

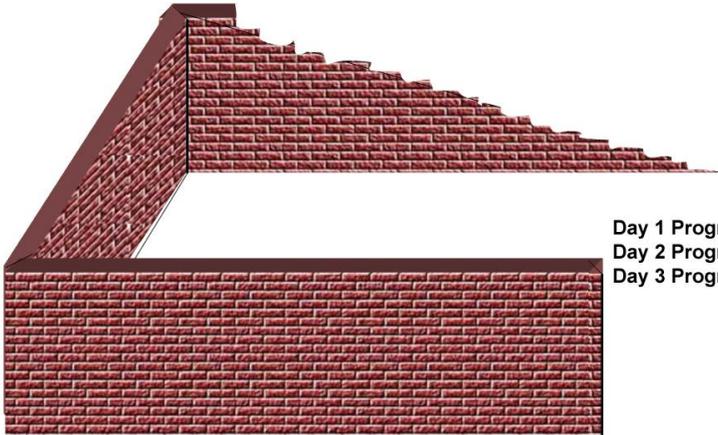
## Earned Value - One Page Summary

Earned Value measures performance against a plan at a given point in time. Its accuracy is dependant upon the quality of the input variables and the quality of the plan being measured against. (For projects with major requirements uncertainty or technical uncertainty the quality of early plans will likely be poor.)

Term	Full Name	Meaning
PV	Planned Value	Estimated value of the work planned to be done
EV	Earned Value	Estimated value of the work actually accomplished
AC	Actual Costs	Actual Costs Incurred
BAC	Budget At Completion	Amount budgeted for total project
EAC	Estimate At Completion	Currently expected total for project
ETC	Estimate To Complete	How much More to finish
VAC	Variance At Completion	How much over/under we expect to be

Name	Formulae	Meaning
Cost Variance	$CV=EV-AC$	-ve=over budget, +ve=under budget
Schedule Variance	$SV=EV-PV$	-ve=behind schedule, +ve=ahead schedule
Cost Performance Index	$CPI=EV/AC$	We are getting _ cents out of every \$ spent
Schedule Performance Index	$SPI=EV/PV$	We are progressing at _ % of the rate originally planned
Estimate At Completion	$EAC=BAC/CPI$	As of now, how much do we expect the total project to cost
Estimate To Complete	$ETC=EAC-AC$	How much more to finish
Variance At Completion	$BAC-EAC$	How much over/under we expect to be

**Worked Example** - Let's imagine our project is to build a wall around a garden. Assuming 4 equal sides, a budget of \$200 per side and a schedule of 1 side per day. We should be finished in 4 days for a total of \$800. If, after Day 3, our progress is as follows:



Day 1 Progress = Front wall completed, budget spent \$200  
 Day 2 Progress = Side 1 started, did not finish, budget spent \$220  
 Day 3 Progress = Side 1 finished, half of back done, left early, spent \$140

Term	Meaning and Formulae	Day 3 Values
PV - Planned Value	Estimated value of the work planned to be done	Should have done 3 x \$200 = \$600
EV - Earned Value	Estimated value of the work actually accomplished	Actually done 2.5 sides $\$200+\$200+\$100 = \$500$
AC - Actual Costs	Actual Costs Incurred	$\$200+\$220+\$140=\$560$
Cost Performance Index	Over / Under Budget factor $CPI = EV / AC$	$\$500 / \$560 = 0.89$
Schedule Performance Index	Ahead / Behind Schedule factor $SPI = EV / PV$	$\$500 / \$600 = 0.83$
BAC - Budget At Completion	Amount budgeted for total project	\$800
EAC - Estimate At Completion	Currently expected total for project $EAC=BAC / CPI$	$\$800 / 0.89 = \$899$
ETC - Estimate To Complete	How much more to finish? $ETC = EAC - AC$	$\$899 - \$560 = \$339$
VAC - Variance At Completion	How much over/under we expect to be $VAC = BAC - EAC$	$\$800 - \$899 = -\$99$