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/planinvestoptions 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.

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<th>Equities - Variable Annuity</th>
<th>Morningstar Category</th>
<th>Inception Date</th>
<th>3 Month</th>
<th>YTD</th>
<th>1 Year</th>
<th>3 Year</th>
<th>5 Year</th>
<th>10 Year/Since Inception</th>
<th>Gross</th>
<th>Net</th>
<th>Fee Waiver Expiration</th>
<th>Shareholder Fees &amp; Restrictions*</th>
</tr>
</thead>
<tbody>
<tr>
<td>CREF Equity Index Account (R3) (QCEQIX)</td>
<td>Large Blend</td>
<td>04/24/15 04/29/94</td>
<td>-14.29%</td>
<td>-5.37%</td>
<td>-5.37%</td>
<td>8.75%</td>
<td>7.66%</td>
<td>12.83%</td>
<td>0.23%</td>
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<td>-14.30%</td>
<td>-5.24%</td>
<td>-5.24%</td>
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<td>7.91%</td>
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<tr>
<td>CREF Global Equities Account (R3) (QCGLIX)</td>
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<td>-12.36%</td>
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<td>3.60%</td>
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<td>-9.42%</td>
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<td>9.46%</td>
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<td>Benchmark: MSCI World Index</td>
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<td>-13.42%</td>
<td>-8.71%</td>
<td>-8.71%</td>
<td>6.30%</td>
<td>4.56%</td>
<td>9.67%</td>
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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.
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<th>Morningstar Category</th>
<th>Inception Date</th>
<th>3 Month</th>
<th>YTD</th>
<th>1 Year</th>
<th>3 Year</th>
<th>5 Year</th>
<th>10 Year/Since Inception</th>
<th>Gross</th>
<th>Net</th>
<th>Fee Waiver Expiration</th>
<th>Shareholder Fees &amp; Restrictions*</th>
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<td>CREF Growth Account (R3) (QCGRIX)</td>
<td>Large Growth</td>
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<td>9.87%</td>
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<td>-1.51%</td>
<td>11.15%</td>
<td>10.40%</td>
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<td>5.81%</td>
<td>11.21%</td>
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<td>-2.76%</td>
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<td>8.16%</td>
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<td>8.49%</td>
<td>13.12%</td>
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<td>1.71%</td>
<td>7.99%</td>
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<td>6.32%</td>
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<td>05/02/11</td>
<td>-7.33%</td>
<td>-14.66%</td>
<td>-14.66%</td>
<td>9.14%</td>
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<td>1.65%</td>
<td>-0.45%</td>
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<td>-18.19%</td>
<td>-18.19%</td>
<td>7.96%</td>
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<td>YTD</td>
<td>1 Year</td>
<td>3 Year</td>
<td>5 Year</td>
<td>10 Year/Since Inception</td>
<td>Gross</td>
<td>Net</td>
<td>Fee Waiver Expiration</td>
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<td>-5.32%</td>
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<td>7.80%</td>
<td>13.02%</td>
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<td>Round Trip: You cannot transfer into the account within 30 calendar days of transferring out.</td>
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<tr>
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<td>Benchmark: Russell 3000 Index</td>
<td>-14.30%</td>
<td>-5.24%</td>
<td>-5.24%</td>
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<td>7.91%</td>
<td>13.18%</td>
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<td>7.45%</td>
<td>12.66%</td>
<td>0.51%</td>
<td>0.51%</td>
<td>02/28/19</td>
<td>Round Trip: You cannot transfer into the account within 30 calendar days of transferring out.</td>
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<tr>
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<td>Benchmark: S&amp;P 500 Index</td>
<td>-13.52%</td>
<td>-4.38%</td>
<td>-4.38%</td>
<td>9.26%</td>
<td>8.49%</td>
<td>13.12%</td>
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<tr>
<td>TIAA Access TIAA-CREF International Equity Index T1 (Level 1)</td>
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<td>-13.34%</td>
<td>-13.34%</td>
<td>3.14%</td>
<td>0.59%</td>
<td>6.18%</td>
<td>0.16%</td>
<td>0.16%</td>
<td>02/28/19</td>
<td>Round Trip: You cannot transfer into the account within 30 calendar days of transferring out.</td>
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<tr>
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<td>Benchmark: MSCI EAFE Index</td>
<td>-12.54%</td>
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<td>-13.79%</td>
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<td>0.53%</td>
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<td>-1.65%</td>
<td>10.97%</td>
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<td>Round Trip: You cannot transfer into the account within 30 calendar days of transferring out.</td>
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<td>11.15%</td>
<td>10.40%</td>
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<td>-8.41%</td>
<td>6.78%</td>
<td>5.79%</td>
<td>10.98%</td>
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<td>0.16%</td>
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<td>Round Trip: You cannot transfer into the account within 30 calendar days of transferring out.</td>
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<td>Benchmark: Russell 1000 Value Index</td>
