

TEST



DRIVE: RETIREMENT INVESTING COSTS

Test Drive Overview

Students are offered three investment options and form groups based on their selection. See which group can most closely guess the cost of their investment option after 30 years. Utilize the Investment Diagrams to learn about the three investment options.

Turn-by-Turn Navigation

1. Read the scenario and vocabulary below.

Scenario: At the start of your first job, you save \$3,000 per year into a 401(k) account. Each year, you increase that amount by \$250. This continues every year for 30 years. In this example, the investment earns a 7 percent gross return each year.

Vocabulary

- **Trading Fees:** Costs associated with buying or selling stock.
 - **Front-end load:** Commission fee when buying stock.
 - **Back-end load:** Commission fee when selling stock.
 - **On-going Fees:** Ongoing costs associated with owning a particular stock.
 - **Expense Ratio:** The ratio of fund expenses to fund assets.
 - **Advisory Fees:** Typically a percent of investor's assets.
 - **Annual account fee:** Flat annual fee amount.
 - **Actively Managed:** Investments with a fund manager frequently trading in the fund to maximize returns.
 - **Passively Managed:** Investments that automatically follow trading rules such as mirror a sector of the market.
2. What would be the value of this retirement investment after 30 years assuming there were absolutely no fees? This is our baseline number. (Answer can be found at the bottom of the table for Fund 0.) _____
3. Each student chooses one of the three funds available to fully invest their retirement savings.

Fund 1: Average mutual fund picked by financial advisor	Fund 2: S&P 500 Index Fund	Fund 3: Mutual fund actively managed by well-known fund manager
• No front-end load • No back-end load • Passively managed • No Annual Account Fees • 0.75% expense ratio	• No front-end load • No back-end load • Passively managed • No Annual Account Fees • 0.1% expense ratio	• No front-end load • No back-end load • Actively managed • No Annual Account Fees • 1.5% expense ratio

4. Each student should write down a guess for the total cost of fees that would accumulate for their fund after 30 years.

Fund Chosen: _____ Guess of Total Fees in 30 years \$ _____

5. Divide up into groups according to the fund chosen and pick a team captain.

6. Distribute the handouts for each fund to the captains to help answer the following questions.

7. What is the Net Return percentage for each fund?

Fund 1: _____ Fund 2: _____ Fund 3: _____

8. What is the total cost in fees for each fund after 30 years:

Fund 1: \$ _____ Fund 2: \$ _____ Fund 3: \$ _____

9. What is the total cost in fees as a percentage of the baseline amount the investment would be worth, if there were no fees?

Fund 1: _____ % Fund 2: _____ % Fund 3: _____ %

10. Who had the closest guess to the total fees for their team's fund? How much was the difference between the guess and actual?

