

Financial Literacy with Mr. 401(k)  
[‘FinLit with Mr. 401(k)’]  
Winter Term 2023-2024  
January 17, 2024

Owning and Owing Stuff  
**Class 15: Equity**  
**= Assets -**  
**Liabilities**



# Recap: Important Financial Terms



## **Income**

Making Money



## **Expenses**

Spending Money



## **Profit (Loss)**

= Income - Expenses



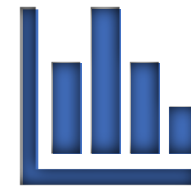
## **Assets**

The Stuff You Own



## **Liabilities**

The Stuff You Owe



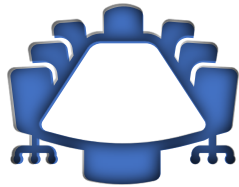
## **Equity**

= Assets - Liabilities

**The net worth or residual  
interest in assets after  
liabilities have been  
deducted**

**Equity**

# Any 'Entity' Can Build (or Destroy) Equity in the Stuff they Own



**Corporations**



**Governments**



**People**



## *Class Discussion*

*Do you think it is important to build equity over time? Why or why not?*

# Relationship Among Assets, Liabilities, and Equity



$$\mathbf{Assets = Liabilities + Equity}$$

This is the fundamental financial  
accounting equation.

# The Fundamental Accounting Equation to Solve for Equity



$$\text{Equity} = \text{Assets} - \text{Liabilities}$$

# Practical Application

A student borrowed some money to purchase a bicycle. The bicycle's current value is \$500. The student has been making payments on the borrowed amount, and still owes \$200.

- 1) What is the asset? How much is the asset worth?**
- 2) What is the liability? How much is the liability?**
- 3) How much equity does the student have?**



# Money Mavericks

**Objective:** A student has assets and liabilities based on the following practical applications slide. Work in your Money Mavericks Workgroups to calculate the student's equity.

Alpha: Green

Beta: Orange

Gamma: Gold

Delta: Silver



# Practical Application

- Cash Savings \$150
- Computer \$1,000
- Collectible Dolls \$500
- Library Fines \$50
- Loan Due to Friend \$100
- Money Borrowed from Parents \$200

**Alpha**

- Bicycle \$500
- Cash Savings \$200
- Club sports dues payable \$400
- Field trip fees payable \$25
- Sports card collection \$700
- Sports equipment \$950

**Gamma**

- Advance of allowance \$50
- Cash Savings \$250
- iPad \$800
- Lunch money payable \$100
- Video game collection \$200
- Video game console \$300

**Beta**

- Cash Savings \$300
- Gaming computer \$2,000
- Gaming subscriptions owed \$250
- Loan Payable to Parents \$750
- Roblox Stock Shares \$200
- Savings Bonds \$300

**Delta**

# Practical Application

Given that **Assets = Liabilities + Equity**, answer the following:

1. Liabilities  $\uparrow$  and equity is unchanged. What is the effect on assets?
2. Liabilities  $\uparrow$  and assets are unchanged. What is the effect on equity?
3. Assets and equity  $\uparrow$  by identical amounts. What is the effect on liabilities?
4. Assets  $\downarrow$  and equity is unchanged. What is the effect on liabilities?
5. Liabilities and equity  $\uparrow$  by identical amounts. What is the effect on assets?

# Table Visualizing the Effects on Equity Based on Changes in Assets and Liabilities

	<b>1,000</b>	1,000	900	800	700	600	500	400	300	200	100	0
<b>900</b>	900	800	700	600	500	400	300	200	100	0	-100	-100
<b>800</b>	800	700	600	500	400	300	200	100	0	-100	-200	-200
<b>700</b>	700	600	500	400	300	200	100	0	-100	-200	-300	-300
<b>600</b>	600	500	400	300	200	100	0	-100	-200	-300	-400	-400
<b>500</b>	500	400	300	200	100	0	-100	-200	-300	-400	-500	-500
<b>400</b>	400	300	200	100	0	-100	-200	-300	-400	-500	-600	-600
<b>300</b>	300	200	100	0	-100	-200	-300	-400	-500	-600	-700	-700
<b>200</b>	200	100	0	-100	-200	-300	-400	-500	-600	-700	-800	-800
<b>100</b>	100	0	-100	-200	-300	-400	-500	-600	-700	-800	-900	-900
<b>0</b>	0	-100	-200	-300	-400	-500	-600	-700	-800	-900	-1,000	-1,000
	<b>0</b>	<b>100</b>	<b>200</b>	<b>300</b>	<b>400</b>	<b>500</b>	<b>600</b>	<b>700</b>	<b>800</b>	<b>900</b>	<b>1,000</b>	