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<td>-8.27%</td>
<td>6.95%</td>
<td>5.95%</td>
<td>11.18%</td>
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<td>-16.32%</td>
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<td>3.48%</td>
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<td>Round Trip: You cannot transfer into the account within 30 calendar days of transferring out.</td>
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<td>Benchmark: Russell 1000 Value Index</td>
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<td>-8.27%</td>
<td>6.95%</td>
<td>5.95%</td>
<td>11.18%</td>
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<td>TIAA Access TIAA-CREF Mid-Cap Growth T1 (Level 1)</td>
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<td>15.12%</td>
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<td>02/01/07 10/01/02</td>
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<td>02/28/19</td>
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<td>02/28/19</td>
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<td>Inception Date</td>
<td>3 Month</td>
<td>YTD</td>
<td>1 Year</td>
<td>3 Year</td>
<td>5 Year</td>
<td>10 Year/ Since Inception</td>
<td>Gross</td>
<td>Net</td>
<td>Fee Waiver Expiration</td>
<td>Shareholder Fees &amp; Restrictions*</td>
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<td>-4.04%</td>
<td>-4.04%</td>
<td>4.24%</td>
<td>8.32%</td>
<td>12.53%</td>
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<td>-4.55%</td>
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<td>9.07%</td>
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<tr>
<td>TIAA Access TIAA-CREF Small-Cap Blend Index T1 (Level 1)</td>
<td>Small Blend</td>
<td>02/01/07 10/01/02</td>
<td>-20.16%</td>
<td>-10.93%</td>
<td>-10.93%</td>
<td>7.46%</td>
<td>4.54%</td>
<td>11.97%</td>
<td>0.16%</td>
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<tr>
<td>Benchmark: Russell 2000 Index</td>
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<td>-20.20%</td>
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<td>-11.01%</td>
<td>7.36%</td>
<td>4.41%</td>
<td>11.97%</td>
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<tr>
<td>TIAA Access TIAA-CREF Social Choice Equity T1 (Level 1)</td>
<td>Large Blend</td>
<td>02/01/07 07/01/99</td>
<td>-13.74%</td>
<td>-5.63%</td>
<td>-5.63%</td>
<td>8.94%</td>
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<td>12.58%</td>
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<td>Benchmark: Russell 3000 Index</td>
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<td>-14.30%</td>
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<td>13.18%</td>
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<tr>
<td>TIAA Access TRP Institutional Large-Cap Growth T1 (Level 1)</td>
<td>Large Growth</td>
<td>02/01/07 10/31/01</td>
<td>-12.87%</td>
<td>4.21%</td>
<td>4.21%</td>
<td>13.81%</td>
<td>11.98%</td>
<td>17.98%</td>
<td>0.66%</td>
<td>0.66%</td>
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<td>Benchmark: Russell 1000 Growth Index</td>
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<td>-15.89%</td>
<td>-1.51%</td>
<td>-1.51%</td>
<td>11.15%</td>
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<tr>
<td>TIAA Access Vanguard Emerging Markets Stock Index T1 (Level 1)</td>
<td>Diversified Emerging Mkts</td>
<td>05/02/11 06/22/00</td>
<td>-6.32%</td>
<td>-14.62%</td>
<td>-14.62%</td>
<td>7.75%</td>
<td>1.23%</td>
<td>7.36%</td>
<td>0.21%</td>
<td>0.21%</td>
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<td>$2.10</td>
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<tr>
<td>Benchmark: MSCI Emerging Markets Index</td>
<td></td>
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<td>-7.47%</td>
<td>-14.58%</td>
<td>-14.58%</td>
<td>9.25%</td>
<td>1.65%</td>
<td>8.02%</td>
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<td>TIAA Access Vanguard Explorer T1 (Level 1)</td>
<td>Small Growth</td>
<td>05/02/11 11/12/01</td>
<td>-19.53%</td>
<td>-2.48%</td>
<td>-2.48%</td>
<td>10.40%</td>
<td>5.95%</td>
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<td>0.42%</td>
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<tr>
<td>Benchmark: Russell 2500 Growth Index</td>
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<td>-20.08%</td>
<td>-7.47%</td>
<td>-7.47%</td>
<td>8.11%</td>
<td>6.19%</td>
<td>14.76%</td>
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<tr>
<td>TIAA Access Vanguard Selected Value T1 (Level 1)</td>
<td>Mid-Cap Value</td>
<td>05/02/11 02/15/96</td>
<td>-16.16%</td>
<td>-19.81%</td>
<td>-19.81%</td>
<td>3.62%</td>
<td>2.59%</td>
<td>11.73%</td>
<td>0.49%</td>
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<td>Benchmark: Russell Midcap Value Index</td>
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<td>-14.95%</td>
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<td>-12.29%</td>
<td>6.06%</td>
<td>5.44%</td>
<td>13.03%</td>
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<td>TIAA Access Vanguard Small-Cap Value Index T1 (Level 1)</td>
<td>Small Value</td>
<td>05/02/11 12/07/99</td>
<td>-17.53%</td>
<td>-12.32%</td>
<td>-12.32%</td>
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<td>5.05%</td>
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<td>$1.60</td>
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<tr>
<td>Benchmark: CRSP US Small Cap Value Index</td>
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<td>-17.51%</td>
<td>-12.27%</td>
<td>-12.27%</td>
<td>6.99%</td>
<td>5.26%</td>
<td>14.22%</td>
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### Real Estate - Variable Annuity

