



CARNEGIE MELLON UNIV FACULTY AND STAFF RETIREMENT PLAN

Investment Performance as of 12/31/2022

The performance data quoted represents past performance, and is no guarantee of future results. Your returns and the principal value of your investment will fluctuate so that your mutual fund shares and annuity account accumulation units, when redeemed, may be worth more or less than their original cost. Current performance may be lower or higher than the performance quoted. For performance current to the most recent month-end, call 800-842-2252 or visit TIAA.org/planinvestmentoptions and enter your plan ID. Performance may reflect waivers or reimbursements of certain expenses. Absent these waivers or reimbursement arrangements, performance results would have been lower. Since Inception performance shown is cumulative for periods less than one year.

Target Retirement Date Funds

Multi Asset - Mutual Fund	Morningstar Category	Inception Date	Total Returns		Average Annual Total Returns				Total Annual Operating Expenses (%/Per \$1000)		Fee Waiver Expiration	Shareholder Fees & Restrictions*
			3 Month	YTD	1 Year	3 Year	5 Year	10 Year/ Since Inception	Gross	Net		
Vanguard Target Retirement 2020 Fund (VTWNX) ^{1,2,3,4}	Target-Date 2020	06/07/06	4.97%	-14.15%	-14.15%	1.33%	3.22%	5.83%	0.08%	0.08%	-	Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
Benchmark: Morningstar Lifetime Allocation Moderate 2020 TR USD			6.31%	-16.77%	-16.77%	0.94%	3.02%	5.16%				
Vanguard Target Retirement 2025 Fund (VTVX) ^{1,2,3,4}	Target-Date 2025	10/27/03	6.03%	-15.55%	-15.55%	1.66%	3.58%	6.43%	0.08%	0.08%	-	Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
Benchmark: Morningstar Lifetime Allocation Moderate 2025 TR USD			6.92%	-17.58%	-17.58%	1.04%	3.20%	5.79%				

Investment products, insurance and annuity products: are not FDIC insured, are not bank guaranteed, are not deposits, are not insured by any federal government agency, are not a condition to any banking service or activity, and may lose value.

