ISYS90050 IT Project and Change Management

Tutorial 6

Unit of measurement

Planned Value

Earned Value

Actual Cost

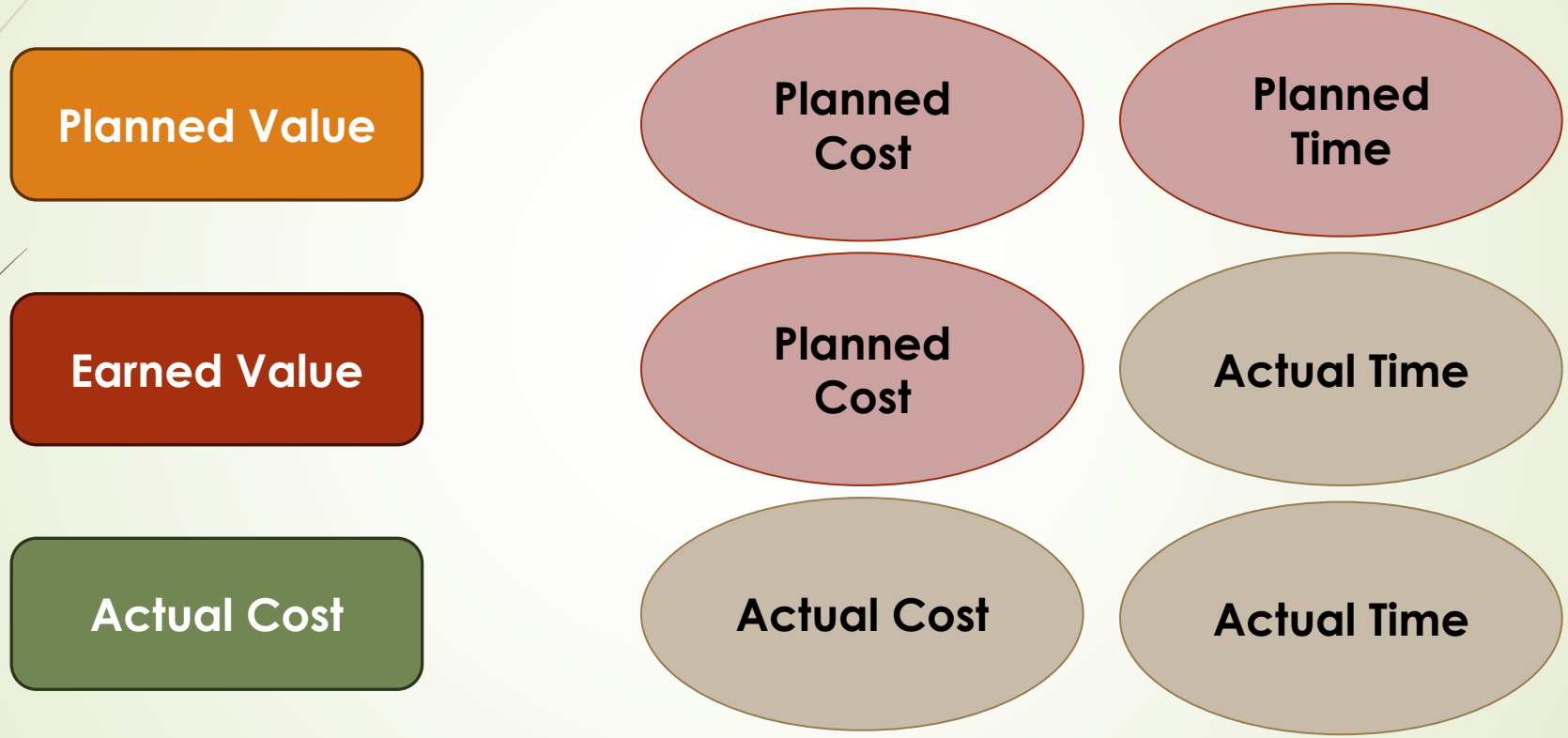
Planned Cost

Planned Time

Actual Cost

Actual Time

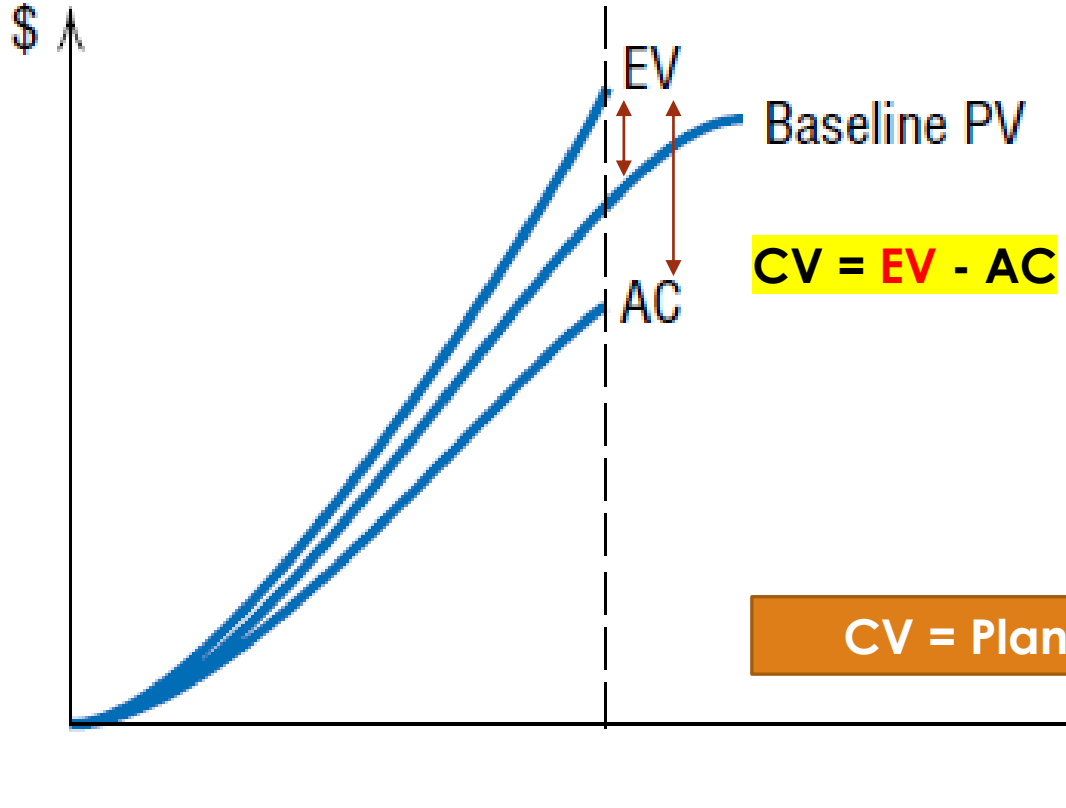
Unit of measurement



Activity 1 Task 1: EVA Metrics

Do you want **EV** to be large or small?

SV = Actual progress (EV) – Planned progress (PV)



SV = EV - PV

CV = EV - AC

Earned Value (EV) = Actual progress in planned cost

Planned Value (PV) = Progress planned in planned cost

Actual Cost (AC) = Actual cost of EV

CV = Planned cost (EV) – Actual cost (AC)

Activity 1 Task 1: EVA Metrics

$$CV = EV - AC$$

Remember what CV means to the sponsor: EV says how much of the total value of the project has been earned back so far. If CV is negative, then she's not getting good value for her money.

$$CPI = \frac{EV}{AC}$$

Remember, for the sponsor's benefit, we measure this in dollars...

$$SV = EV - PV$$

...so if the variance is positive, it tells you exactly how many dollars you're ahead. If it's negative, it tells you how many dollars you're behind.

$$SPI = \frac{EV}{PV}$$

If SPI is greater than 1, that means EV is bigger than PV, so you're ahead of schedule!

If SPI is less than 1, then you're behind schedule because the amount you've actually worked (EV) is less than what you'd planned (PV).

Activity 1 Task 1: EVA Metrics

Recall that PV is Planned Value, EV is Earned Value, AC is the Actual Cost (these values refer to a particular task). BAC is Budget at Completion.