<table>
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<tr>
<th>Morningstar Category</th>
<th>Inception Date</th>
<th>3 Month</th>
<th>YTD</th>
<th>1 Year</th>
<th>3 Year</th>
<th>5 Year</th>
<th>10 Year/ Since Inception</th>
<th>Gross</th>
<th>Net</th>
<th>Fee Waiver Expiration</th>
<th>Shareholder Fees &amp; Restrictions*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Miscellaneous Sector</td>
<td>10/02/95</td>
<td>0.95%</td>
<td>4.79%</td>
<td>4.79%</td>
<td>6.91%</td>
<td>4.56%</td>
<td>0.79%</td>
<td>$7.90</td>
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<td>Transfers out: Limit 1 per quarter. Limitations may apply to any transaction resulting in a balance &gt; $150,000.</td>
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</table>

### Fixed Income - Variable Annuity

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<tr>
<th>Morningstar Category</th>
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<th>3 Month</th>
<th>YTD</th>
<th>1 Year</th>
<th>3 Year</th>
<th>5 Year</th>
<th>10 Year/ Since Inception</th>
<th>Gross</th>
<th>Net</th>
<th>Fee Waiver Expiration</th>
<th>Shareholder Fees &amp; Restrictions*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intermediate-Term Bond</td>
<td>04/24/15 03/01/90</td>
<td>1.36%</td>
<td>-0.19%</td>
<td>-0.19%</td>
<td>2.45%</td>
<td>2.66%</td>
<td>3.69%</td>
<td>$3.10</td>
<td>$3.10</td>
<td></td>
<td>Round Trip: If a round trip is made within 60 calendar days, exchanges into the same account will be restricted for 90 calendar days.</td>
</tr>
<tr>
<td>Intermediate-Term Bond</td>
<td>05/02/11 09/14/09</td>
<td>1.65%</td>
<td>-0.12%</td>
<td>-0.12%</td>
<td>1.82%</td>
<td>2.32%</td>
<td>2.44%</td>
<td>$2.20</td>
<td>$2.20</td>
<td>07/31/19</td>
<td>Round Trip: You cannot transfer into the account within 30 calendar days of transferring out.</td>
</tr>
<tr>
<td>High Yield</td>
<td>02/01/07 03/31/06</td>
<td>-5.34%</td>
<td>-2.77%</td>
<td>-2.77%</td>
<td>6.10%</td>
<td>3.30%</td>
<td>9.38%</td>
<td>$4.60</td>
<td>$4.60</td>
<td>07/31/19</td>
<td>Round Trip: You cannot transfer into the account within 30 calendar days of transferring out.</td>
</tr>
<tr>
<td>Short-Term Bond</td>
<td>02/01/07 03/31/06</td>
<td>0.73%</td>
<td>1.36%</td>
<td>1.36%</td>
<td>1.70%</td>
<td>1.37%</td>
<td>2.32%</td>
<td>$3.70</td>
<td>$3.70</td>
<td>07/31/19</td>
<td>Round Trip: You cannot transfer into the account within 30 calendar days of transferring out.</td>
</tr>
<tr>
<td>Intermediate Government</td>
<td>05/02/11 02/12/01</td>
<td>2.82%</td>
<td>1.01%</td>
<td>1.01%</td>
<td>1.22%</td>
<td>1.85%</td>
<td>-0.33%</td>
<td>$2.00</td>
<td>$2.00</td>
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<td>Round Trip: You cannot transfer into the account within 30 calendar days of transferring out.</td>
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<tr>
<td>Fixed Income - Variable Annuity</td>
<td>Morningstar Category</td>
<td>Inception Date</td>
<td>3 Month</td>
<td>YTD</td>
<td>1 Year</td>
<td>3 Year</td>
<td>5 Year</td>
<td>10 Year/ Since Inception</td>
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</tr>