Multi Asset - Mutual Fund	Morningstar Category	Inception Date	Total Returns		Average Annual Total Returns				Total Annual Operating Expenses (%/Per \$1000)		Fee Waiver Expiration	Shareholder Fees & Restrictions*
			3 Month	YTD	1 Year	3 Year	5 Year	10 Year/ Since Inception	Gross	Net		
Vanguard Target Retirement 2035 Fund (VTTHX) ^{1,2,3,4}	Target-Date 2035	10/27/03	7.45%	-16.62%	-16.62%	2.64%	4.34%	7.57%	0.08%	0.08%	-	Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
Benchmark: Morningstar Lifetime Allocation Moderate 2035 TR USD			8.60%	-17.75%	-17.75%	1.95%	3.97%	7.14%				
Vanguard Target Retirement 2040 Fund (VFORX) ^{1,2,3,4}	Target-Date 2040	06/07/06	8.20%	-16.98%	-16.98%	3.17%	4.74%	8.06%	0.08%	0.08%	-	Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
Benchmark: Morningstar Lifetime Allocation Moderate 2040 TR USD			9.50%	-17.37%	-17.37%	2.54%	4.36%	7.55%				
Vanguard Target Retirement 2045 Fund (VTIVX) ^{1,2,3,4}	Target-Date 2045	10/27/03	8.89%	-17.36%	-17.36%	3.74%	5.14%	8.34%	0.08%	0.08%	-	Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
Benchmark: Morningstar Lifetime Allocation Moderate 2045 TR USD			10.16%	-17.06%	-17.06%	2.92%	4.58%	7.70%				
Vanguard Target Retirement 2050 Fund (VFIFX) ^{1,2,3,4}	Target-Date 2050	06/07/06	9.23%	-17.46%	-17.46%	3.80%	5.18%	8.36%	0.08%	0.08%	-	Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
Benchmark: Morningstar Lifetime Allocation Moderate 2050 TR USD			10.49%	-16.91%	-16.91%	3.04%	4.62%	7.68%				
Vanguard Target Retirement 2055 Fund (VFFVX) ^{1,2,3,4}	Target-Date 2055	08/18/10	9.23%	-17.46%	-17.46%	3.79%	5.18%	8.34%	0.08%	0.08%	-	Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
Benchmark: Morningstar Lifetime Allocation Moderate 2055 TR USD			10.59%	-16.93%	-16.93%	3.00%	4.55%	7.59%				
Vanguard Target Retirement 2060 Fund (VTTSX) ^{1,2,3,4}	Target-Date 2060	01/19/12	9.23%	-17.46%	-17.46%	3.79%	5.18%	8.34%	0.08%	0.08%	-	Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
Benchmark: Morningstar Lifetime Allocation Moderate 2060 TR USD			10.65%	-16.98%	-16.98%	2.92%	4.46%	7.49%				
Vanguard Target Retirement 2065 Fund (VLXVX) ^{1,2,3,4}	Target-Date 2065+	07/12/17	9.24%	-17.39%	-17.39%	3.78%	5.15%	6.42%	0.08%	0.08%	-	Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
Benchmark: Morningstar Lifetime Allocation Moderate 2060 TR USD			10.65%	-16.98%	-16.98%	2.92%	4.46%	5.88%				
Vanguard Target Retirement 2070 Fund (VSVNX) ^{1,2,4}	Target-Date 2065+	06/28/22	9.21%	-	-	-	-	1.02%	0.08%	0.08%	-	Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
Benchmark: Morningstar Lifetime Allocation Moderate 2060 TR USD			10.65%	-	-	-	-	1.75%				
Vanguard Target Retirement Income Fund (VTINX) ^{1,2,3,4}	Target-Date Retirement	10/27/03	3.74%	-12.74%	-12.74%	0.34%	2.30%	3.62%	0.08%	0.08%	-	Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
Benchmark: Morningstar Lifetime Allocation Moderate Income TR USD			5.09%	-12.24%	-12.24%	1.45%	2.95%	3.82%				

Core Mutual Funds

Equities - Mutual Fund	Morningstar Category	Inception Date	Total Returns		Average Annual Total Returns				Total Annual Operating Expenses (%/Per \$1000)		Fee Waiver Expiration	Shareholder Fees & Restrictions*
			3 Month	YTD	1 Year	3 Year	5 Year	10 Year/ Since Inception	Gross	Net		
Vanguard Emerging Markets Stock Index Fund Institutional Shares (VEMIX) ^{1,4,5}	Diversified Emerging Mkts	06/22/00	8.22%	-17.74%	-17.74%	-1.46%	-0.31%	1.59%	0.10%	0.10%	-	Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
Benchmark: MSCI EM NR USD			9.70%	-20.09%	-20.09%	-2.69%	-1.40%	1.44%				
Vanguard Institutional Index Fund Institutional Plus Shares (VIGIX) ¹	Large Blend	07/07/97	7.55%	-18.13%	-18.13%	7.65%	9.41%	12.55%	0.02%	0.02%	-	Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
Benchmark: S&P 500 TR USD			7.56%	-18.11%	-18.11%	7.66%	9.42%	12.56%				
Vanguard Mid-Cap Index Fund Institutional Shares (VMCIX) ^{1,6}	Mid-Cap Blend	05/21/98	9.01%	-18.70%	-18.70%	6.18%	7.32%	11.11%	0.04%	0.04%	-	Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
Benchmark: CRSP US Mid Cap TR USD			9.03%	-18.68%	-18.68%	6.19%	7.34%	11.13%				
Vanguard Real Estate Index Fund Institutional Shares (VGSNX) ^{1,4,7}	Real Estate	12/02/03	4.36%	-26.17%	-26.17%	-0.39%	3.71%	6.45%	0.10%	0.10%	-	Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
Benchmark: S&P United States REIT TR USD			5.27%	-24.36%	-24.36%	0.02%	3.68%	6.37%				
Vanguard Small-Cap Index Fund Institutional Shares (VSCIX) ^{1,6}	Small Blend	07/07/97	7.96%	-17.60%	-17.60%	4.94%	5.95%	10.12%	0.04%	0.04%	-	Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
Benchmark: CRSP US Small Cap TR USD			7.95%	-17.64%	-17.64%	4.90%	5.92%	10.15%				
Vanguard Total International Stock Index Fund Institutional Shares (VTSNX) ^{1,4,8}	Foreign Large Blend	11/29/10	14.72%	-15.98%	-15.98%	0.53%	1.12%	4.09%	0.08%	0.08%	-	Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
Benchmark: MSCI ACWI Ex USA NR USD			14.28%	-16.00%	-16.00%	0.07%	0.88%	3.80%				