Fund 1: _____ Fund 2: _____ Fund 3: _____

11. The team with the smallest difference to the actual amount is the winner.

12. Now, understanding the fees associated with each fund, which one would you choose? _____





Fund 0: Fund with No Fees (baseline)					
		Gross Return	Fees	Net Return	
		7.00%	0.00%	7.00%	
	Yearly Increase	Yearly Contribution	Investment Value	Interest	Year End Investment Value
1		3000	\$ 3,000.00	\$ 210.00	\$ 3,210.00
2	250	3250	\$ 6,460.00	\$ 452.20	\$ 6,912.20
3	250	3500	\$ 10,412.20	\$ 728.85	\$ 11,141.05
4	250	3750	\$ 14,891.05	\$ 1,042.37	\$ 15,933.43
5	250	4000	\$ 19,933.43	\$ 1,395.34	\$ 21,328.77
6	250	4250	\$ 25,578.77	\$ 1,790.51	\$ 27,369.28
7	250	4500	\$ 31,869.28	\$ 2,230.85	\$ 34,100.13
8	250	4750	\$ 38,850.13	\$ 2,719.51	\$ 41,569.64
9	250	5000	\$ 46,569.64	\$ 3,259.87	\$ 49,829.52
10	250	5250	\$ 55,079.52	\$ 3,855.57	\$ 58,935.08
11	250	5500	\$ 64,435.08	\$ 4,510.46	\$ 68,945.54
12	250	5750	\$ 74,695.54	\$ 5,228.69	\$ 79,924.22
13	250	6000	\$ 85,924.22	\$ 6,014.70	\$ 91,938.92
14	250	6250	\$ 98,188.92	\$ 6,873.22	\$ 105,062.14
15	250	6500	\$ 111,562.14	\$ 7,809.35	\$ 119,371.49
16	250	6750	\$ 126,121.49	\$ 8,828.50	\$ 134,950.00
17	250	7000	\$ 141,950.00	\$ 9,936.50	\$ 151,886.50
18	250	7250	\$ 159,136.50	\$ 11,139.55	\$ 170,276.05
19	250	7500	\$ 177,776.05	\$ 12,444.32	\$ 190,220.38
20	250	7750	\$ 197,970.38	\$ 13,857.93	\$ 211,828.30
21	250	8000	\$ 219,828.30	\$ 15,387.98	\$ 235,216.29
22	250	8250	\$ 243,466.29	\$ 17,042.64	\$ 260,508.93
23	250	8500	\$ 269,008.93	\$ 18,830.62	\$ 287,839.55
24	250	8750	\$ 296,589.55	\$ 20,761.27	\$ 317,350.82
25	250	9000	\$ 326,350.82	\$ 22,844.56	\$ 349,195.38
26	250	9250	\$ 358,445.38	\$ 25,091.18	\$ 383,536.55
27	250	9500	\$ 393,036.55	\$ 27,512.56	\$ 420,549.11
28	250	9750	\$ 430,299.11	\$ 30,120.94	\$ 460,420.05
29	250	10000	\$ 470,420.05	\$ 32,929.40	\$ 503,349.45
30	250	10250	\$ 513,599.45	\$ 35,951.96	\$ 549,551.41
			Baseline	No Fees	\$ 549,551.41
				Value (yr 30)	\$ 549,551.41
				Fees Lost	\$ - 0%



Fund 1: Average Mutual Fund Picked by financial advisor

		Gross Return	Fees	Net Return		
		7.00%	0.75%	6.25%		
	Yearly Increase	Yearly Contribution	Investment Value	Interest	Year End Investment Value	
1		3000	\$ 3,000.00	\$ 187.50	\$ 3,187.50	
2	250	3250	\$ 6,437.50	\$ 402.34	\$ 6,839.84	
3	250	3500	\$ 10,339.84	\$ 646.24	\$ 10,986.08	
4	250	3750	\$ 14,736.08	\$ 921.01	\$ 15,657.09	
5	250	4000	\$ 19,657.09	\$ 1,228.57	\$ 20,885.66	
6	250	4250	\$ 25,135.66	\$ 1,570.98	\$ 26,706.64	
7	250	4500	\$ 31,206.64	\$ 1,950.41	\$ 33,157.05	
8	250	4750	\$ 37,907.05	\$ 2,369.19	\$ 40,276.24	
9	250	5000	\$ 45,276.24	\$ 2,829.77	\$ 48,106.01	
10	250	5250	\$ 53,356.01	\$ 3,334.75	\$ 56,690.76	
11	250	5500	\$ 62,190.76	\$ 3,886.92	\$ 66,077.68	
12	250	5750	\$ 71,827.68	\$ 4,489.23	\$ 76,316.91	
13	250	6000	\$ 82,316.91	\$ 5,144.81	\$ 87,461.72	
14	250	6250	\$ 93,711.72	\$ 5,856.98	\$ 99,568.70	
15	250	6500	\$ 106,068.70	\$ 6,629.29	\$ 112,697.99	
16	250	6750	\$ 119,447.99	\$ 7,465.50	\$ 126,913.49	
17	250	7000	\$ 133,913.49	\$ 8,369.59	\$ 142,283.08	
18	250	7250	\$ 149,533.08	\$ 9,345.82	\$ 158,878.90	
19	250	7500	\$ 166,378.90	\$ 10,398.68	\$ 176,777.58	
20	250	7750	\$ 184,527.58	\$ 11,532.97	\$ 196,060.56	
21	250	8000	\$ 204,060.56	\$ 12,753.78	\$ 216,814.34	
22	250	8250	\$ 225,064.34	\$ 14,066.52	\$ 239,130.86	
23	250	8500	\$ 247,630.86	\$ 15,476.93	\$ 263,107.79	
24	250	8750	\$ 271,857.79	\$ 16,991.11	\$ 288,848.90	
25	250	9000	\$ 297,848.90	\$ 18,615.56	\$ 316,464.46	
26	250	9250	\$ 325,714.46	\$ 20,357.15	\$ 346,071.62	
27	250	9500	\$ 355,571.62	\$ 22,223.23	\$ 377,794.84	
28	250	9750	\$ 387,544.84	\$ 24,221.55	\$ 411,766.39	
29	250	10000	\$ 421,766.39	\$ 26,360.40	\$ 448,126.79	
30	250	10250	\$ 458,376.79	\$ 28,648.55	\$ 487,025.34	
			Baseline	No Fees	\$ 549,551.41	
			Fund 1	Value (yr 30)	\$ 487,025.34	
				Fees Lost	\$ 62,526.07	11%

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Fund 2: S&P 500 Index Fund

		Gross Return	Fees	Net Return		
		7.00%	0.10%	6.90%		
	Yearly Increase	Yearly Contribution	Investment Value	Interest	Year End Investment Value	
1		3000	\$ 3,000.00	\$ 207.00	\$ 3,207.00	
2	250	3250	\$ 6,457.00	\$ 445.53	\$ 6,902.53	
3	250	3500	\$ 10,402.53	\$ 717.77	\$ 11,120.31	
4	250	3750	\$ 14,870.31	\$ 1,026.05	\$ 15,896.36	
5	250	4000	\$ 19,896.36	\$ 1,372.85	\$ 21,269.21	
6	250	4250	\$ 25,519.21	\$ 1,760.83	\$ 27,280.03	
7	250	4500	\$ 31,780.03	\$ 2,192.82	\$ 33,972.86	
8	250	4750	\$ 38,722.86	\$ 2,671.88	\$ 41,394.73	
9	250	5000	\$ 46,394.73	\$ 3,201.24	\$ 49,595.97	
10	250	5250	\$ 54,845.97	\$ 3,784.37	\$ 58,630.34	
11	250	5500	\$ 64,130.34	\$ 4,424.99	\$ 68,555.33	
12	250	5750	\$ 74,305.33	\$ 5,127.07	\$ 79,432.40	
13	250	6000	\$ 85,432.40	\$ 5,894.84	\$ 91,327.24	
14	250	6250	\$ 97,577.24	\$ 6,732.83	\$ 104,310.07	
15	250	6500	\$ 110,810.07	\$ 7,645.89	\$ 118,455.96	
16	250	6750	\$ 125,205.96	\$ 8,639.21	\$ 133,845.17	
17	250	7000	\$ 140,845.17	\$ 9,718.32	\$ 150,563.49	
18	250	7250	\$ 157,813.49	\$ 10,889.13	\$ 168,702.62	
19	250	7500	\$ 176,202.62	\$ 12,157.98	\$ 188,360.60	
20	250	7750	\$ 196,110.60	\$ 13,531.63	\$ 209,642.23	
21	250	8000	\$ 217,642.23	\$ 15,017.31	\$ 232,659.55	
22	250	8250	\$ 240,909.55	\$ 16,622.76	\$ 257,532.31	
23	250	8500	\$ 266,032.31	\$ 18,356.23	\$ 284,388.54	
24	250	8750	\$ 293,138.54	\$ 20,226.56	\$ 313,365.10	
25	250	9000	\$ 322,365.10	\$ 22,243.19	\$ 344,608.29	
26	250	9250	\$ 353,858.29	\$ 24,416.22	\$ 378,274.51	
27	250	9500	\$ 387,774.51	\$ 26,756.44	\$ 414,530.95	
28	250	9750	\$ 424,280.95	\$ 29,275.39	\$ 453,556.34	
29	250	10000	\$ 463,556.34	\$ 31,985.39	\$ 495,541.72	
30	250	10250	\$ 505,791.72	\$ 34,899.63	\$ 540,691.35	
			Baseline	No Fees	\$ 549,551.41	
			Fund 2	Value (yr 30)	\$ 540,691.35	
				Fees Lost	\$ 8,860.06	2%



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Fund 3: Mutual Fund Actively Managed by Well-Known Fund Manager

		Gross Return	Fees	Net Return		
		7.00%	1.50%	5.50%		
	Yearly Increase	Yearly Contribution	Investment Value	Interest	Year End Investment Value	
1		3000	\$ 3,000.00	\$ 165.00	\$ 3,165.00	
2	250	3250	\$ 6,415.00	\$ 352.83	\$ 6,767.83	
3	250	3500	\$ 10,267.83	\$ 564.73	\$ 10,832.56	
4	250	3750	\$ 14,582.56	\$ 802.04	\$ 15,384.60	
5	250	4000	\$ 19,384.60	\$ 1,066.15	\$ 20,450.75	
6	250	4250	\$ 24,700.75	\$ 1,358.54	\$ 26,059.29	
7	250	4500	\$ 30,559.29	\$ 1,680.76	\$ 32,240.05	
8	250	4750	\$ 36,990.05	\$ 2,034.45	\$ 39,024.50	
9	250	5000	\$ 44,024.50	\$ 2,421.35	\$ 46,445.85	
10	250	5250	\$ 51,695.85	\$ 2,843.27	\$ 54,539.12	
11	250	5500	\$ 60,039.12	\$ 3,302.15	\$ 63,341.27	
12	250	5750	\$ 69,091.27	\$ 3,800.02	\$ 72,891.30	
13	250	6000	\$ 78,891.30	\$ 4,339.02	\$ 83,230.32	
14	250	6250	\$ 89,480.32	\$ 4,921.42	\$ 94,401.73	
15	250	6500	\$ 100,901.73	\$ 5,549.60	\$ 106,451.33	
16	250	6750	\$ 113,201.33	\$ 6,226.07	\$ 119,427.40	
17	250	7000	\$ 126,427.40	\$ 6,953.51	\$ 133,380.91	
18	250	7250	\$ 140,630.91	\$ 7,734.70	\$ 148,365.61	
19	250	7500	\$ 155,865.61	\$ 8,572.61	\$ 164,438.22	
20	250	7750	\$ 172,188.22	\$ 9,470.35	\$ 181,658.57	
21	250	8000	\$ 189,658.57	\$ 10,431.22	\$ 200,089.79	
22	250	8250	\$ 208,339.79	\$ 11,458.69	\$ 219,798.48	
23	250	8500	\$ 228,298.48	\$ 12,556.42	\$ 240,854.90	
24	250	8750	\$ 249,604.90	\$ 13,728.27	\$ 263,333.17	
25	250	9000	\$ 272,333.17	\$ 14,978.32	\$ 287,311.49	
26	250	9250	\$ 296,561.49	\$ 16,310.88	\$ 312,872.37	
27	250	9500	\$ 322,372.37	\$ 17,730.48	\$ 340,102.85	
28	250	9750	\$ 349,852.85	\$ 19,241.91	\$ 369,094.76	
29	250	10000	\$ 379,094.76	\$ 20,850.21	\$ 399,944.97	
30	250	10250	\$ 410,194.97	\$ 22,560.72	\$ 432,755.69	
			Baseline	No Fees	\$ 549,551.41	
			Fund 3	Value (yr 30)	\$ 432,755.69	
				Fees Lost	\$ 116,795.72	21%

