

Financial Magazine: Interview, Newsletter Bulletin, or Special Report

You are a reporter for a financial magazine in Boston or Philadelphia. Report what actually happened to Benjamin Franklin's money in your city over the past 200 years that satisfies the rubric on the reverse side of this handout. **The challenge of this assignment is to combine the history and mathematics in a way that flows well.** You may work in a group of at most 2 people and turn in one project per group.

In order to help you start thinking about how to flow the mathematics with the history, this sample contains the shell of a possible report. Your report does not need to look like this sample – in fact I encourage you to be creative.

Choose One City: Boston or Philadelphia:

Introduction

I would summarize Benjamin Franklin's goals and wishes for the funds.

Benjamin Franklin's Fund in Boston

I would discuss the relevant history from the news article web readings, including his life and codicil, and relate it to why the following lump sum formula is appropriate here:

$$391000 = 4444.44 (1 + \text{rate})^{100}$$

Next I would explain the difference between the lent rate of 5% and the average earned rate of the fund in real life, including a summary of the real-life problems the fund encountered as of 1836 from the news article web readings, and how this relates to the difference in percentages. I would then provide a detailed explanation of how we had Excel solve for the unknown rate in the formula that ended up being approximately 4.5787863% as shown in the Table below:

	A	B	C	D
1	Info	Time	Money	Average Rate
2	Boston	100 years	391000	0.045787863
3	Boston	200 years	5000000	0.039895503

Table: Excel Chart for Boston

Next I would discuss the second hundred years in Boston, including the legal battles at the end of the 1st hundred years, how the money was distributed then, and how this relates to the formula

$$5000000 = 100000 (1 + \text{rate})^{100}$$

and the average rate in D4 above. Next I would discuss the legal battles, earnings and distribution of the funds in Boston by the end of the 2nd hundred years.

-----OR----- Benjamin Franklin's Fund in Philadelphia

I would use a similar format for Philadelphia as for Boston in terms of combining the history and newspaper articles with the equations from lab:

$$172350 = 4444.44 (1 + \text{rate})^{100}$$

	A	B	C	D
1	Info	Time	Money	Average Rate
4	Philadelphia	100 years	172350	0.037255968
5	Philadelphia	200 years	2256952	0.041343887

$$2256952.05 = 39274(1 + \text{rate})^{100}$$

Conclusion

As part of my conclusion, I would compare the way that the city earned and spent their money and contrast it with Benjamin Franklin's goals and wishes for the funds.

Benjamin Franklin Project: Rubric

	Satisfied Criteria and Communicated Deep Understanding	Satisfied Criteria and Communicated Some Understanding	Did Not Completely Satisfy the Criteria
Chose one city and created an interview, newsletter bulletin, or special report for a financial magazine			
Explained the seemingly disparate concepts of average earned rate of the fund versus the 5% lent rate			
Explained the lump sum formula and philosophy of derivation and why it is appropriate to use here when money is going in and out of the account			
Included both lump sum equations for my city in column E on the lab			
Summarized all the information in the news article web readings that related to my city			
Included the portion of the Excel chart related to my city flowing within the text or speech (not as an appendix)			
Summarized how the numbers in the equations arose in the context of real-life situations [Examples: where is 4444.44 from? What happened that led to only 172350?]			
Explained the equations and the Excel process and solutions			
Compared the earnings and distribution of the fund with Benjamin Franklin's wishes			
Mathematics and history flow well together in a creative manner			
Has a consistent style, flows smoothly, and has well-defined themes			
Used professional mathematical notation like $391000 = 4444.44 (1 + \text{rate})^{100}$			
Used modern language and it looks or sounds professional and formal			
Discussed the mathematics and news article information in my Own Words			
Gave proper reference			