For each research project below, use the following steps:

1. Cut out the project description and chart and glue it into your notebook.
2. Draw the appropriate graph (line vs. bar). Graph the data from the chart.
3. Label all axes
4. Create a title
5. Under each graph, answer the questions that relate to that research project. Use paragraph form to answer each question. Use complete sentences.

Research Project "A" Description & Chart:

A study was conducted on the feeding preferences of slugs. Specimens were fed a variety of food sources and data were collected on number of grams of each type of food eaten. Construct the appropriate type of graph and make a conclusion on food preference.

Food Source	Food Eaten (grams)
lettuce	4.0
mushroom	8.2
dog food	0.0
spinach	6.5
apple	8.6
peach	5.4
orange	1.0

Project "A" Questions to answer in your paragraph:

a. What type of graph did you use?
b. What is the dependent variable?
c. What is the independent variable?
d. What was the missing data for days 6 & 7?
e. Why was a line graph the best graph to use for this information?

Research Project "B" Description & Chart: (Note: Use your GRAPH not any calculations to determine missing data!!)

Baby chickens require a constant source of food. As chickens grow, more energy is needed for daily activities. The following table gives the grams of food eaten by a chick over a 5-day period. Construct the appropriate type of graph and predict the amount of food that would have been eaten by the chick on the 3rd and 6th day.

Number of Days	Food Eaten (grams)
0	0.0
1	1.0
2	3.5
3	??
4	8.5
5	11.0
6	??
7	16.5

Project "B" Questions to answer in your paragraph:

a. What type of graph did you use?
b. What is the dependent variable?
c. What is the independent variable?
d. What was the missing data for days 6 & 7?
e. Why was a line graph the best information?

Research Project "C" Description & Chart:

A study was made of endangered birds to see if their populations were increasing by being protected from hunters. Scientists went out into the field every ten years and counted the number of Whooping Crane, California Condor, and Black Swans they found in their spring feeding grounds. Review the data table below and draw an appropriate graph with labeled lines and axes and a title.

	Years		
Bird Species	**1950**	**1960**	**1970**
Whooping Crane	24	41	78
California Condor	76	43	20
Black Swan	56	58	57

Project "C" Questions to answer in your paragraph:

f. What type of graph did you use?
g. What is the dependent variable?
h. What is the independent variable?
i. By interpreting your graph, make a conclusion about the Whooping Crane population.
j. By interpreting your graph, make a conclusion about the California Condor population.
k. By interpreting your graph, make a conclusion about the Black Swan population.

Research Project "D" Description & Chart:

A study was undertaken to measure the effects of smoking on the rate of development of lung cancer in both men and women. Construct the appropriate type of graph and make a conclusion from the data

	Annual Death Rate from Lung Cancer (per thousand)		
Age Group	**Heavy Smokers (>1 pack/day)**	**All Smokers**	**Never Smoked**
35-44	2.5	2.0	0.0
45-54	10.2	6.5	0.0
55-64	22.5	16.5	2.0
65-74	60.0	23.0	4.2
75-84	85.0	25.2	6.4

Project "D" Questions to answer in your paragraph:

l. What type of graph did you use?
m. What is the dependent variable?
n. What is the independent variable?
o. By interpreting your graph, make a conclusion about the effect of smoking (3 sentences).

Research Project "E" Description & Chart:

Graph the elements in the Human Body using a pie chart. You may want to group some of the smaller elements together.

Elements in Human Body							
Element	**Percent by Mass**	**Element**	**Percent by Mass**	**Element**	**Percent by Mass**	**Element**	**Percent by Mass**
Oxygen	65	Phosphorus	1.0	Copper	< 0.05	Chlorine	< 0.05
Carbon	18	Potassium	0.4	Zinc	< 0.05	Iodine	< 0.05
Hydrogen	10	Sulfur	0.3	Selenium	< 0.05	Manganese	< 0.05
Nitrogen	3	Sodium	0.2	Molybdenum	< 0.05	Cobalt	< 0.05
Calcium	1.5	Magnesium	0.1	Fluorine	< 0.05	Others	trace

Project "E" Questions to answer in your paragraph:

a. What type of graph did you use and why? Are there variables in the graph?
b. Add the percent by mass for oxygen, carbon, hydrogen, nitrogen, calcium, and phosphorus together. What percent of body mass do these elements add up to?
c. Most of the mass of the human body is water. The mass of water can vary from 60% - 90%. Do the data support this fact? (Hint: what is the chemical formula for water?) Explain your answer.