

Big Promises, No Returns!



Hundreds of get-rich-quick schemes exist out there. The one thing you need to know is: **they don't make you rich**. Ever hear of a pyramid scheme? It can take the form of a chain letter, a “buying” or “gifting” club, or a work-at-home operation.

Most pyramid schemes are set up the same way. You might be asked to send five dollars (or a lot more!) to someone who joined the scheme before you. Then you must recruit, say, ten people who will each give five dollars to other folks who joined before. Then each of these ten people recruits ten more people, and each of *them* recruits ten more, and so on. Supposedly, down the line, a lot of people will be giving five dollars to you.

The number of people involved in the scheme grows and grows. The numbers multiply **exponentially**, which means they keep multiplying by a given number, in this case: ten.

1 recruits 10.....	$1 \times 10 =$	10	ten
10 recruit 10.....	$10 \times 10 =$	100	one hundred
100 recruit 10.....	$100 \times 10 =$	1,000	one thousand
1,000 recruit 10.....	$1,000 \times 10 =$	10,000	ten thousand
10,000 recruit 10.....	$10,000 \times 10 =$	100,000	one hundred thousand
100,000 recruit 10.....	$100,000 \times 10 =$	1,000,000	one million
1,000,000 recruit 10.....	$1,000,000 \times 10 =$	10,000,000	ten million
100,000,000 recruit 10.....	$100,000,000 \times 10 =$	1,000,000,000	one billion

But somewhere along the way a pyramid scheme breaks down. People drop out. Some refuse to pay. Not every new recruit can find ten more new recruits. And even if everything went as smooth as silk — which it never does — there just aren't enough people on the planet to support the pyramid. Once you hit the tenth level of this pyramid 1,000,000,000 (one billion) people have to recruit 10,000,000,000 (ten billion) people, which is more than the world population!

Federal government research has shown the only people who make any money are the people who *start* the pyramid — even though they promise *you'll* get rich. Lying to people to get money from them is **fraud**. It's what makes pyramid schemes *illegal*.

1. What are the signs of a pyramid scheme? (Check off the signs that apply.)

- a. ___ You're asked to invest money and recruit others.
- b. ___ You invest money in a well-known stock.
- c. ___ You're promised an unrealistic amount in return for your investment.
- d. ___ You can only make money if other people invest too.
- e. ___ You put money in a government bond.
- f. ___ Money is automatically deducted from your salary and put into a savings account.

2. Why are pyramid schemes illegal?



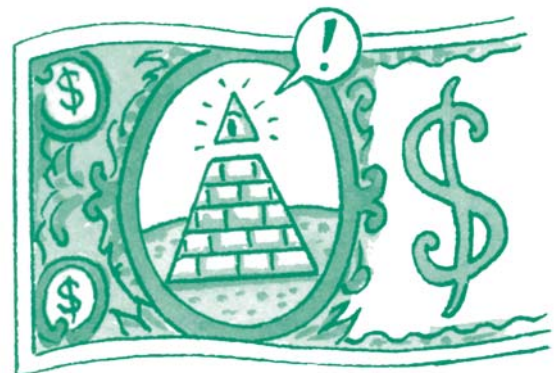
3. Why do pyramid schemes collapse? (circle one)

- a. People don't join.
- b. People don't pay.
- c. Eventually there are not enough people on the planet to support it.
- d. All of the above.

Let's explore again what it means for a number to **grow exponentially**. Say you're told you can make money if you recruit 5 people. Then those 5 people need to recruit 5 people; then each of those 5 recruits 5 more; then each of those folks recruits an additional 5, and they each recruit 5 more. You end up multiplying 5 by itself five times (often written like this: 5^5).

4. How many people end up participating in the scheme if it expands to five levels?

- Level 1 $5^1 = \underline{\quad 5 \quad}$ people
- Level 2 $5^2 = 5 \times 5 = \underline{\hspace{2cm}}$ people
- Level 3 $5^3 = 5 \times 5 \times 5 = \underline{\hspace{2cm}}$ people
- Level 4 $5^4 = 5 \times 5 \times 5 \times 5 = \underline{\hspace{2cm}}$ people
- Level 5 $5^5 = 5 \times 5 \times 5 \times 5 \times 5 = \underline{\hspace{2cm}}$ people
- Add: Level 1 + 2 + 3 + 4 + 5 = $\underline{\hspace{2cm}}$ people



Answers: 1. a, c, d; 2. it's illegal to deceive people into giving you money; 3. d; 4. $5 \times 5 = 25$; $5 \times 5 \times 5 = 125$; $5 \times 5 \times 5 \times 5 = 625$; $5 \times 5 \times 5 \times 5 \times 5 = 3,125$; Total number of participants: 3,905

Penny Wise

Speaking of pennies...what if you were offered a job that gave you a choice of pay: \$200 an hour per 8-hour day for 22 days, or 1 cent for the first day, 2 cents for the second day, 4 cents for the third day, and so on — getting double the amount each day — all the way up to day 22. At the end of the 22 days, which salary would make you more money?

To get the answer, do the math on paper or with a calculator:

1. Calculate what you'd make earning \$200 per hour working 8-hour days for 22 days.

$\$200 \times 8 \times 22 = \underline{\hspace{2cm}}$



2. On a piece of lined paper, make a list of numbers starting with 1 cent. On each new line, write double the amount of the number on the line above, like this:

Day 1)	\$0.01
Day 2)	\$0.02
Day 3)	\$0.04
Day 4)	\$0.08
Day 5)	_____

Keep going until you have 22 amounts. Add them up with a calculator.

3. Which is more? By how much?



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Answers: 1. The \$200/hr salary sounds fantastic — it would earn you \$35,200 in 22 days. 2. But, believe it or not, you'd make more money on the double-the-day-rate plan, because your money would grow exponentially. Your gross pay at the end of 22 days would be \$41,943.03. [Day 5: \$0.16; day 6: \$0.32; 7: \$0.64; 8: \$1.28; 9: \$2.56; 10: \$5.12; 11: \$10.24; 12: \$20.48; 13: \$40.96; 14: \$81.92; 15: \$163.84; 16: \$327.68; 17: \$655.36; 18: \$1310.72; 19: \$2621.44; 20: \$5242.88; 21: \$10,485.76; 22: \$20,971.52. Adding days 1 through 22 = \$41,943.03.] 3. The exponential plan gives you \$6,743.03 more than the fixed rate plan.