**Liabilities (\$)**

# Equity in a Car

\$40k purchase price. \$10k down payment. \$30k loan at a 6% annual interest rate for 7 years = loan payment \$438 / month



**Equity**

=



**Asset**

Car: \$40,000

-



**Liability**

Auto Loan:  
\$30,000

# Equity in a Car

\$40k purchase price. \$10k down payment. \$30k loan at a 6% annual interest rate for 7 years = loan payment \$438 / month



=



-



**Equity**

\$10,000 or  
25.0%

**Asset**

Car: \$40,000

**Liability**

Auto Loan:  
\$30,000

# Equity in a Car After 2 Years\*



**Equity**

=



**Asset**

Car: \$27,600

-



**Liability**

Auto Loan:  
\$22,669

\* Presumes Asset Depreciation Rate Per: <https://www.omnicalculator.com/finance/car-depreciation>

# Equity in a Car After 2 Year\*



=



-



**Equity**

\$4,931 or  
17.9%

**Asset**

Car: \$27,600

**Liability**

Auto Loan:  
\$22,669

\* Presumes Asset Depreciation Rate Per: <https://www.omnicalculator.com/finance/car-depreciation>





## *Class Discussion*

*The car loan was being paid down, so how did the equity in the car get destroyed?*

# Equity in a House

\$500k purchase price. \$100k down payment. \$400k loan at a 6% annual interest rate for 30 years = loan payment \$2,398 / month



**Equity**

=



**Asset**

House: \$500,000

-



**Liability**

Mortgage:  
\$400,000

# Equity in a House

\$500k purchase price. \$100k down payment. \$400k loan at a 6% annual interest rate for 30 years = loan payment \$2,398 / month



