

\$100 Now or \$100 in a Year?

NOW!

\$100 Now vs \$1000 in 10 years?



How Much?



When?

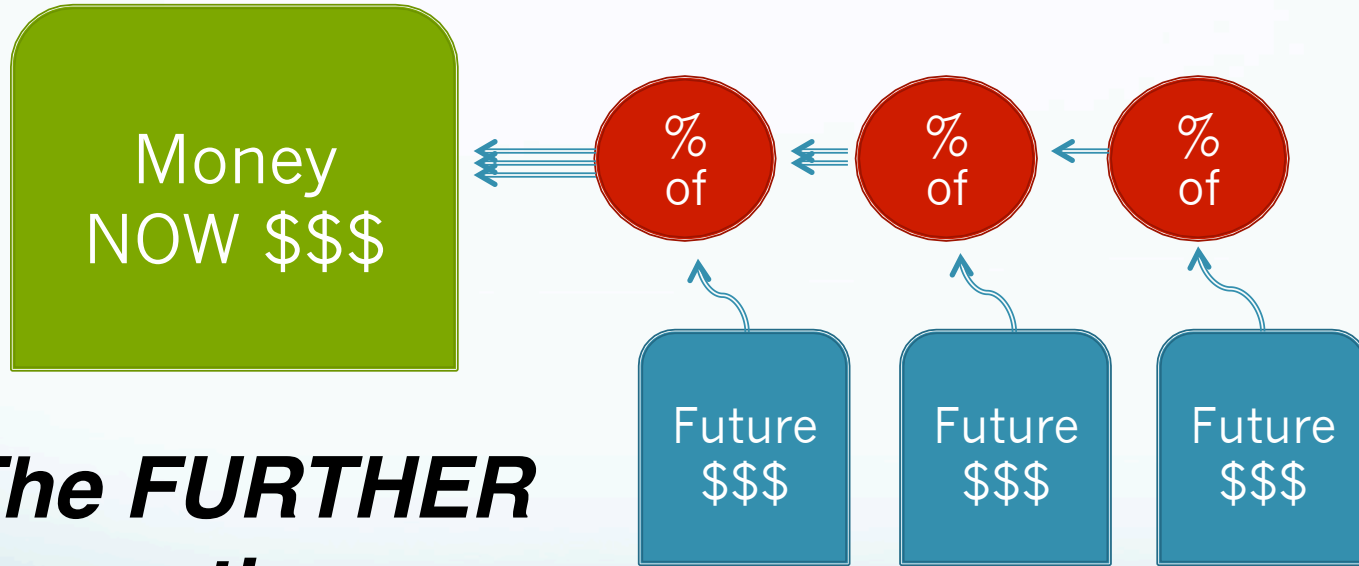
Time Value of Money



By using a method called Discounted Cash Flow analysis, we can compare cash flows coming at different times in the future by converting future cash into their respective values today —it's Net Present Value.

NOW is BETTER than LATER

Net Present Value



***The FURTHER
away, the more
it is discounted***

One Future Cash Value

$$\text{Present Value} = \text{Future Value} / (1 + r)^t$$

- r = discount rate per year (we'll cover this next)
- t = time of future payment in years
- Could do it for any unit of time

Multiple Future Cash Values

Net Present Value = SUM of ALL Present Values of Future Values – Investment

$$\text{NPV} = \sum_{t=1}^n \frac{\text{FV}_t}{(1+r)^t} - \text{ICO}$$

- ICO = initial cash outlay of project (cash portion of investment)
- NPV_t = net present value of cash flow generated at time t
- n = life of project in years
- r = required rate of return (discount rate)

But, What is the Discount Rate?

**YOUR
OPPORTUNITY
COST**

If you didn't invest in this project, what would you reasonably expect to achieve in investment returns from your overall investments?

ADD Excel Example