Fixed Income - Mutual Fund	Morningstar Category	Inception Date	Total Returns		Average Annual Total Returns				Total Annual Operating Expenses (%/Per \$1000)		Fee Waiver Expiration	Shareholder Fees & Restrictions*
			3 Month	YTD	1 Year	3 Year	5 Year	10 Year/ Since Inception	Gross	Net		
Vanguard Inflation-Protected Securities Fund Institutional Shares (VIPIX) ¹	Inflation-Protected Bond	12/12/03	1.81%	-11.90%	-11.90%	1.13%	1.98%	1.04%	0.07%	0.07%	-	Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
Benchmark: Bloomberg US Treasury US TIPS TR USD			2.04%	-11.85%	-11.85%	1.21%	2.11%	1.12%				

Fixed Income - Mutual Fund	Morningstar Category	Inception Date	Total Returns		Average Annual Total Returns				Total Annual Operating Expenses (%/Per \$1000)		Fee Waiver Expiration	Shareholder Fees & Restrictions*
			3 Month	YTD	1 Year	3 Year	5 Year	10 Year/ Since Inception	Gross	Net		
Vanguard Total Bond Market Index Fund Institutional Shares (VBTIX) ¹	Intermediate Core Bond	09/18/95	1.67%	-13.15%	-13.15%	-2.73%	0.01%	1.02%	0.04%	0.04%	-	Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
Benchmark: Bloomberg US Aggregate Float Adjusted TR USD			1.85%	-13.07%	-13.07%	-2.67%	0.06%	1.08%				

Money Market - Mutual Fund	Morningstar Category	Inception Date	7-Day Yield**	Total Returns		Average Annual Total Returns				Total Annual Operating Expenses (%/Per \$1000)		Fee Waiver Expiration	Shareholder Fees & Restrictions*
				3 Month	YTD	1 Year	3 Year	5 Year	10 Year/ Since Inception	Gross	Net		
Vanguard Cash Reserves Federal Money Market Fund Admiral Shares (VMRXX) ¹	Money Market-Taxable	10/03/89	4.23%	0.88%	1.56%	1.56%	0.72%	1.29%	0.83%	0.10%	0.10%	-	-
Benchmark: FTSE Treasury Bill 3 Month USD				0.87%	1.50%	1.50%	0.71%	1.25%	0.74%				

You could lose money by investing in a money market fund. Although a money market fund seeks to preserve the value of your investment at \$1.00 per share, it cannot guarantee it will do so. An investment in a money market fund is not insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency. A money market fund's sponsor has no legal obligation to provide support to a money market fund, and you should not expect that the sponsor will provide financial support to a money market fund at any time.