=



-



## Equity

\$100,000 or  
20.0%

## Asset

House: \$500,000

## Liability

Mortgage:  
\$400,000

# Equity in a House After 2 Years\*



**Equity**

=



**Asset**

House: \$530,450

-



**Liability**

Mortgage:  
\$389,873

\* Presumes 3% Annual Asset Appreciation Rate

# Equity in a House After 2 Years\*



=



-



**Equity**

\$140,577 or  
26.5%

**Asset**

House: \$530,450

**Liability**

Mortgage:  
\$389,873

\* Presumes 3% Annual Asset Appreciation Rate

# Practical Application

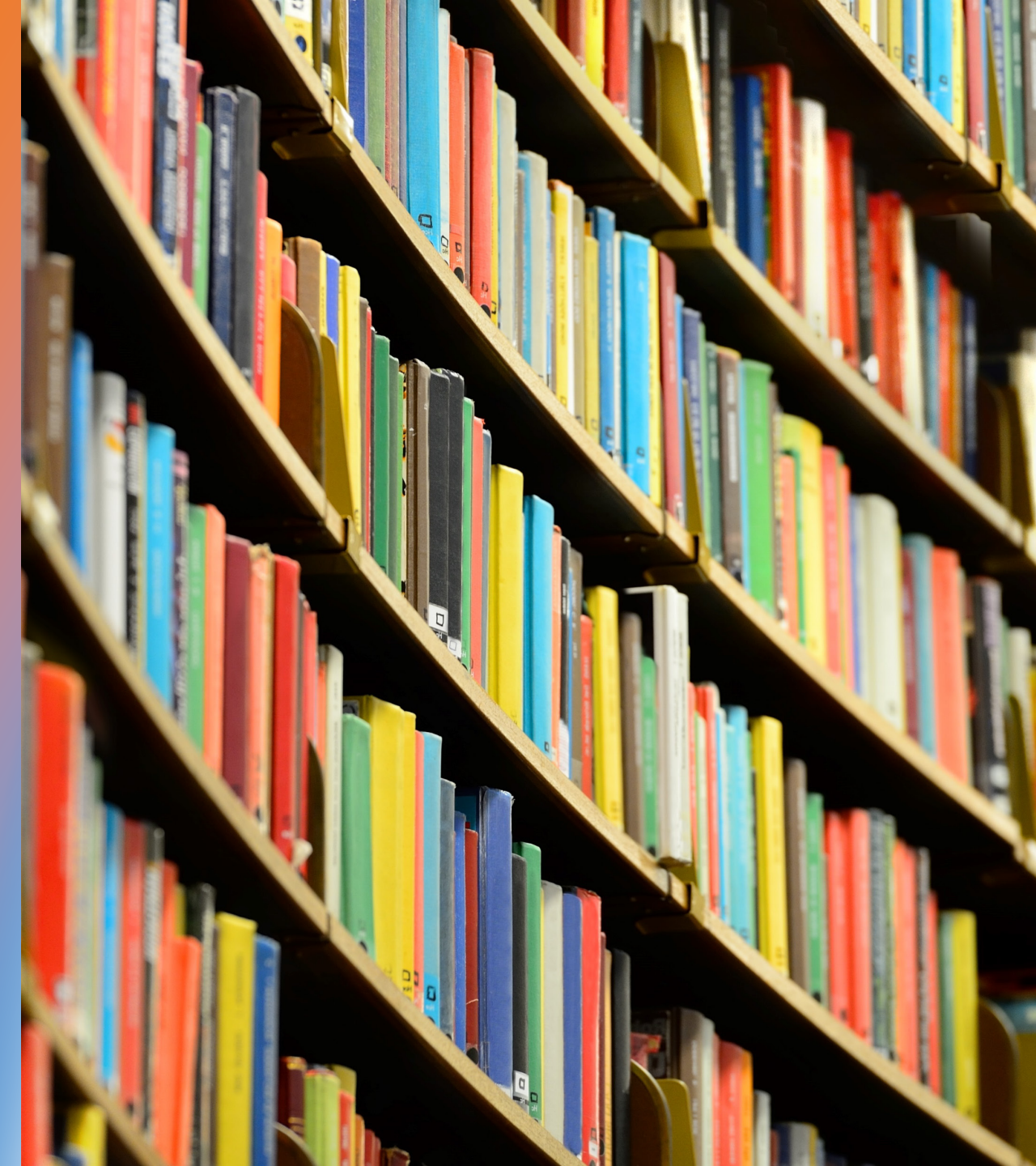
Given that **Equity = Assets – Liabilities**, answer the following:

1. You borrowed \$50 from a friend at a 10% monthly interest rate. What effect does this have on assets, liabilities, and equity?
2. You receive \$200 in cash from babysitting jobs. What effect does this have on assets, liabilities, and equity?
3. After 1 month, you repaid your friend \$55. What effect does this have on assets, liabilities, and equity?
4. You purchased a collectible for \$100. What effect does this have on assets, liabilities, and equity?
5. Someone purchased your collectible for \$150. What effect does this have on assets, liabilities, and equity?



# Three Key Takeaways

1. Equity represents assets' net worth after subtracting liabilities.
2. When assets exceed liabilities, equity is positive; when liabilities exceed assets, equity is negative.
3. Equity can increase through asset appreciation; Equity can decrease through asset depreciation.



## Where to Learn More

- [Finance For Teens & Young Adults: Achieve Financial Literacy, Don't Live Paycheck to Paycheck, Understand Your Relationship With Money, Look Forward To Your Financial Future & Make Money Work For You!](#) by Harlen Pierce
- [The Accounting Game: Learn the Basics of Financial Accounting - As Easy as Running a Lemonade Stand \(Basics for Entrepreneurs and Small Business Owners\)](#) by Darrell Mullis (Author), Judith Orloff (Author)
- Video: [What is Equity](#) by The Organic Chemistry Tutor