Fun with Graphing

Graphing is a really important skill in many fields, especially science. A graph is a great tool for displaying data and for identifying trends in the data. In this activity you will get some practice graphing data and working with graphs. Remember that every graph needs a title.

1. As a science fair project, a student wanted to see what type of food was preferred by slugs. Slugs were fed a variety of foods and the amount they consumed was recorded.

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

a) What type of graph would be best for these data?
b) Identify the dependent and independent variables.
c) Which type of food was favored the most by slugs? How do you know?

2. The aquarium in the lab has baby guppies in it and they need lots of food to to grow. As they grow, their bigger bodies require more and more food. The amount of food eaten by the baby guppies was measured every second day for 2 weeks. Predict the amount of food that would be eaten on the 16th day.

Day	**Food Eaten (g)**
0	0.0
2	0.2
4	0.5
6	0.6
8	1.0
10	measurement not taken
12	1.7
14	2.0

a) What type of graph would be best for these data?
b) Identify the dependent and independent variables.
c) How much food do you predict would be eaten on day 16? How do you know?

3. The sociology class has been studying student behavior in the school for the last few years by doing surveys of classes. One of their questions is about the number of hours students spend on the weekend doing homework. They asked students in each grade how many hours they spent on Friday, Saturday, and Sunday doing homework and recorded the results.

	Hours spent on homework		
Grade	Friday	Saturday	Sunday
9	0	0	1
10	0	0.5	1
11	1	1	1.5
12	0	1	3

a) What type of graph would be best for these data?
b) Identify the dependent and independent variables.
c) From the graph what can you say about the study habits of the students in each grade?
d) What conclusion can you make about the amount of time spent on homework as a student moves through high school?

4. The Canadian Cancer Society studied the effects of smoking on the rate of development of lung cancer in both men and women. The data are presented in the table below:

	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	6.5	0.0
55-64	22.5	16.5	2.0
65-74	60	23.0	4.2
75-84	85.0	25.2	6.4

a) What type of graph would be best for these data?
b) Identify the dependent and independent variables.
c) From the data, what can you conclude about smoking?
d) What would you say to someone who said “My uncle got lung cancer and he never ever smoked. He should have just been a smoker!”?