**The current yield more closely reflects the earnings of this investment choice.

Fixed and Variable Annuities

Equities - Variable Annuity	Morningstar Category	Inception Date	Total Returns		Average Annual Total Returns				Total Annual Operating Expenses (%/Per \$1000)		Fee Waiver Expiration	Shareholder Fees & Restrictions*
			3 Month	YTD	1 Year	3 Year	5 Year	10 Year/ Since Inception	Gross	Net		
CREF Stock Account (R3) (QCSTIX) ^{9,10,11,12}	Allocation-85% + Equity	04/24/15 07/31/52	10.17%	-18.45%	-18.45%	4.57%	5.65%	9.12%	0.23%	0.23%	-	Round Trip: If a round trip is made within 60 calendar days, exchanges into the same account will be restricted for 90 calendar days.
Benchmark: Morningstar Aggressive Target Risk TR USD			10.85%	-15.93%	-15.93%	3.75%	5.25%	8.38%				
Benchmark: CREF Stock Account Composite Index			9.68%	-18.17%	-18.17%	4.98%	6.39%	9.68%				

Real Estate - Variable Annuity	Morningstar Category	Inception Date	Total Returns		Average Annual Total Returns				Total Annual Operating Expenses (%/Per \$1000)		Fee Waiver Expiration	Shareholder Fees & Restrictions*
			3 Month	YTD	1 Year	3 Year	5 Year	10 Year/ Since Inception	Gross	Net		
TIAA Real Estate Account (QREARX) ^{11,13,14}	Miscellaneous Sector	10/02/95	-3.49%	8.19%	8.19%	8.14%	6.93%	7.41%	0.77%	0.77%	-	Transfers out: Limit 1 per quarter. Limitations may apply to any transaction resulting in a balance > \$150,000.

Multi Asset - Variable Annuity	Morningstar Category	Inception Date	Total Returns		Average Annual Total Returns				Total Annual Operating Expenses (%/Per \$1000)		Fee Waiver Expiration	Shareholder Fees & Restrictions*
			3 Month	YTD	1 Year	3 Year	5 Year	10 Year/ Since Inception	Gross	Net		
CREF Social Choice Account (R3) (QCSCIX) ^{9,10,11,12}	Allocation-50% to 70% Equity	04/24/15 03/01/90	7.47%	-15.47%	-15.47%	2.63%	4.56%	6.60%	0.19%	0.19%	-	Round Trip: If a round trip is made within 60 calendar days, exchanges into the same account will be restricted for 90 calendar days.
Benchmark: Morningstar Moderate Target Risk TR USD			7.76%	-14.77%	-14.77%	1.95%	3.73%	5.82%				
Benchmark: CREF Social Choice Account Composite Index			6.73%	-15.56%	-15.56%	2.49%	4.36%	6.65%				

Multi Asset - Variable Annuity	Morningstar Category	Inception Date	Total Returns		Average Annual Total Returns				Total Annual Operating Expenses (%/Per \$1000)		Fee Waiver Expiration	Shareholder Fees & Restrictions*
			3 Month	YTD	1 Year	3 Year	5 Year	10 Year/ Since Inception	Gross	Net		
CREF Social Choice Account (R4) (QSCCFX) ^{10,11,15}	Allocation-50% to 70% Equity	09/16/22 03/01/90	7.51%	-15.43%	-15.43%	2.64%	4.57%	7.81%	0.07%	0.07%	-	Round Trip: If a round trip is made within 60 calendar days, exchanges into the same account will be restricted for 90 calendar days.
Benchmark: Morningstar Moderate Target Risk TR USD			7.76%	-14.77%	-14.77%	1.95%	3.73%	-				
Benchmark: CREF Social Choice Account Composite Index			6.73%	-15.56%	-15.56%	2.49%	4.36%	7.87%				

Money Market - Variable Annuity	Morningstar Category	Inception Date	7-Day Yield**	Total Returns		Average Annual Total Returns				Total Annual Operating Expenses (%/Per \$1000)		Fee Waiver Expiration	Shareholder Fees & Restrictions*
				3 Month	YTD	1 Year	3 Year	5 Year	10 Year/ Since Inception	Gross	Net		
CREF Money Market Account (R3) (QCMMIX) ^{9,10,11,12,16,17}	Money Market-Taxable	04/24/15 04/01/88	3.97%	0.81%	1.24%	1.24%	0.54%	1.02%	0.57%	0.18%	0.18%	-	-
Benchmark: iMoneyNet Money Fund Averages-All Government				0.80%	1.33%	1.33%	0.54%	0.96%	0.54%				

You could lose money by investing in the CREF Money Market Account. Because the accumulation unit value of the Account will fluctuate, the value of your investment may increase or decrease. An investment in the Account is not insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency. The Account's sponsor has no legal obligation to provide support to the Account, and you should not expect that the sponsor will provide financial support to the Account at any time.

