

Activity: Job Offer

Here is an activity that will surprise and amaze your students. (See letter.) The fun part of doing this activity is to see the reactions of the students

who choose plan #1 when they discover their very expensive mistake. The inclination, of course, is to go after the "big bucks" immediately (plan #1) which does work, but only for a while. One approach is to have students work on this problem using a calculator and filling out a chart (like the one on page 9.) Another way to do the problem is to have students write a computer program that does the calculation for them. Once the program is complete, the student can "perform" the activity on another student or even on another

faculty member! (Students get a big kick out of "fooling" adults and sharing what they are able to accomplish on a computer.)

Lesson Scenario

The teacher hands out the letter above. After reading the problem, the students make their choices and hand in their letters. A tabulation is made of which plan the students chose. Here's an example of a possible conversation:

T (Teacher): Lets see if we can get this computer to help us see which scheme is better. Let's start

with the first plan. Tell, me how much I make each day. The students help the teacher generate this chart on the blackboard.

DAYS	AMT
1	50
2	52
3	54
4	56

T: I think you can see how to continue the pattern. But can you figure out a way to determine how much you would get on the 20th day without listing all the amounts in between?

After some conversation and trial and error, one student noticed the following.

S (Sandra): I see a pattern that might help. If I take away 50 from each number, I notice that I can figure out the new number by doubling the previ-

ous day's number times two!

The other students looked puzzled. Sandra continues.

S: Let me show you what I mean. If you take away 50 from each amount you get the sequence: 0, 2, 4, 6, 8. So day 5 gives you double the previous day's number (4) which is 8...And if you want the actual amount just add 50!

T: So what is it for the 10th day?

S: The previous day is 9 so the amount is 9 times 2 plus 50 which is 68!

T: Does everyone see what Sandra is doing?

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Dear _____

Your application for a job with *Fly by Night Widgets* for next summer has been reviewed by our personnel department and we would like to inform you that **YOU GOT THE JOB!** You will be working the entire month of July as a widget entrepreneur. As far as payment is concerned, the wage distributor offers you a choice of payment schemes.

Payment Scheme #1: You can start with \$50 the first day, then you will get an additional \$2 each day. That means you will make \$50 on day #1, \$52 on day #2, \$54 day #3, and so on for the entire month. Now our liberal fringe benefits include holidays on Saturdays and Sundays (at no pay), so that your total number of working days will be 22.

Payment scheme #2: You will be paid 1¢ the first day, 2¢ the second, 4¢ the third, 8¢ the fourth, and so on for the twenty two days.

Please circle the plan you wish to have:
plan 1 plan 2

Welcome aboard! We look forward to seeing you next summer.

Sincerely yours,
Mr. & Mrs. Widget