PV = $23,000

EV = $20,000

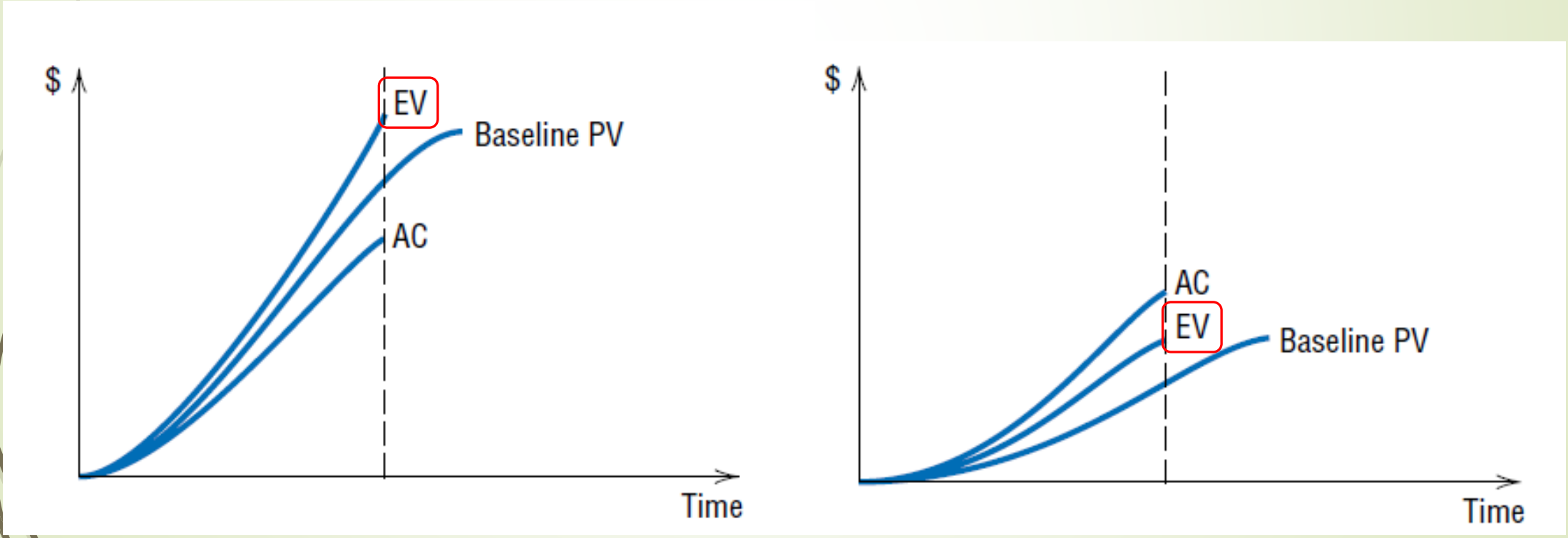
AC = $25,000

BAC = $120,000

Given these values, what is the cost variance, schedule variance, cost performance index (CPI), and schedule performance index (SPI) for this particular task?

Activity 1 Task 2: Assessment from EVA Metrics

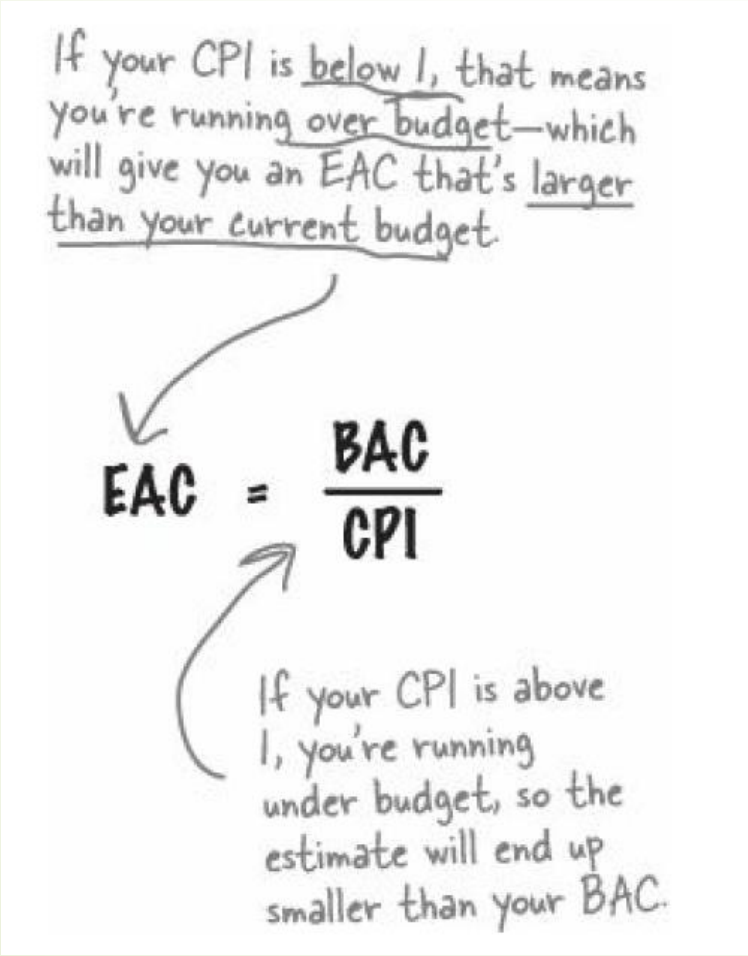
Under or over budget?
Behind or ahead schedule?



