To measure project cost or performance, you need Earned Value Management (EVM). EVM uses cost, schedules, and scopes to track and perform project measurements. EVM is used to know where the project is in its performance through rigid measurements. You can use EVM to track your project's progress and any discrepancies that could arise. When you want to know how your project is doing with your budget, schedule, and other issues, you can use EVM to track metrics.

Earned Value Analysis:  
“The earned value analysis method compares the anticipated cost of work that is scheduled to be done at a given point in time against what has been done and how much it actually cost” (Darnall, 2010)

* **Planned Value (PV)** “The amount of work that should have been done by a particular date is the planned value (PV)” (Darnall, 2010)
  + PV = (Planned % Completed) \* Total Budget
  + PV = ([6 months] / [Total Duration]) \* $10,000
  + PV = (60%) \* $10,000
  + PV = $6,000
* **Earned Value (EV)** “EVM is a method of comparing the budgeted and actual costs of a project periodically during the project.” (Darnall, 2010)
  + EV = (Actual Progress % Completed) \* Total Budget
  + EV = (55% \* 10 months) \* Total Budget
  + EV = .55 \* $10,000
  + EV = $5,500
* **Cost Variance (CV)** “The schedule variance and the cost variance provide the amount by which the spending is behind (or ahead of) schedule and the amount by which a project is exceeding (or less than) its budget.” (Darnall, 2010)
  + CV = EV – AC
  + CV = $5,500 - $6,750
  + CV = -$1,250
* **Cost Performance Index (CPI)** “The cost performance index (CPI) is the ratio of the earned value (EV) to the actual cost (AC).” (Darnall, 2010)
  + CPI = EV / AC
  + CPI = %5,500 / %6,750
  + CPI = 0.814
* **Schedule Variance (SV):** “The schedule variance and the cost variance provide the amount by which the spending is behind (or ahead of) schedule and the amount by which a project is exceeding (or less than) its budget.” (Darnall, 2010)
  + SV = EV – PV
  + SV = $5,500 - $6,000
* **Schedule Performance Index (SPI)** “The schedule performance index (SPI) is the ratio of the earned value and the planned value.” (Darnall, 2010)
  + SPI = EV / PV
  + SPI = $5,500 / $6,000
  + SPI = 0.92
* **Estimate at Completion (EAC)** “The new estimate of the project cost is the estimate at completion (EAC).”
  + EAC = AC + ETC
    - Note ETC = (Total Budget– EV)/CPI
    - Total Budget = $10,000
    - CPI = 0.814
    - EV = $5,500
    - ETC = ($10,000 - $5,500) / 0.814
    - ETC = $5,528.25
  + EAC = $6,750 + $5,528.25
  + EAC = $12,278.25

Reference:

Darnall, R., & Preston, J. (2010). Project Management from Simple to Complex. The Saylor Foundation.

*Planned Value (Earned Value Analysis)*. (n.d.). Www.projectengineer.net. https://www.projectengineer.net/planned-value-earned-value-analysis-2/