

Instructor Guide: Bean & Bloom Roastery — Sales Dashboard

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Assignment Overview

This assignment assesses students' ability to build a variety of Tableau visualization types using a coffee roasting operations dataset (roastBatches). Students must demonstrate core Tableau skills including drag-and-drop shelf placement, aggregation selection, calculated field creation, filtering (including context filters), dual-axis configuration, and dashboard composition with interactive actions. By the end, students should be able to translate a business question about roasting efficiency, volume trends, and yield into appropriate chart types, apply color encoding meaningfully, write data-driven captions, and assemble a coherent operational dashboard. The assignment progresses from easy bar/line charts through medium scatter plots and highlight tables to a hard dual-axis chart, ensuring skill scaffolding across the five visualizations.

Partial Credit Policy

Partial credit should reflect the degree to which a student demonstrates the targeted Tableau skills, even if the final visualization is incomplete or has errors. Award approximately 70–80% of points when the core chart type and primary fields are correct but one required element is missing (e.g., missing color encoding, wrong sort direction, or caption slightly under 120 characters). Award approximately 40–60% when the chart structure is attempted with the right fields but the aggregation type is wrong, a required shelf is missing, or a calculated field has a formula error that produces incorrect values. Award approximately 20–35% when a student clearly attempted the visualization and connected the right dataset but has fundamental structural errors (e.g., vertical instead of horizontal bar, no aggregation, or completely missing the calculated field). Award minimal credit (5–15%) for a worksheet that exists and is named correctly but contains an unrelated or empty chart. For the dashboard, partial credit should be applied per component: presence of sheets, layout quality, title, filter action correctness, and text summary are each independently assessable. Do not penalize students twice for the same underlying error — for example, if an incorrect calculated field formula is created once and reused in Viz 3 and Viz 4, deduct formula points only in Viz 3 and award full credit for reuse in Viz 4 assuming placement and shelf usage are correct.

General Grading Tips

- Before grading, open each worksheet and check the Data pane to confirm students are connected to the correct table (roastBatches). A wrong connection can cause all fields to be missing or incorrect.

- Check worksheet names first using the tab labels — an incorrect name (wrong capitalization, extra space, abbreviation) is an easy deduction that students often overlook.
 - For calculated fields, right-click the field in the Data pane and select 'Edit' to verify the exact formula — don't rely only on the visual output since different formulas can produce similar-looking charts.
 - When grading Viz 3 and Viz 4 that share the 'Weight Loss %' calculated field, verify the formula is identical in both sheets. If a student corrected it in one sheet after making an error in the other, the calculated field is shared across the workbook — this is actually correct Tableau behavior.
 - Test filter actions on the dashboard yourself before grading — click through each bar/mark in the source sheet and observe which target sheets respond. This is the fastest way to verify correct action configuration.
 - Remind students before submission to check caption character counts — Tableau does not warn if a caption is under 120 characters. A quick character count check can save lost points.
 - Context filters appear gray (instead of blue) in the Filters shelf — this is the visual indicator to look for when grading Viz 4.
 - For dual-axis charts (Viz 5), hover over each axis to see the range tooltip and confirm synchronization — synchronized axes will show identical min/max values.
 - When grading partial credit, focus on skill demonstration over perfection — a student who correctly creates a dual axis but forgets to synchronize has demonstrated the harder skill and should receive most of those points.
 - Encourage students to use Worksheet > Describe Sheet as a self-check tool — it lists all fields on each shelf and can help them verify their own work before submission.
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Visualization Guide

Visualization 1

Common Student Mistakes

- Dragging roastBatchId to Columns as a dimension (showing individual IDs) instead of as a COUNT measure — students forget to change the aggregation from default ATTR/Dimension to COUNT.
- Using SUM(roastBatchId) instead of COUNT(roastBatchId), producing meaningless summed ID numbers rather than a count of batches.
- Leaving the chart as vertical bars instead of horizontal — students don't swap the axes or miss that CNT goes on Columns and roastLevel on Rows for a horizontal layout.
- Forgetting to drag roastLevel to the Color shelf, leaving all bars the same default color.
- Sorting manually by dragging rather than using the sort button or right-click sort, resulting in an inconsistent or lost sort.
- Caption too short (under 120 characters) or not containing a genuine business insight — just restating the chart title.
- Naming the worksheet incorrectly (capitalization, extra spaces, abbreviations).

