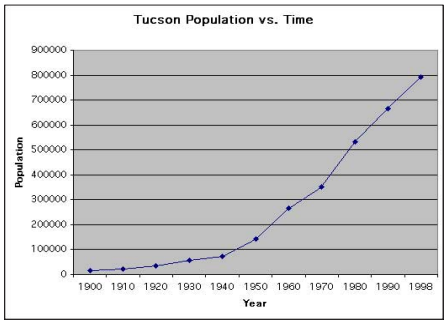

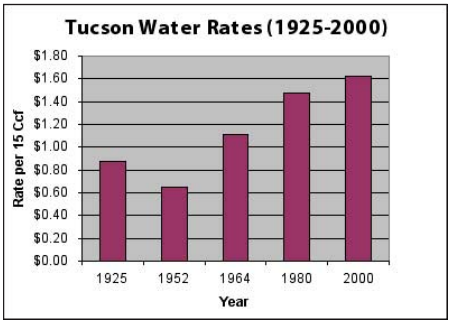

The graphs show the population and water rates over several decades.

1. How has the population changed with time? How much has the population increased since 1925?

2. Has the cost of water through time grown similarly? If not, how is it different?

3. The following table shows water usage (gallons per day) for a family of four to do certain jobs around the house. Calculate the amount of water used by a family each month for these tasks. The first one has been done for you.

Job	Gallons per day	Times per month	Gallons used per month
Shower	80	30	80 x 30 = **2400**
Flush Toilet	100	30	
Brush Teeth	8	30	
Wash Dishes	15	30	
Cooking & Drinking	12	30	
Irrigation	48	30	
Kitchen Sink	5	30	
Laundry (1 load)	35	17	
		Total Gallons	

4. Convert **Total Gallons** calculated in the table to hundreds of cubic feet (Ccf) per month. (Hint: 1 Ccf = 746 gallons)

5. Using the value you calculated for Ccf per month in question 4, calculate your monthly water bill for both winter and summer during the years listed in the following table. Use **Year 2000** values (dollar values adjusted for inflation) in the Tucson Residential Water Rates table.

Year	CCf per month	x Winter Rate (Year 2000$)	Monthly Winter Bill	x Summer Rate (Year 2000 $)	Monthly Summer Bill
Ex. (1980)	**27**	**$1.52**	**$41.04**	**$1.96**	**$52.92**
2000					
1980					
1964					
1952					
1925					

6. By how much has the water bill increased since 1925?

7. Is the rate of increase in water costs faster, slower, or similar to the rate of population increase? (See your answer to question 1 for comparison)

8. Calculate the cost per gallon of water in 2000 based upon the amount of the 2000 bill by dividing the amount of the year 2000 summer monthly bill (see table in question 5) by the **Total Gallons** you calculated in the table in question 3. This new number is the approximate cost per gallon of water in 2000.

9. In 2000, bottled water costs $1.00 per gallon, gasoline costs $1.50 per gallon, and soda nearly $2.50 per gallon. If these items were priced at their true value to our livelihood, what might be some appropriate prices for them? Explain.

10. How do you think doubling water rates would affect the city's population and the city's water supply?