Money Matters

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Skloff Financial Group Question of the Month By Aaron Skloff, AIF, CFA, MBA

Q: What is worth more \$1 million or one penny doubling in value every day for a year?

The Problem – Determining What is Worth More, \$1 Million or One Penny Doubling in Value Every Day for One Year The internet age fed our desire for immediate gratification. All but a decade ago, our online orders would arrive in a week's time. Now, we expect next day or same day delivery. Our desire for immediate gratification can cloud our ability to make decisions.

The Solution – Put Aside Immediate Gratification and Calculate What is Worth More

Albert Einstein once said, "Compound interest is the eighth wonder of the world. He who understands it, earns it ... he who doesn't...pays it." Compounding allows an investor to earn interest on interest or earnings on earnings.

Numbers Speak Louder Than Words. Let's look at an example of two investors, Logan and Madison. Both Logan and Madison are asked the same question, "What is worth more, \$1 million or one penny doubling in value every day for one year?" Logan, who desires immediate gratification, chooses \$1 million. Madison remembers reading an article on the power of compound interest and chooses one penny doubling in value every day for one year. With great anticipation, Logan and Madison want to know the answer.

For the sake of simplifying the exercise, we exclude the impact of the inflation, taxes and other factors that could adjust the answer. **Now, back to the fun part.** On day two the penny's value doubles to a whopping two pennies. Compound interest dictates that the value of two pennies doubling in value (remember, you earn interest on interest) to four pennies on day three. Compound interest grows one penny into more than \$1 million in less than one month. By the 28th day, those pennies add up to \$1,342,177.28. By the 56th day, you have \$360,287,970,189,640. In English that translates to **three hundred sixty trillion** two hundred eighty-seven billion nine hundred seventy million one hundred eighty-nine thousand six hundred forty dollars. By the 365th day, those pennies add up to

Logan is absolutely amazed when he learns the answer, while Madison feels as smart as Albert Einstein.

	What is Worth More, \$1 Million or 1 Penny Doubling in Value Every Day for 1 Year		
	One Penny Doubling in Value Every Day for One Year		
	\$1 Million		
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Action Steps – Put Aside Immediate Gratification and Calculate What is Worth More

Learn from Logan and put aside immediate gratification when making financial decisions. Rather than relying on instinct, run calculations. Whether you are saving for a college education, a vacation home or a comfortable retirement, allow time and compound interest to work for you.

Aaron Skloff, Accredited Investment Fiduciary (AIF), Chartered Financial Analyst (CFA), Master of Business Administration (MBA) is CEO of Skloff Financial Group, a Registered Investment Advisory firm specializing in financial planning, investment management and benefits for small to middle sized companies. He can be contacted at <u>www.skloff.com</u> or 908-464-3060.