Socratic Questions (When Students Are Stuck)

- If a student is stuck on aggregation: 'What does Tableau do by default when you drop a number field onto a shelf — and is that the right operation for counting how many batches exist?'
- If a student has a vertical chart: 'Look at which shelf holds the measure and which holds the dimension — how does that determine the orientation of the bars?'
- If a student forgot color: 'Your instructions say to color each bar by Roast Level. Which shelf on the Marks card controls color encoding?'
- If sorting is wrong: 'Right-click directly on the axis or the field pill — what sorting options appear, and which one puts the largest bar at the top?'

Solution Walkthrough

1. Connect to the roastBatches table if not already connected. 2. Drag 'roastLevel' from the Data pane to the Rows shelf — it should appear as a blue discrete pill. 3. Drag 'roastBatchId' from the Data pane to the Columns shelf — Tableau will default to SUM. Click the green pill dropdown and change aggregation to COUNT. The pill should now read CNT(roastBatchId). 4. Verify the Marks card type is 'Bar' (Tableau usually auto-selects this; if not, change via the Marks type dropdown). 5. Drag 'roastLevel' from the Data pane to the Color shelf on the Marks card. Each bar should now be a distinct color. 6. To sort descending: right-click the CNT(roastBatchId) x-axis and choose 'Sort Descending', OR click the sort descending toolbar button while roastLevel is selected, OR right-click the roastLevel pill on Rows > Sort > Field > Descending > roastBatchId > Count. 7. Optionally drag CNT(roastBatchId) to the Label shelf for value labels. 8. Double-click the worksheet tab at the bottom and rename it exactly 'Roast Level Batch Count'. 9. Go to Worksheet > Show Caption, then double-click the caption area and type a 2–3 sentence insight of at least 120 characters about the most common roast level and business implications.

Grading Tips

Award full 12 points for: correct horizontal bar orientation (2 pts), COUNT aggregation (2 pts), color by roastLevel (2 pts), correct descending sort (2 pts), correct worksheet name (1 pt), caption present and >= 120 characters with a genuine insight (3 pts). Award partial credit: 8–11 pts if the chart is structurally correct but missing one element (e.g., wrong sort direction, color missing, or caption slightly under 120 chars). Award 5–7 pts if the chart type or orientation is wrong but the data fields and aggregation are otherwise correct. Award 1–4 pts for a chart that attempts the right fields but has multiple errors.

Discussion Prompt

Looking at the distribution of batch counts across roast levels, what does this tell us about the coffee shop's product mix strategy? Should they adjust production to diversify, or does the data suggest demand is concentrated for a reason?

Edge Cases

- Student uses COUNTD(roastBatchId) instead of COUNT — since roastBatchId appears to be a unique identifier, COUNTD and COUNT should yield the same result; award full credit and note the distinction in feedback.
- Student uses COUNT(roastBatchId) but labels it as 'Number of Records' by dragging the auto-generated 'Number of Records' field instead — accept this if the values are identical; it achieves the same result.

- Student sorts ascending instead of descending — deduct the sort points but award all others if everything else is correct.
- Student has the correct data but worksheet is named with a typo — deduct the 1 naming point only.

Visualization 2

Common Student Mistakes

- Using a discrete (blue) MONTH pill instead of continuous (green) MONTH, resulting in a bar chart or disconnected marks rather than a continuous time-series line.
- Using YEAR(roastDate) instead of MONTH(roastDate), which collapses data too coarsely and may only show a few points.
- Forgetting to drag roastLevel to Color, producing a single aggregated line instead of one line per roast level.
- Adding roastLevel as a filter but not showing the filter control on the view (missing 'Show Filter' step).
- Leaving the mark type as Automatic/Bar after changing date aggregation — students need to confirm mark type is Line.
- Choosing the wrong level of date truncation (e.g., Day or Quarter instead of Month), causing too much or too little granularity.

Socratic Questions (When Students Are Stuck)

- If a student has a bar chart instead of a line: 'Check the Marks card type dropdown — what is it currently set to, and what should a time series use?'
- If a student has one line instead of multiple: 'The instructions ask you to compare roast levels over time — which Marks card shelf creates a separate line for each category?'
- If the filter control is not visible: 'You've added the filter — but how does a dashboard user interact with it? Is there a step after adding a field to the Filters shelf to make it visible on the view?'
- If the student used discrete month: 'Notice your x-axis — is it showing a flowing timeline or separate grouped categories? Which pill color in Tableau indicates a continuous field?'