**The current yield more closely reflects the earnings of this investment choice.

Guaranteed - Fixed Annuity	Inception Date	Total Returns			Average Annual Total Returns				Current Rates	
		3 Month	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception	Rate	Guaranteed Minimum Rate
TIAA Traditional Annuity - Group Retirement Annuity ^{18,19,20}	-	1.02%	3.93%	3.93%	3.67%	3.73%	3.86%	-	6.25%	3.00%

Additional Information:

The current rate shown applies to premiums remitted during the month of January 2023 and will be credited through 2/28/2023. This rate is subject to change in subsequent months. Up-to-date rate of return information is available on your plan-specific website noted above or at 800-842-2733. TIAA Traditional guarantees your principal and a minimum annual interest rate. The guaranteed minimum interest rate is 3.00%, and is effective while the funds remain in the contract. The account also offers the opportunity for additional amounts in excess of the guaranteed minimum interest rate. When declared, additional amounts remain in effect for the twelve-month period that begins each March 1 for accumulating annuities and January 1 for payout annuities. Additional amounts are not guaranteed for the future years. All guarantees are subject to TIAA's claims paying ability. TIAA Traditional is designed primarily to help meet your long-term retirement income needs; it is not a short-term savings vehicle. Therefore, some contracts require that benefits are paid in installments over time and/or may impose surrender charges on certain withdrawals. TIAA has rewarded participants who save in contracts where benefits are paid in installments over time instead of in an immediate lump-sum by crediting higher interest rates, typically 0.50% to 0.75% higher. Higher rates will lead to higher account balances and more retirement income for you. For Group Retirement Annuity (GRA) contracts, and subject to the terms of your employer's plan, lump-sum withdrawals are available from the TIAA Traditional account only within 120 days after termination of employment and are subject to a 2.5% surrender charge. All other withdrawals and transfers from the account must be paid in ten annual installments. After termination of employment additional income options may be available including income for life, income for a fixed period, interest-only payments and IRS required minimum distributions.

Guaranteed - Fixed Annuity	Inception Date	Total Returns			Average Annual Total Returns				Current Rates	
		3 Month	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception	Rate	Guaranteed Minimum Rate
TIAA Traditional Annuity - Retirement Annuity ^{18,19,20}	-	1.02%	3.93%	3.93%	3.67%	3.73%	3.86%	-	6.25%	3.00%

Additional Information:

The current rate shown applies to premiums remitted during the month of January 2023 and will be credited through 2/28/2023. This rate is subject to change in subsequent months. Up-to-date rate of return information is available on your plan-specific website noted above or at 800-842-2733. TIAA Traditional guarantees your principal and a minimum annual interest rate. The guaranteed minimum interest rate is 3.00%, and is effective while the funds remain in the contract. The account also offers the opportunity for additional amounts in excess of the guaranteed minimum interest rate. When declared, additional amounts remain in effect for the twelve-month period that begins each March 1 for accumulating annuities and January 1 for payout annuities. Additional amounts are not guaranteed for the future years. All guarantees are subject to TIAA's claims paying ability. TIAA Traditional is designed primarily to help meet your long-term retirement income needs; it is not a short-term savings vehicle. Therefore, some contracts require that benefits are paid in installments over time and/or may impose surrender charges on certain withdrawals. TIAA has rewarded participants who save in contracts where benefits are paid in installments over time instead of in an immediate lump-sum by crediting higher interest rates, typically 0.50% to 0.75% higher. Higher rates will lead to higher account balances and more retirement income for you. For Retirement Annuity (RA) contracts, lump-sum withdrawals are not available from the TIAA Traditional account. Subject to the terms of your plan, all withdrawals and transfers from the account must be paid in ten annual installments. After termination of employment additional income options may be available including income for life, interest-only payments, and IRS required minimum distribution payments.

