

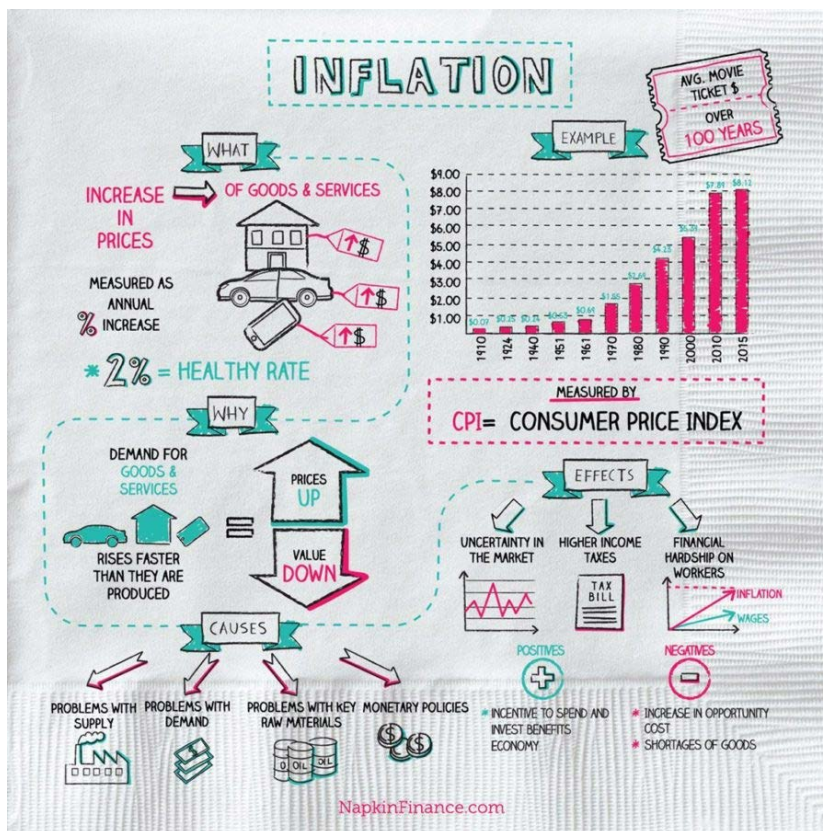


Python Coding Lesson

Lesson Title:	Great Depression Lifestyle Calculator
Grade Level:	High School
Subject:	Humanities
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Engagement:

- Students will analyze how daily life changed upon the Stock Market Crash of 1929.
- Students will evaluate their family's weekly spending to compare it to a family's during the Great Depression.
- Do Now Activity: How do you think life changed after the stock market crash of 1929?
- Show students newspaper headlines from the stock market crash as well as a graph of years & American stock market index. Explain to students' background information that relates to why the stock market crashed (variety of reasons, but some include bank failures, stoppage of purchase (afraid to buy things because of lack of money → rise in unemployment, etc.)
- Think - Pair - Share: In what ways do you (or your family) use money each week? How do you prioritize what to pay first?
- Link to coding: Remind students of block coding that we did with Ancient Egypt vocabulary and explain to them that we will be using a different type of coding, "real" coding, to learn more about the Great Depression. Pose the question: why may it be more productive to use computers & coding to do our calculations for us, rather than doing it by hand? What would happen if you had to go through math class without a calculator?



Source: <https://napkinfinance.com/napkin/inflation/>

Exploration:

- Students will have the code projected onto the screen. They will need to predict what the first set of lines do (for students who often struggle, direct them to the #comment)
- Run the code until you get to the first input. Before inputting anything, have students predict what this line does as well. Students will give suggestions for the inputs as we go along. They will predict each input, and then give a suggestion until we get to the end of the code together.
- Ask the students to think about the math that would be necessary for the calculation to work. Here, introduce the idea of inflation & inflation rates.
- Students will use Chromebook to calculate their own family's weekly spending & compare it how much they could have spent in 1929.



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Explanation:

- The class will list their weekly spending on the board in a T-chart to compare how much they think their family spends now vs. how much it would be during the Great Depression.
- The class will discuss whether they were surprised at the results. They will then discuss which things they would cut out of their lives (if a similar situation were to arise again), and how that would affect their daily life. I.e. if you couldn't buy your Fortnite battle pass, Netflix, halal at 11th and Washington after school...)
- Have students look at the actual code, pointing them to the numbers/calculations that the code is performing. Why are those numbers present in the code? What is each referring to?

Elaboration:

- The class will be given a list of basic python commands as a "cheat sheet," which was already included in the printout of the code. They should have used this to predict what the lines of code would perform and will also use this to adjust the program to calculate monthly & yearly spending. After they calculate these, they will add these numbers to the class set T-chart.
- After this, students will research inflation rates during the stock market crash of 2008. Students will use this information to adjust the code to make comparisons with the 2008 stock market crash. These calculations will also be added to the class data T-chart.
- Discuss why the use of computers & coding could be shocking to people who did not live during the Great Depression and help them realize lifestyles at the time. We will also connect this to 2008. Although they were alive for this, they were very young. We can connect this to how people's lifestyles changed in 2008, comparing this to 1929 and then back to today.

Evaluation:

- On an exit ticket, students will (1) explain 5 different python commands & what they perform, and (2) name 3 things they would like to cut out of their weekly spending to increase the amount they are able to save.
- Standards:



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- 8.1.9.A: Compare patterns of continuity and change over time, applying context of events.
- 8.4.9.C: Analyze how continuity and change have impacted world history:
 - Belief systems and religions
 - Commerce and industry
 - Technology
 - Politics and government
 - Physical and human geography
 - Social organization

Code:

#This program will allow you to calculate your current weekly spending

#and compare it to the amount you would be able to spend during

#the Great Depression.

#Here is the first set of questions that allows you to calculate

#current weekly spending.

welcome_message = "Welcome to the Great Depression Spending Calculator!"

print (welcome_message)

my_empty_spending_list = []

my_empty_spending_quantity_list = []

total_price = 0

check = True

while check:

*answer = input("Input the name of a weekly expense. (For example, housing, car, food, etc.)
When finished, input 'finished'")*

if answer == "finished":



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```
check = False

print("My weekly expenses include:" + str(my_empty_spending_list))

for price in my_empty_spending_quantity_list:
    total_price = total_price + price

else:

    price = float((input("Input the price of this expense: $")))
    my_empty_spending_list.append(answer)
    my_empty_spending_quantity_list.append(price)

print ("The total price of your current weekly spending is $" + "%.2f"%(total_price))

great_depression_spending = total_price / 14.57

print ("Your spending during the Great Depression would be: $" +
        "%.2f"%(great_depression_spending))
```