Solution Walkthrough

1. Drag 'roastDate' to the Columns shelf — Tableau defaults to YEAR(roastDate). Click the pill dropdown and select 'Month' from the second grouping (the continuous green options, showing as 'Month Year' or 'MONTH(roastDate)' in green). This gives a continuous time axis. 2. Drag 'roastedWeightKg' to the Rows shelf — it defaults to SUM(roastedWeightKg), which is correct. 3. Change the Marks card type to 'Line' if not already set. 4. Drag 'roastLevel' from the Data pane to the Color shelf on the Marks card — this creates a separate colored line for each roast level. 5. Drag 'roastLevel' from the Data pane to the Filters shelf. A dialog appears; check all values and click OK. 6. Right-click the 'roastLevel' pill on the Filters shelf and select 'Show Filter' — a filter control (checkbox list by default) will appear on the right side of the view. 7. Double-click the worksheet tab and rename exactly 'Monthly Roast Volume Over Time'. 8. Go to Worksheet > Show Caption and write a 2–3 sentence insight of at least 120 characters about time trends, seasonality, or growth.

Grading Tips

Award full 13 points for: continuous MONTH date axis (3 pts), SUM(roastedWeightKg) on rows (2 pts), line mark type (1 pt), color by roastLevel (2 pts), roastLevel filter showing on view (2 pts), correct worksheet name (1 pt), caption $\geq$ 120 chars with insight (2 pts). Deduct 2 pts for discrete month instead of continuous. Deduct 2 pts if filter is on the shelf but not shown on the view. Award partial credit of 7–9 pts for a chart missing two elements but otherwise structurally sound.

Discussion Prompt

Do the monthly trends look consistent across all roast levels, or do certain levels show more volatility? What might cause a coffee roasting operation to increase or decrease output of specific roast levels at certain times of year?

Edge Cases

- Student uses MONTH(roastDate) as discrete (blue pill) — the chart may look like a valid line chart if Tableau still draws lines, but the x-axis shows 'January, February...' without year context. Deduct 2 of the 3 date axis points and note the distinction.
- Student shows filter on view but uses a different filter type (e.g., wildcard or range) rather than the default list — accept this as showing the filter control; award full filter points.
- Dataset spans multiple years, so continuous MONTH will show months across years (Jan 2021, Feb 2021... Jan 2022...). Students who use MONTH truncated (showing just Jan–Dec averaged across years) may produce a different chart. Treat the continuous MONTH/YEAR as correct; note the aggregation difference in feedback.

Visualization 3

Common Student Mistakes

- Incorrectly writing the calculated field formula — common errors include using subtraction in the wrong order, forgetting to multiply by 100, or not wrapping in parentheses correctly.
- Not adding roastBatchId to the Detail shelf, causing all marks to collapse into one aggregated point per roast level instead of individual batch points.
- Using SUM instead of AVG aggregation on the axes — with roastBatchId on Detail disaggregating the data, AVG and SUM may give the same per-record result, but students should use AVG as instructed.
- Leaving the mark type as Line or Bar instead of Circle/Shape for a scatter plot.
- Dividing by roastedWeightKg instead of greenWeightKg in the denominator.
- Forgetting to color by roastLevel after creating the scatter plot.

Socratic Questions (When Students Are Stuck)

- If the formula is wrong: 'Think through the business meaning — Weight Loss is the difference between what went in and what came out. Which field is the starting weight? What does dividing by the starting weight give you?'
- If all points collapse to one per level: 'You have a few dots instead of one per batch — what field uniquely identifies each roast batch? Which Marks card shelf tells Tableau to draw a separate mark for each unique value of a field without affecting the axes?'

- If the student is confused about aggregation with Detail: 'When you put roastBatchId on Detail, how many rows does Tableau see per mark? Does AVG of a single row differ from SUM?'
- If marks are bars or lines: 'A scatter plot shows individual points — which Marks card type in Tableau produces a single dot or circle for each data point?'