Activity 1 Task 2: Assessment from EVA Metrics

Now, based on the different cost metrics computed by your team for a given in Task 1, what can you tell about the health of the project? Is it ahead of schedule or behind schedule? Is it under budget or over budget? How would you interpret the cost metrics from Task 1 to answer these questions?

Activity 1 Task 3: Estimation at Completion (EAC)



$$CPI = \frac{EV}{AC}$$

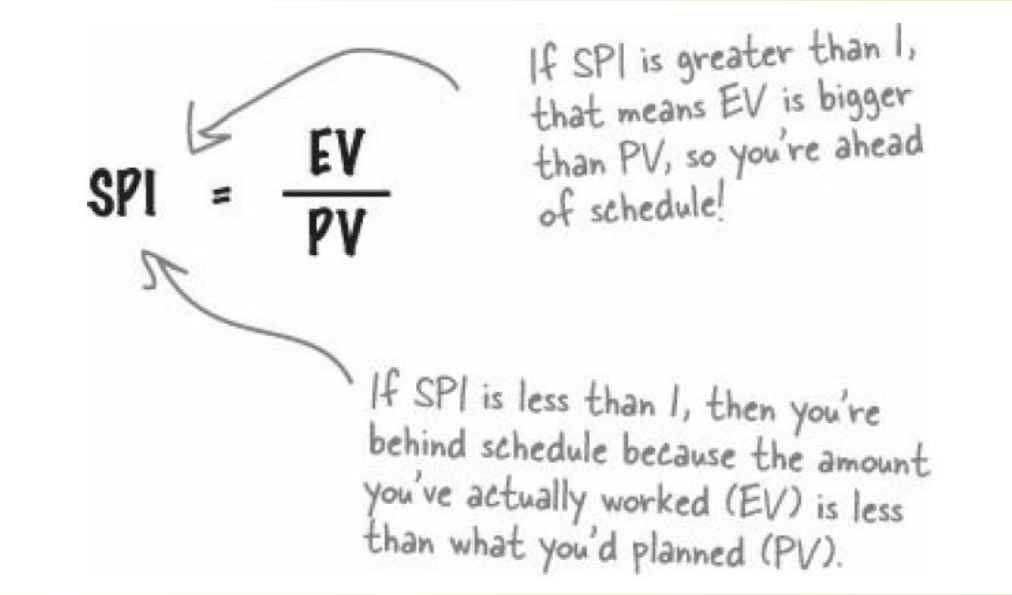
Activity 1 Task 3: Estimation at Completion (EAC)

Using the Cost Performance Index (CPI) from Task 1, calculate the Estimate at Completion (EAC) for this project. Is the project performing better or worse than planned?