Guaranteed - Fixed Annuity	Inception Date	Total Returns		Average Annual Total Returns					Current Rates	
		3 Month	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception	Rate	Guaranteed Minimum Rate
TIAA Traditional Annuity - Retirement Choice ^{18,19,20}	08/01/05	1.08%	4.17%	4.17%	3.90%	3.97%	4.14%	4.34%	6.50%	1.00%

Additional Information:

The current rate shown applies to premiums remitted during the month of January 2023 and will be credited through 2/28/2023. This rate is subject to change in subsequent months. Up-to-date rate of return information is available on your plan-specific website noted above or at 800-842-2733. TIAA Traditional guarantees your principal and a minimum annual interest rate. The current guaranteed minimum interest rate for premiums remitted in 2022 is 1.00%, and is effective through 2031. The account also offers the opportunity for additional amounts in excess of the minimum interest rate. When declared, additional amounts remain in effect for the twelve-month period that begins each March 1 for accumulating annuities and January 1 for payout annuities. Additional amounts are not guaranteed for the future years. All guarantees are subject to TIAA's claims paying ability. TIAA Traditional is designed primarily to help meet your long-term retirement income needs; it is not a short-term savings vehicle. Therefore, some contracts require that benefits are paid in installments over time and/or may impose surrender charges on certain withdrawals. TIAA has rewarded participants who save in contracts where benefits are paid in installments over time instead of in an immediate lump-sum by crediting higher interest rates, typically 0.50% to 0.75% higher. Higher rates will lead to higher account balances and more retirement income for you. For Retirement Choice (RC) contracts, and subject to the terms of your employer's plan, lump-sum withdrawals are available from the TIAA Traditional account only within 120 days after termination of employment and are subject to a 2.5% surrender charge. All other withdrawals and transfers from the account must be paid in 84 monthly installments (7 years). If the Contractholder elects to remove TIAA Traditional, the contract's entire TIAA Traditional accumulation will be paid out in 60 monthly installments without any surrender charge.

A Note About Risk

Equity risk refers to the risk of loss due to the market price of shares falling. Equity funds and variable annuity accounts generally carry a higher degree of risk than fixed income funds and accounts. Fixed income funds and variable annuity accounts are not guaranteed and are subject to interest rate, inflation and credit risks.

Variable annuity accounts that invest in real estate securities are subject to various risks, including fluctuation in property values, higher expenses or lower income than expected, and potential environmental problems and liability.

Guaranteed investments offer a guaranteed rate of return but such guarantees are subject to the claims-paying ability of the issuing insurance company.

More detailed information on risks applicable to a particular investment option can be found in the prospectus or other product literature.

Fees and Expenses

*Some Plans may allocate plan costs to participants to offset the cost of recordkeeping and other plan services. When the Plan allocates these costs at the investment-level there may be a plan services fee or credit displayed in the "Shareholder fees & restrictions" column. If the costs are allocated at the plan-level (regardless of investment) it is not displayed on the Quarterly Investment Update.

Fee and expense information for the variable return investment options include the Total Annual Operating Expenses expressed as a percentage and a dollar amount based upon a \$1,000 accumulation both as net (after) and gross (before) of expenses. Total Annual Operating Expenses is a measure of what it costs to operate an investment, expressed as a percentage of its assets, as a dollar amount or in basis points. These are costs the investor pays through a reduction in the investment's rate of return. Expense information shown is based on the most recent information available, but may not reflect all updates and may differ slightly from the prospectus due to rounding. Please consult the most recent prospectus or offering document for more detailed information.

For more information on the impact of fees and expenses associated with your plan, please visit TIAA.org/fees. Fees are only one of many factors to consider when making an investment decision.

About the Benchmark

A benchmark provides an investor with a point of reference to evaluate an investment's performance. One common type of benchmark used to compare investment performance is called an index. Indexes are unmanaged portfolios of securities designed to track the performance of a particular segment of the market. For example, a large cap stock fund or account will usually be compared to an index that tracks a portfolio of large-cap stocks. Conversely, a bond fund or account is typically compared to an index that tracks a portfolio of bonds that is comparable to the fund or account's portfolio in terms of credit quality, maturity and liquidity. Each mutual fund or account shown in the table includes performance information for an index that the advisor determined provides a fair comparison of the fund or account's investment performance. Indexes are for comparison purposes only. You cannot invest directly in any index. Index returns do not reflect a deduction for fees or expenses.

Data Providers

Unless otherwise noted, data on nonproprietary investment products, including performance, Morningstar Category and expenses, is provided by Morningstar, Inc. All other data provided by Teachers Insurance and Annuity Association of America - College Retirement Equities Fund. Benchmark performance shown across proprietary and nonproprietary funds/accounts is provided by TIAA with the exception of Since Inception periods calculated using a nonproprietary fund's inception date. TIAA reserves the rights to all proprietary data herein, and is not responsible for any damages or losses arising from any use of this information.

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The Morningstar Category classifies a fund based on its investment style as measured by underlying portfolio holdings (portfolio statistics and compositions over the past three years). If the fund is new

and has no portfolio, Morningstar estimates where it will fall before assigning a more permanent category. When necessary, Morningstar may change a category assignment based on current information.

Important Information

- 1 Accumulations in funds not managed by TIAA may be subject to administrative charges. These charges are subject to change. Please review current documents related to your plan.
- 2 As Target Retirement Date Funds are actively managed, their asset allocations are subject to change and may vary from those indicated. They invest in many underlying funds and are exposed to the risks of different areas of the market. Please note that, as with all mutual funds, the principal value of a Target Retirement Date Fund is not guaranteed. The higher a fund's allocation to stocks, the greater the risk. After the target date has been reached, some of these funds may be merged into a fund with a more stable asset allocation. In addition to the fund level expenses these funds are also subject to the expenses of their underlying investments. Please consult the prospectus for more complete information.
- 3 Prior to April 27, 2022 the Vanguard Target Retirement Fund was known as the Vanguard Target Retirement Investor Fund.
- 4 The index shown is for comparative purposes only, and may not match other websites or publications.
- 5 Securities issued in developing markets, where there is greater potential for political, currency and economic volatility, may be less liquid than those issued in more developed countries and foreign investors in these markets may be subject to special restrictions which could have an adverse impact on performance.
- 6 Securities of smaller companies may be more volatile than those of larger ones, and they are also often less liquid than those of larger companies because there is a limited market for them.
- 7 Funds that focus their investments in real estate are subject to the risks associated with real estate ownership, including fluctuations in property values, higher expenses or lower income than expected, and potential environmental problems and liability.
- 8 Securities of foreign issuers may lose value because of erratic market conditions, economic and political instability or fluctuations in currency exchange rates, which may be magnified in emerging markets.
- 9 When more than one inception date is shown, the performance displayed for periods prior to the investment's inception date is hypothetical. The second inception date is that of the fund/account to which such performance is based. Please refer to the investment's performance disclosure for more details.
- 10 Total annual expense deductions, which include investment advisory, administrative, and distribution (12b-1) expenses, and mortality and expense risk charges, are estimated each year based on projected expense and asset levels. Differences between actual expenses and the estimate are adjusted quarterly and are reflected in current investment results. Historically, adjustments have been small.
- 11 The Account's total annual expense deduction appears in the Account's prospectus, and may be different than that shown herein due to rounding. Please refer to the prospectus for further details.
- 12 The performance shown for Class R3 that is prior to its inception date is based on the performance of the Account's Class R1. The performance for these periods has not been restated to reflect the lower expenses of Class R3. If these lower expenses had been reflected, the performance of Class R3 for these periods would have been higher.
- 13 Funds that focus their investments in a specific sector (such as health care or technology) are more vulnerable to developments that affect those industries or sectors than more broadly diversified funds.