Solution Walkthrough

1. Go to Analysis > Create Calculated Field (or right-click in the Data pane > Create Calculated Field). Name it exactly 'Weight Loss %'. Enter the formula: $([\text{greenWeightKg}] - [\text{roastedWeightKg}]) / [\text{greenWeightKg}] * 100$. Click OK. 2. Drag 'roastDurationMin' to the Columns shelf. Click the pill dropdown and set aggregation to AVG — pill reads AVG(roastDurationMin). 3. Drag 'Weight Loss %' to the Rows shelf. Set aggregation to AVG — pill reads AVG(Weight Loss %). 4. On the Marks card, set mark type to 'Circle'. 5. Drag 'roastBatchId' from the Data pane to the Detail shelf on the Marks card. This disaggregates the view so each batch becomes its own mark. (Alternatively, uncheck Analysis > Aggregate Measures to disaggregate all measures — either approach is acceptable.) 6. Drag 'roastLevel' to the Color shelf on the Marks card. 7. Adjust color palette if desired. Confirm the legend shows all roast levels. 8. Double-click the worksheet tab and rename exactly 'Weight Loss by Roast Level and Duration'. 9. Go to Worksheet > Show Caption and write a 2–3 sentence insight of at least 120 characters about the duration-to-weight-loss relationship and yield implications.

Grading Tips

Award full 18 points for: correct calculated field formula (4 pts), roastDurationMin on Columns with AVG (2 pts), Weight Loss % on Rows with AVG (2 pts), Circle mark type (1 pt), roastBatchId on Detail producing individual marks (3 pts), color by roastLevel (2 pts), correct worksheet name (1 pt), caption >= 120 chars with insight (3 pts). Deduct 3 pts for incorrect formula. Deduct 3 pts for missing Detail shelf (all marks collapsed). Award 10–14 pts for a scatter plot with correct fields but missing detail disaggregation or incorrect formula.

Discussion Prompt

Does the scatter plot suggest a linear relationship between roast duration and weight loss? Are there outliers? What might explain batches that have unusually high or low weight loss for their roast duration?

Edge Cases

- Student uses ATTR(roastBatchId) on Detail instead of dragging the raw dimension — ATTR will work only if each mark has one value; in this context it should disaggregate correctly. Accept and award full points.
- Student turns off 'Aggregate Measures' under Analysis menu to disaggregate instead of using Detail shelf — this achieves the same visual result. Accept and award full Detail shelf points.
- Student names the calculated field slightly differently (e.g., 'Weight Loss%' or 'WeightLoss%') — deduct 0.5 pts for naming inconsistency but award formula points if the formula is correct.
- Formula uses integer division or references wrong fields — check the formula carefully; even a structurally correct formula with fields swapped (roastedWeight - greenWeight, which gives a negative number) should receive partial formula credit.

Visualization 4

Common Student Mistakes

- Using continuous (green) YEAR instead of discrete (blue) YEAR for the Rows shelf, which creates a continuous axis rather than discrete row bands in a highlight table.
- Forgetting to place Weight Loss % on BOTH the Color shelf and the Text shelf — the color encoding without text values (or vice versa) is only half the highlight table requirement.
- Not changing the mark type to Square — Tableau may default to Automatic/Text, which doesn't produce the colored cell appearance of a highlight table.
- Adding the date filter without promoting it to a Context Filter — a regular filter on roastDate will work visually, but the instructions specifically require a context filter.
- Applying the context filter incorrectly by choosing a relative date range or a custom formula instead of selecting 2021 and subsequent years by discrete year selection.
- Not using a diverging color palette as required.

Socratic Questions (When Students Are Stuck)

- If the student has a continuous year axis instead of row bands: 'Look at the pill color for YEAR(roastDate) on your Rows shelf — is it blue or green? What does each color mean in Tableau, and which one groups data into discrete categories?'
- If the table shows only color but no text values: 'The instruction says highlight table — which two shelves on the Marks card typically both receive the measure in a highlight table?'
- If the context filter is a regular filter: 'You've added the date filter — but there's a specific filter type mentioned in the instructions that has higher priority than regular filters. Where would you find that option after adding a filter to the Filters shelf?'
- If the color palette is sequential instead of diverging: 'You've colored the cells — the instructions ask for a diverging palette. In the Edit Colors dialog, which tab or option gives you palettes that have two contrasting hues meeting in a middle neutral?'