Activity 1 Task 4: Estimated Time to Completion

Estimated Time to Completion

= Planned Time to Completion / SPI



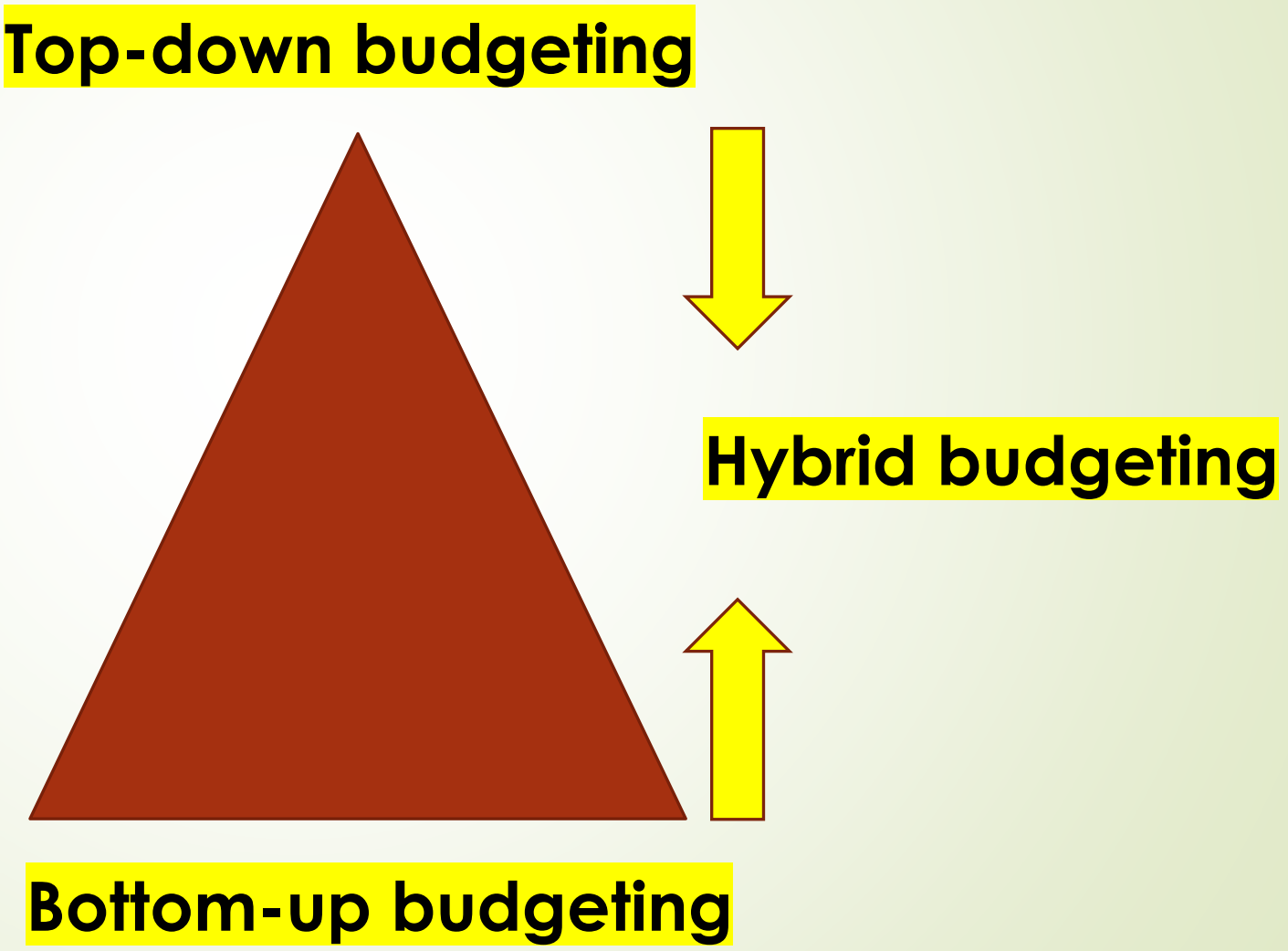
Activity 1 Task 4: Estimated Time to Completion

Using the Schedule Performance Index (SPI) from Task 1, estimate how long will it take to finish this project.

Activity 2 Task 1: Budgeting Techniques

- Sean's dilemma is how to go about constructing a budget that accurately reflects the cost of the proposed new manufacturing process. Sean is an experienced executive and feels comfortable with his ability to come close to estimating the cost of the project. However, the recent firing of his colleague has made him a bit gun-shy. Only one stage out of the traditional four-stage sensor manufacturing process is being changed, so he has detailed cost information about a good percentage of the process. Unfortunately, the tasks involved in the process stage being modified are unclear at this point. Sean also believes that the new modification will cause some minor changes in the other three stages, but these changes have not been clearly identified. The stage being addressed by the project represents almost 50 percent of the manufacturing cost.

Activity 2 Task 1: Budgeting Techniques



Activity 2 Task 1: Budgeting Techniques

Based on expert judgment, hence called **top-down approach**

- Uses the actual cost of a previous, similar project as the basis for estimating the cost of the current project
- Used when there is a limited amount of detailed information about a project
- Generally less costly and time consuming; but also less accurate
- Can be applied to a whole project or to parts of a project
- Passed from top and down to lower level managers to break down costs further to lowest level iteratively

Activity 2 Task 1: Budgeting Techniques

- Estimation of individual work activities; hence **called bottom-up approach**
  - Used when individual team members have great experience with their work activities (following the WBS)
  - Individual work activities are estimated in great detail
  - The detailed costs are summarised into a project total
  - The smaller the work items, the better the estimate but estimates are usually time intensive and expensive to develop

The projects total budget is computed by summing up the individual costs for each task or activity.

Activity 2 Task 1: Budgeting Techniques

Under these circumstances, would Sean be wise to pursue a top-down or a bottom-up budgeting approach? Why? What factors are most relevant here?

Activity 2 Task 2: Budgeting Techniques

If the cost is under-estimated …

If the cost is over-estimated …

Tutorial Quiz!

- You have 5 mins to complete the quiz