<tr>
<td>TIAA Access WA Core Plus Bond T1 (Level 1)</td>
<td>Intermediate-Term Bond</td>
<td>02/01/07</td>
<td>-0.76%</td>
<td>-1.56%</td>
<td>-1.56%</td>
<td>3.27%</td>
<td>3.70%</td>
<td>6.77%</td>
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<tr>
<td>Benchmark: Bloomberg Barclays U.S. Aggregate Bond Index</td>
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<thead>
<tr>
<th>Multi Asset - Variable Annuity</th>
<th>Morningstar Category</th>
<th>Inception Date</th>
<th>3 Month</th>
<th>YTD</th>
<th>1 Year</th>
<th>3 Year</th>
<th>5 Year</th>
<th>10 Year/ Since Inception</th>
</tr>
</thead>
<tbody>
<tr>
<td>CREF Social Choice Account (R3) (QCSCIX)</td>
<td>Allocation-50% to 70% Equity</td>
<td>04/24/15</td>
<td>-7.40%</td>
<td>-4.29%</td>
<td>-4.29%</td>
<td>5.51%</td>
<td>4.46%</td>
<td>8.43%</td>
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<td>Benchmark: CREF Social Choice Account Composite Index</td>
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<tr>
<td>Benchmark: Morningstar Moderate Target Risk Index</td>
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<tr>
<td>TIAA Access TIAA-CREF Lifecycle 2010 T1 (Level 1)</td>
<td>Target-Date 2000-2010</td>
<td>02/01/07</td>
<td>-5.65%</td>
<td>-4.01%</td>
<td>-4.01%</td>
<td>4.68%</td>
<td>3.75%</td>
<td>7.43%</td>
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<tr>
<td>Benchmark: Lifecycle 2010 Fund Composite Index</td>
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<tr>
<td>Benchmark: S&amp;P Target Date 2010 Index</td>
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<tr>
<td>TIAA Access TIAA-CREF Lifecycle 2015 T1 (Level 1)</td>
<td>Target-Date 2015</td>
<td>02/01/07</td>
<td>-6.49%</td>
<td>-4.51%</td>
<td>-4.51%</td>
<td>4.91%</td>
<td>3.93%</td>
<td>7.95%</td>
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<td>Benchmark: Lifecycle 2015 Fund Composite Index</td>
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<td>Benchmark: S&amp;P Target Date 2015 Index</td>
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<tr>
<td>TIAA Access TIAA-CREF Lifecycle 2020 T1 (Level 1)</td>
<td>Target-Date 2020</td>
<td>02/01/07</td>
<td>-7.53%</td>
<td>-5.28%</td>
<td>-5.28%</td>
<td>5.23%</td>
<td>4.14%</td>
<td>8.53%</td>
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<tr>
<td>Benchmark: Lifecycle 2020 Fund Composite Index</td>
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<tr>
<td>Benchmark: S&amp;P Target Date 2020 Index</td>
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</table>

**Operating Expenses**

- **Total Annual:**
  - **Gross:**
    - TIAA Access WA Core Plus Bond T1: $5.30
    - CREF Social Choice Account (R3): $2.70
    - TIAA Access TIAA-CREF Lifecycle 2010 T1: $5.90
    - TIAA Access TIAA-CREF Lifecycle 2015 T1: $6.00
    - TIAA Access TIAA-CREF Lifecycle 2020 T1: $6.00
  - **Net:**
    - TIAA Access WA Core Plus Bond T1: $5.30
    - CREF Social Choice Account (R3): $2.70
    - TIAA Access TIAA-CREF Lifecycle 2010 T1: $5.90
    - TIAA Access TIAA-CREF Lifecycle 2015 T1: $6.00
    - TIAA Access TIAA-CREF Lifecycle 2020 T1: $6.00

**Shareholder Fees & Restrictions**

- **TIAA Access WA Core Plus Bond T1 (Level 1):** Round Trip: You cannot transfer into the account within 30 calendar days of transferring out.
- **CREF Social Choice Account (R3):** Round Trip: If a round trip is made within 60 calendar days, exchanges into the same account will be restricted for 90 calendar days.
- **TIAA Access TIAA-CREF Lifecycle 2010 T1 (Level 1):** Round Trip: You cannot transfer into the account within 30 calendar days of transferring out.
- **TIAA Access TIAA-CREF Lifecycle 2015 T1 (Level 1):** Round Trip: You cannot transfer into the account within 30 calendar days of transferring out.
- **TIAA Access TIAA-CREF Lifecycle 2020 T1 (Level 1):** Round Trip: You cannot transfer into the account within 30 calendar days of transferring out.
<table>
<thead>
<tr>
<th>Multi Asset - Variable Annuity</th>
<th>Morningstar Category</th>
<th>Inception Date</th>
<th>3 Month</th>
<th>YTD</th>
<th>1 Year</th>
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<th>5 Year</th>
<th>10 Year/Since Inception</th>
<th>Gross</th>
<th>Net</th>
<th>Fee Waiver Expiration</th>
<th>Shareholder Fees &amp; Restrictions*</th>
</tr>
</thead>
<tbody>
<tr>
<td>TIAA Access TIAA-CREF Lifecycle 2025 T1 (Level 1)</td>
<td>Target-Date 2025</td>
<td>02/01/07 01/17/07</td>
<td>-8.91%</td>
<td>-6.14%</td>
<td>-6.14%</td>
<td>5.57%</td>
<td>4.33%</td>
<td>9.10%</td>
<td>0.62%</td>
<td>0.51%</td>
<td>09/30/19</td>
<td>Round Trip: You cannot transfer into the account within 30 calendar days of transferring out.</td>
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<tr>
<td>Benchmark: S&amp;P Target Date 2025 Index</td>
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<tr>
<td>TIAA Access TIAA-CREF Lifecycle 2030 T1 (Level 1)</td>
<td>Target-Date 2030</td>
<td>02/01/07 01/17/07</td>
<td>-10.30%</td>
<td>-7.18%</td>
<td>-7.18%</td>
<td>5.83%</td>
<td>4.45%</td>
<td>9.60%</td>
<td>0.63%</td>
<td>0.52%</td>
<td>09/30/19</td>
<td>Round Trip: You cannot transfer into the account within 30 calendar days of transferring out.</td>
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<td>Benchmark: S&amp;P Target Date 2030 Index</td>
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<tr>
<td>TIAA Access TIAA-CREF Lifecycle 2035 T1 (Level 1)</td>
<td>Target-Date 2035</td>
<td>02/01/07 01/17/07</td>
<td>-11.73%</td>
<td>-8.13%</td>
<td>-8.13%</td>
<td>6.08%</td>
<td>4.57%</td>
<td>10.04%</td>
<td>0.64%</td>
<td>0.53%</td>
<td>09/30/19</td>
<td>Round Trip: You cannot transfer into the account within 30 calendar days of transferring out.</td>
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<td>Benchmark: S&amp;P Target Date 2035 Index</td>
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<tr>
<td>TIAA Access TIAA-CREF Lifecycle 2040 T1 (Level 1)</td>
<td>Target-Date 2040</td>
<td>02/01/07 01/17/07</td>
<td>-13.06%</td>
<td>-9.01%</td>
<td>-9.01%</td>
<td>6.35%</td>
<td>4.69%</td>
<td>10.26%</td>
<td>0.65%</td>
<td>0.54%</td>
<td>09/30/19</td>
<td>Round Trip: You cannot transfer into the account within 30 calendar days of transferring out.</td>
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<td>Benchmark: S&amp;P Target Date 2040 Index</td>
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<tr>
<td>TIAA Access TIAA-CREF Lifecycle 2045 T1 (Level 1)</td>
<td>Target-Date 2045</td>
<td>05/01/08 11/30/07</td>
<td>-14.10%</td>
<td>-9.68%</td>
<td>-9.68%</td>
<td>6.39%</td>
<td>4.71%</td>
<td>10.25%</td>
<td>0.66%</td>
<td>0.55%</td>
<td>09/30/19</td>
<td>Round Trip: You cannot transfer into the account within 30 calendar days of transferring out.</td>
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<td>Benchmark: S&amp;P Target Date 2045 Index</td>
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<tr>
<td>TIAA Access TIAA-CREF Lifecycle 2050 T1 (Level 1)</td>
<td>Target-Date 2050</td>
<td>05/01/08 11/30/07</td>
<td>-14.29%</td>
<td>-9.91%</td>
<td>-9.91%</td>
<td>6.43%</td>
<td>4.74%</td>
<td>10.24%</td>
<td>0.67%</td>
<td>0.55%</td>
<td>09/30/19</td>
<td>Round Trip: You cannot transfer into the account within 30 calendar days of transferring out.</td>
</tr>
<tr>
<td>Benchmark: Lifecycle 2050 Fund Composite Index</td>
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<tr>
<td>Benchmark: S&amp;P Target Date 2050 Index</td>
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</tbody>
</table>
### Multi Asset - Variable Annuity

<table>
<thead>
<tr>
<th>Morningstar Category</th>
<th>Inception Date</th>
<th>3 Month</th>
<th>YTD</th>
<th>1 Year</th>
<th>3 Year</th>
<th>5 Year</th>
<th>10 Year/Since Inception</th>
<th>Gross</th>
<th>Net</th>
<th>Fee Waiver Expiration</th>
<th>Shareholder Fees &amp; Restrictions*</th>
</tr>
</thead>
<tbody>
<tr>
<td>TIAA Access TIAA-CREF Lifecycle 2055 T1 (Level 1)</td>
<td>05/01/12 04/29/11</td>
<td>-14.46% -9.95%</td>
<td>-9.95% 6.52%</td>
<td>4.78% 7.93%</td>
<td>0.69% $6.90</td>
<td>0.55% $5.50</td>
<td>09/30/19</td>
<td>Round Trip: You cannot transfer into the account within 30 calendar days of transferring out.</td>
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</tr>
<tr>
<td>Benchmark: Lifecycle 2055 Fund Composite Index</td>
<td>-12.51% -7.48%</td>
<td>-7.48% 7.43%</td>
<td>5.65% 8.49%</td>
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<tr>
<td>Benchmark: S&amp;P Target Date 2055 Index</td>
<td>-12.10% -7.97%</td>
<td>-7.97% 6.82%</td>
<td>5.07% 8.04%</td>
<td></td>
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<tr>
<td>TIAA Access TIAA-CREF Lifecycle 2060 T1 (Level 1)</td>
<td>05/01/15 09/26/14</td>
<td>-14.71% -10.15%</td>
<td>-10.15% 6.53%</td>
<td>- 3.75%</td>
<td>0.89% $8.90</td>
<td>0.55% $5.50</td>
<td>09/30/19</td>
<td>Round Trip: You cannot transfer into the account within 30 calendar days of transferring out.</td>
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<tr>
<td>Benchmark: Lifecycle 2060 Fund Composite Index</td>
<td>-12.70% -7.59%</td>
<td>-7.59% 7.53%</td>
<td>- 4.54%</td>
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<tr>
<td>Benchmark: S&amp;P Target Date 2060+ Index</td>
<td>-12.22% -7.95%</td>
<td>-7.95% 6.95%</td>
<td>- 4.02%</td>
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<tr>
<td>TIAA Access TIAA-CREF Lifecycle Retirement Income T1 (Level 1)</td>
<td>05/01/08 11/30/07</td>
<td>-5.48% -3.94%</td>
<td>-3.94% 4.45%</td>
<td>3.57% 6.73%</td>
<td>0.62% $6.20</td>
<td>0.47% $4.70</td>
<td>09/30/19</td>
<td>Round Trip: You cannot transfer into the account within 30 calendar days of transferring out.</td>
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<tr>
<td>Benchmark: Lifecycle Retirement Income Fund Composite Index</td>
<td>-4.77% -2.94%</td>
<td>-2.94% 4.32%</td>
<td>3.71% 6.55%</td>
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<tr>
<td>Benchmark: S&amp;P Target Date Retirement Income Index</td>
<td>-3.92% -2.54%</td>
<td>-2.54% 3.57%</td>
<td>3.06% 5.31%</td>
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<tr>
<td>TIAA Access Vanguard Wellington T1 (Level 1)</td>
<td>05/02/11 05/14/01</td>
<td>-6.76% -3.44%</td>
<td>-3.44% 7.09%</td>
<td>6.14% 9.78%</td>
<td>0.27% $2.70</td>
<td>0.27% $2.70</td>
<td></td>
<td>Round Trip: You cannot transfer into the account within 30 calendar days of transferring out.</td>
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<tr>
<td>Benchmark: S&amp;P 500 Index</td>
<td>-13.52% -4.38%</td>
<td>-4.38% 9.26%</td>
<td>8.49% 13.12%</td>
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</tbody>
</table>

### Money Market - Variable Annuity

<table>
<thead>
<tr>
<th>Morningstar Category</th>
<th>Inception Date</th>
<th>7-Day Yield**</th>
<th>3 Month</th>
<th>YTD</th>
<th>1 Year</th>
<th>3 Year</th>
<th>5 Year</th>
<th>10 Year/Since Inception</th>
<th>Gross</th>
<th>Net</th>
<th>Fee Waiver Expiration</th>
<th>Shareholder Fees &amp; Restrictions*</th>
</tr>
</thead>
<tbody>
<tr>
<td>CREF Money Market Account (R3) (QCMNMIX)</td>
<td>04/24/15 04/01/88</td>
<td>2.19% 0.52% 1.46% 1.46% 0.69% 0.42% 0.22% 0.24% $2.40</td>
<td>0.24% $2.40</td>
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</tr>
<tr>
<td>Benchmark: iMoneyNet Money Fund Averages-All Government</td>
<td>0.45% 1.41% 1.41% 0.65% 0.40% 0.21%</td>
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</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Inception Date</th>
<th>3 Month</th>
<th>YTD</th>
<th>1 Year</th>
<th>3 Year</th>
<th>5 Year</th>
<th>10 Year</th>
<th>Since Inception</th>
<th>Rate</th>
<th>Guaranteed Minimum Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>TIAA Traditional Annuity - Group Retirement Annuity</td>
<td>36,37,38</td>
<td>-</td>
<td>0.96%</td>
<td>3.86%</td>
<td>3.86%</td>
<td>3.92%</td>
<td>3.95%</td>
<td>4.04%</td>
<td>-</td>
</tr>
</tbody>
</table>

**Additional Information:**

The current rate shown applies to premiums remitted during the month of January 2019 and will be credited through 2/28/2019. 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

<table>
<thead>
<tr>
<th>Inception Date</th>
<th>3 Month</th>
<th>YTD</th>
<th>1 Year</th>
<th>3 Year</th>
<th>5 Year</th>
<th>10 Year</th>
<th>Since Inception</th>
<th>Rate</th>
<th>Guaranteed Minimum Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>TIAA Traditional Annuity - Retirement Annuity</td>
<td>36,37,38</td>
<td>-</td>
<td>0.96%</td>
<td>3.86%</td>
<td>3.86%</td>
<td>3.92%</td>
<td>3.95%</td>
<td>4.04%</td>
<td>-</td>
</tr>
</tbody>
</table>

**Additional Information:**

The current rate shown applies to premiums remitted during the month of January 2019 and will be credited through 2/28/2019. 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.
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 variables 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.

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 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.

2 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.

3 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.

4 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.

5 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.

6 Previously, the Account compared its performance to the MSCI World Index instead of the MSCI All Country World Index (ACWI) shown in the chart. The returns of the MSCI ACWI are more appropriate for comparison purposes because they reflect multi-asset class exposure and a similar risk profile as the Account.

7 For the period ending 12/31/2018, the following average annualized total returns (%) for the MSCI World Index are provided for informational/comparison purposes: -13.42 (3M), -8.71 (1 year), 6.30 (3 years), 4.56 (5 years), 9.67 (10 years).

8 Due to their relatively high valuations which are generally a function of expected earnings growth, growth stocks will be more volatile than value stocks and such earnings growth may not occur or be sustained.

9 For the period ending 12/31/2018, the following average annualized total returns (%) for the Russell 3000 Index are provided for informational/comparison purposes: -14.30 (3M), -5.24 (YTD), 8.97 (3 years), 7.91 (5 years), 13.18 (10 years).

10 Performance "Since Inception" is based upon the underlying fund account inclusion date. Performance for periods prior to the date the Underlying Investment was first included in the TIAA Access variable annuity is based upon the performance of the underlying fund investment. Such performance was not available in the variable annuity prior to the fund's inclusion in the variable annuity. The performance of the underlying fund reflects the performance of the R5 share class from its inception to 6/30/2017, and R6 share class performance thereafter. Account performance above is net of all annuity contract recurring costs such as mortality and expense risk charges and annual administrative fees. Pre-inclusion fund performance is also adjusted for these costs.

11 Please note that with respect to variable annuities, your contributions will be allocated to the underlying investments.

12 Performance "Since Inception" is based upon the underlying fund account inclusion date. Performance for periods prior to the date the Underlying Investment was first included in the TIAA Access variable annuity is based upon the performance of the underlying fund investment. Such performance was not available in the variable annuity prior to the fund's inclusion in the variable annuity. The performance of the underlying fund reflects the performance of the R5 share class from its inception to 6/30/2017, and R6 share class performance thereafter. Account performance above is net of all annuity contract recurring costs such as mortality and expense risk charges and annual administrative fees. Pre-inclusion fund performance is also adjusted for these costs.
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.

Performance "Since Inception" is based upon the underlying fund account inclusion date. Performance for periods prior to the date the Underlying Investment was first included in the TIAA Access variable annuity is based upon the performance of the underlying fund investment. Such performance was not available in the variable annuity prior to the fund's inclusion in the variable annuity. Account performance above is net of all annuity contract recurring costs such as mortality and expense risk charges and annual administrative fees. Pre-inclusion fund performance is also adjusted for these costs.

Value stocks may perform differently from the market as a whole and may be undervalued by the market for a long period of time.

The net expense ratio reflects a contractual arrangement that has the effect of reducing or limiting the fund's expenses. Without such an arrangement, currently or in the past, returns would have been lower. The arrangement will remain in effect until terminated. Please see the prospectus for details.

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.

Effective August 1, 2018, the TA TIAA-CREF Small-Cap Equity Fund's name will be changed to TIAA ACCESS Quant Small-Cap Equity Fund.

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.

Performance "Since Inception" is based upon the underlying fund account inclusion date. Performance for periods prior to the date the Underlying Investment was first included in the TIAA Access variable annuity is based upon the performance of the underlying fund investment. Such performance was not available in the variable annuity prior to the fund's inclusion in the variable annuity. The performance of the underlying fund reflects the performance of the Investor share class from its inception to 1/20/2017, and Admiral share class performance thereafter. Account performance above is net of all annuity contract recurring costs such as mortality and expense risk charges and annual administrative fees. Pre-inclusion fund performance is also adjusted for these costs.

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.

The total annual expense deduction, which includes investment management, administration, and distribution expenses, mortality and expenses, mortality and expense risk charges and annual administrative fees, 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.

Investments in high-yield bonds (commonly known as junk bonds) are subject to greater risk of loss of principal and interest and an increased risk of default in comparison to higher-rated bonds.

Previously, the Broad-Based Securities Market Index to which the Account compared its performance was the Russell 3000 Index instead of the Morningstar Moderate Target Risk Index shown in the chart. The returns of the Morningstar Moderate Target Risk Index are more appropriate for comparison purposes because they reflect multi-asset class exposure that is similar to the Account.

Target-date variable annuity accounts are actively managed, so their asset allocations are subject to change and may vary from those shown. The underlying target-date fund invests in many other funds, which exposes the target-date variable annuity account to the risks of different areas of the market. Please note that, as with all target-date variable annuity accounts, the principal value of a Target Retirement variable annuity account is not guaranteed. The higher an account's allocation to stocks, the greater the risk. After the target date has been reached, some of these accounts may be merged into an account with a more stable asset allocation. The expense charge may include fees for the underlying target-date fund and its investments; in general, a target-date variable annuity account's underlying fund indirectly bears its pro rata share of the fees and expenses incurred by the funds in which it invests.

Advisors has contractually agreed to waive the Fund's entire 0.10% Management fee. This waiver will remain in effect through September 30, 2020, unless changed with the approval of the Board of Trustees. The Management fee has been fully waived since the Fund's inception.
As Target Retirement Date variable annuity accounts 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 variable annuity accounts, the principal value of a Target Retirement Date variable annuity account is not guaranteed. The higher an account's allocation to stocks, the greater the risk. After the target date has been reached, some of these variable annuity accounts may be merged into an account with a more stable asset allocation. In addition to the account level expenses, these variable annuity accounts are also subject to the expenses of their underlying investments. Please consult the prospectus for more complete information.

Please note that performance represents returns during the accumulation phase of this investment account. If you choose to annuitize, different charges and performance calculations will apply so the performance results will differ.

Performance “Since Inception” is based upon the underlying fund account inclusion date. Performance for periods prior to the date the Underlying Investment was first included in the TIAA Access variable annuity is based upon the performance of the underlying fund investment. Such performance was not available in the variable annuity prior to the fund’s inclusion in the variable annuity. The performance of the underlying fund reflects the performance of the Investor share class from its inception to 1/20/2017, and Admiral share class performance thereafter. Account performance above is net of all annuity contract recurring costs such as mortality and expense risk charges and annual administrative fees. Pre-inclusion fund performance is also adjusted for these costs.

Between July 16, 2009 and March 7, 2017, TIAA withheld ("waived") a portion of the 12b-1 distribution and/or administrative expenses for each class of the CREF Money Market Account when a class’s yield was less than zero. Without this waiver, the effective yields and total returns of the Money Market Account would have been lower. TIAA may, for a period of three years after the date an amount was waived, recover from the Money Market 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. As a result of the share class conversion on April 24, 2015, previously recoverable amounts have been allocated to the various classes.

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.

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.

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.

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.
This material is for informational or educational purposes only and does not constitute investment advice under ERISA. This material does not take into account any specific objectives or circumstances of any particular investor, or suggest any specific course of action. Investment decisions should be made based on the investor’s own objectives and circumstances.

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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