Solution Walkthrough

1. Confirm 'Weight Loss %' calculated field exists (create as in Viz 3 if needed: $[\text{greenWeightKg}] - [\text{roastedWeightKg}] / [\text{greenWeightKg}] * 100$). 2. Drag 'roastDate' to the Rows shelf. Click the pill dropdown — choose 'Year' from the top grouping (discrete, blue pill). The pill should read YEAR(roastDate) in blue. 3. Drag 'roastLevel' to the Columns shelf (blue discrete pill). 4. Set the Marks card type to 'Square'. 5. Drag 'Weight Loss %' to the Color shelf — set aggregation to AVG. 6. Drag 'Weight Loss %' to the Text shelf — set aggregation to AVG. 7. Format the text label: right-click the Text pill > Format > set decimal places to 1. 8. Add the context filter: drag 'roastDate' to the Filters shelf. In the filter dialog, choose 'Years' tab and check 2021, 2022, 2023 (all years from 2021 onward that exist in the data). Click OK. Then right-click the roastDate filter pill on the Filters shelf and select 'Add to Context' — the pill turns gray indicating it is a context filter. 9. Edit the color palette: click the Color shelf > Edit Colors > select a diverging palette such as 'Red-Blue' or 'Orange-Blue Diverging'. Click OK. 10. Double-click the worksheet tab and rename exactly 'Green Bean Roast Efficiency Heatmap'. 11. Go to Worksheet > Show Caption and write a 2–3 sentence insight of at least 120 characters about the highest weight loss cell and operational implications.

Grading Tips

Award full 20 points for: discrete YEAR on Rows (2 pts), roastLevel on Columns (2 pts), Square mark type (2 pts), Weight Loss % on Color with AVG (2 pts), Weight Loss % on Text with AVG (2 pts), context filter on roastDate $\geq$ 2021 (4 pts — 2 for the filter existing, 2 for it being a context filter), diverging color palette (2 pts), correct worksheet name (1 pt), caption $\geq$ 120 chars (3 pts). Deduct 2 pts if filter is present but not set as context filter. Deduct 2 pts for continuous YEAR. Award 12–16 pts for a highlight table missing context filter or diverging palette but otherwise correct.

Discussion Prompt

Examining the heatmap across years and roast levels, do you see any trend where weight loss is improving or worsening over time? What process changes might explain year-over-year differences within the same roast level?

Edge Cases

- Student uses a relative date filter ('Last N years') instead of selecting discrete years $\geq$ 2021 — if this produces the same effective data inclusion, accept for full filter points but note that context filter promotion is still checked separately.
- Student adds both roastDate and a custom calculated boolean field (e.g., YEAR([roastDate]) $\geq$ 2021) as a context filter — accept this approach if it correctly restricts data to 2021+; award full context filter points.
- Data may only contain years 2021–2023, meaning the filter has no practical effect on the view — still require the context filter to be present and promoted, as the skill demonstration is what matters.
- Student uses a heat map mark type via the 'Show Me' panel — this may produce density maps rather than a highlight table. Check that the actual marks are Squares in a tabular layout; if not, guide toward the correct approach.

Visualization 5

Common Student Mistakes

- Not right-clicking the second axis to select 'Dual Axis', leaving two separate charts stacked vertically instead of combined on one chart.
- Forgetting to synchronize axes after creating the dual axis, causing misleading scale differences between bars and line.
- Editing the wrong Marks card — with dual axis there are three Marks cards (All, first measure, second measure); students often apply bar/line settings to the wrong one.
- Creating 'Avg Yield Ratio' as a regular calculated field using field references that don't aggregate (e.g., [roastedWeightKg] / [greenWeightKg] row-level ratio) instead of AVG([roastedWeightKg]) / AVG([greenWeightKg]).
- Placing 'Avg Yield Ratio' on the wrong Marks card (e.g., the bar marks card instead of the line marks card).
- Not sorting roastLevel by descending AVG(greenWeightKg) — leaving default alphabetical order.
- Dual axis hides the right-hand axis after synchronization — students may not know to show/format it.

Socratic Questions (When Students Are Stuck)

- If the student has two stacked charts instead of a dual axis: 'You have two rows — how would you combine them onto one chart so both measures share the same space? Try right-clicking on the second axis label itself.'
- If the axes are not synchronized: 'Look at the scale on the left axis versus the right axis — are they showing the same range? If not, does your comparison between bars and the line make sense visually?'
- If the student is on the wrong Marks card: 'With dual axis, Tableau gives you separate Marks cards for each measure. How do you know which Marks card you are currently editing?'
- If the Avg Yield Ratio formula uses row-level division: 'Your formula divides roastedWeightKg by greenWeightKg — but at the roastLevel level of detail, what aggregation does Tableau need to compute a representative average ratio?'
- If sort is wrong: 'The instructions say sort by descending average green weight — right-click the roastLevel pill on Columns. What sort options appear, and how do you sort by a specific field's average?'

Solution Walkthrough

1. Drag 'roastLevel' to the Columns shelf. 2. Drag 'greenWeightKg' to the Rows shelf; set aggregation to AVG — pill reads AVG(greenWeightKg). 3. Drag 'roastedWeightKg' to the Rows shelf to the right of the first pill; set aggregation to AVG — creates a second row: AVG(roastedWeightKg). 4. Right-click the right axis header (labeled AVG(roastedWeightKg) on the right side of the view) and select 'Dual Axis'. The two charts merge into one. 5. Right-click the right-hand axis again and select 'Synchronize Axis'. 6. Click the 'AVG(greenWeightKg)' Marks card (the first measure's Marks card) and set the mark type to 'Bar'. 7. Click the 'AVG(roastedWeightKg)' Marks card and set the mark type to 'Line'. In the Marks card, also change the Path or add a Circle by setting 'Line' and adjusting the markers to show circles at each point (go to the Color shelf or the Marks card and enable markers). 8. Create calculated field 'Avg Yield Ratio': go to Analysis > Create Calculated Field, name it 'Avg Yield Ratio', enter formula: $AVG([roastedWeightKg]) / AVG([greenWeightKg])$. Click OK. 9. With the AVG(roastedWeightKg) Marks card selected, drag 'Avg Yield Ratio' to the Label shelf. Format the label to 2 decimal places or percentage as preferred. 10. Sort roastLevel: right-click the 'roastLevel' pill on Columns > Sort > Sort By: Field > Sort Order: Descending > Field Name: greenWeightKg > Aggregation: Average. Click OK. 11. Optionally hide the right-hand axis header if desired (right-click axis > uncheck 'Show Header') or leave it. 12. Double-click the worksheet tab and rename exactly 'Dual Axis: Green vs Roasted Weight by Batch'. 13. Go to Worksheet > Show Caption and write a 2–3 sentence insight of at least 120 characters about the green vs. roasted weight relationship and yield ratio findings.

Grading Tips

Award full 22 points for: roastLevel on Columns (1 pt), AVG(greenWeightKg) as bars (3 pts), AVG(roastedWeightKg) as line with circles (3 pts), dual axis applied (3 pts), axes synchronized (2 pts), Avg Yield Ratio calculated field with correct formula (3 pts), Avg Yield Ratio on Label shelf of line Marks card (2 pts), descending sort by AVG(greenWeightKg) (2 pts), correct worksheet name (1 pt), caption >= 120 chars (2 pts). Deduct 3 pts for missing dual axis (two separate charts). Deduct 2 pts for unsynchronized axes. Deduct 2 pts for incorrect Avg Yield Ratio formula. Award 14–18 pts for a dual-axis chart missing the yield ratio label or sort.

Discussion Prompt

The yield ratio tells us how much of the green bean weight is preserved after roasting. Do heavier roast levels consistently have lower yield ratios? What trade-off does a roaster face when choosing between a lighter versus darker roast from a business profitability standpoint?

Edge Cases

- Student creates Avg Yield Ratio as a row-level field ([roastedWeightKg] / [greenWeightKg]) instead of $\text{AVG}([\text{roastedWeightKg}]) / \text{AVG}([\text{greenWeightKg}])$ — at the roastLevel aggregation level, Tableau will wrap this in AVG() automatically when placed on Label. The result may be mathematically similar but technically incorrect. Deduct 1 of 3 formula points and add a note.
- Student places Avg Yield Ratio on the Label shelf of the 'All' Marks card instead of the line-specific card — it will appear on all marks including bars. Award partial label credit (1 of 2 pts) since the intent is demonstrated.
- Student achieves the dual-axis effect by using a reference line or manually overlaying charts — this is not a true dual axis in Tableau. Award 0 pts for dual axis and guide toward the correct method.
- Student synchronizes axes but then manually edits axis ranges, breaking synchronization — check by hovering over each axis to confirm they show identical ranges.

Dashboard Guide

Dashboard 1

Common Student Mistakes

- Using a floating layout instead of a tiled layout, making the grid arrangement inconsistent or overlapping.
- