs	400 lbs

Graph the data below. Use a key to identify the two animals. Make sure you label the X and Y Axis of the graph and give it a title.

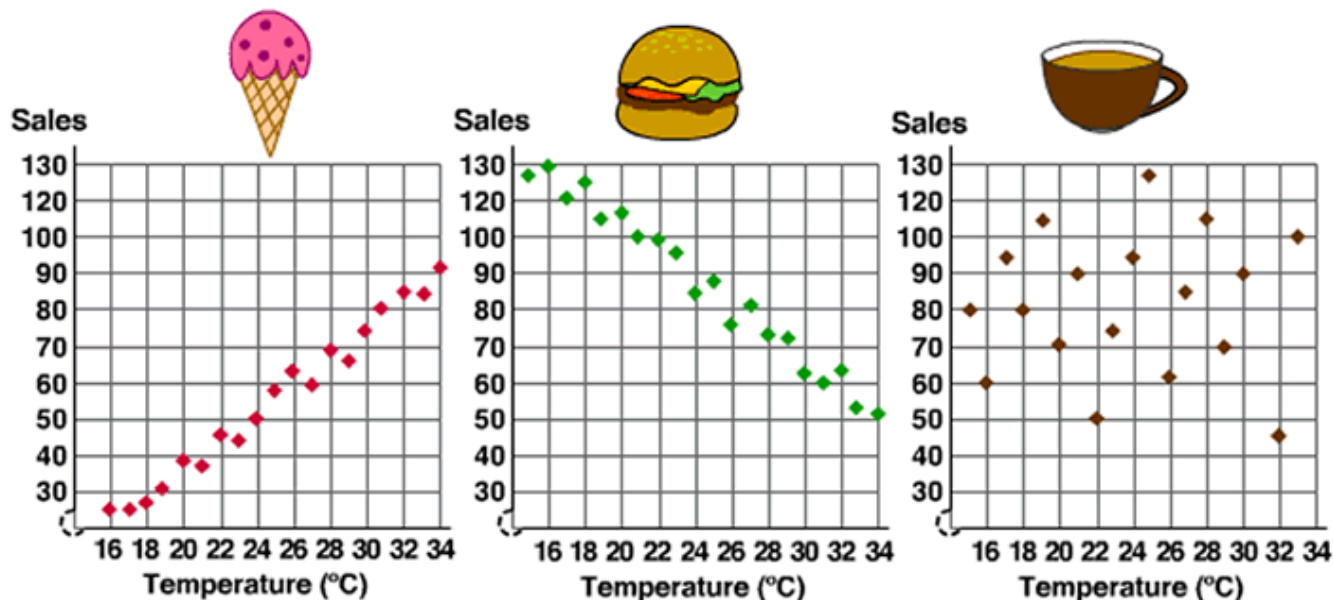


Both cows ended at the same weight, but did the experimental feed change the way they gained weight at all?

Describe your conclusions about the experimental feed and explain why it is important that the experiment used twin cows?

Explain the faults of this experiment. How could it be improved to carry out a more accurate investigation?

3. Food Sales (Scatterplot)



a. A **positive correlation** occurs when one set of values increases, so does the other set of values.

Which food shows a positive correlation between sales and temperature?

Which shows **no correlation**?

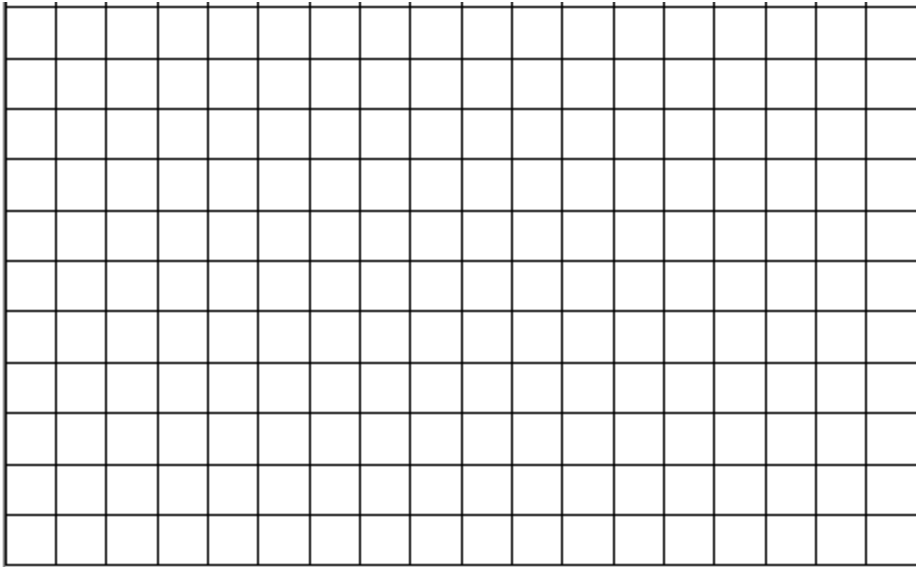
Do any of these graphs show an **inverse or negative correlation**?

b. What type of biological investigation would more commonly be looking for correlations?

4. Time Spent Studying per day

What improvements could the data table below have?

	Tim	J.R.	Sue	Pat	Jay	Red	Ben	Sam	Cat	Lex	Vic	Drew	Fin
Time Spent Studying ()	30	5	60	30	5	20	40	10	15	25	10	70	10
Grade on Test (%)	70	50	90	80	55	70	90	40	70	80	50	95	85



Graph the “time spent studying” on the X axis and the grade on the Y axis. When you have plotted your points, determine if it is possible to draw a **LINE OF BEST FIT** or **identify any correlation or pattern from these results**.

Are there any outliers in this data set? Those that don’t match with the ‘normal’ trend. Why or why not might they have occurred?

Conclude what the data shows about studying and results.