14 The total annual expense deduction, which includes investment management, administration, and distribution expenses, mortality and expense risk charges, and the liquidity guarantee, is estimated each year based on projected expense and asset levels. Differences between actual expenses and the estimate are adjusted quarterly and are reflected in current investment results. Historically, adjustments have been small.

15 The performance shown for Class R4 that is prior to its inception date is based on the performance of the Account's Class R3 back to 4/24/2015 and prior to that the Account's Class R1. The performance for these periods has not been restated to reflect the lower expenses of Class R4. If these lower expenses had been reflected| the performance of Class R4 for these periods would have been higher.

16 You could lose money by investing in the CREF Money Market Account (the ""Account""). Because the accumulation unit value of the Account will fluctuate, the value of your investment may increase or decrease. An investment in the Account is not insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency. The Account's sponsor has no legal obligation to provide support to the Account, and you should not expect that the sponsor will provide financial support to the Account at any time. Between July 16, 2009 and March 7, 2017, TIAA withheld (""waived"") a portion of the Rule 12b-1 distribution and/or administrative expenses for each class of the Account when a class's yield was less than zero. Without this waiver, the total returns of the Account would have been lower. For a period of three years after the date an amount was waived, it was eligible for recoupment by TIAA, under certain conditions. All eligible expenses for this waiver were recouped by July 2018 for Class R3, September 2018 for Class R2 and June 2019 for Class R1. Beginning in 2020, TIAA agreed to a new waiver of a portion of the Rule 12b-1 distribution and/or administrative expenses for each class of the Account when a class's yield is less than zero. This waiver of expenses expired as of December 31, 2021. Without this waiver, the total returns of each class of the Account would have been lower, and could be negative. TIAA may, for a period of three years after the date an amount was waived, recover from the Account a portion of the amounts waived at such time as the class's daily yield would be positive absent the effect of the waiver and, in such event, the amount of recovery on any day will be approximately 25% of the class's yield (net of all other expenses) on that day.

17 iMoneyNet reports yields as of the last Tuesday of the month. Yields for the iMoneyNet Money Fund Report Averages-All Taxable and the annuity account(s) that track this industry average are calculated based on this date.

18 The TIAA Traditional Annuity guarantees principal and a specified interest rate (based on TIAA's claims paying ability). It also offers the potential for greater growth through additional amounts, which may be declared on a year-by-year basis by the TIAA Board of Trustees. These additional amounts, when declared, remain in effect for the ""declaration year"" which begins each March 1. Additional amounts are not guaranteed. For more up to date information please visit your employer's microsite or TIAA.org. TIAA Traditional is a guaranteed insurance contract and not an investment for federal securities law purposes.

19 Accumulations are credited with interest based on when contributions and transfers are received, and your performance will reflect your pattern of contributions. The returns shown in the table reasonably represent what an individual making level monthly premiums would have historically earned over the time periods. Returns for different time periods are calculated in two steps: monthly performance returns are calculated from an accumulation created by a series of level monthly premiums over the prior 10 years (or the inception date of the product if later), and those monthly returns are linked together to determine historical performance for each of the return periods shown.

20 The Current Rates, Minimum Guaranteed Rates and Fees (if applicable) shown for guaranteed annuities are the rates in effect as of the first day of the month following quarter end. Depending upon the contract, these may apply to new money only or to both new money and existing accumulations. See your annuity contract or certificate for details.



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Mutual funds are offered through your plan sponsor's retirement plan, which is recordkept by TIAA. Funds are offered at that day's net asset value (NAV), and the performance is displayed accordingly. Performance at NAV does not reflect sales charges, which are waived through your retirement plan. If included, the sales charges would have reduced the performance as quoted.

Before making your investment choices and completing your enrollment form, you should consider the investment objectives, risks, charges and expenses carefully. Please call 877-518-9161 for paper copies of the product and fund prospectuses that contain this and other information. Please read the prospectuses carefully before investing.

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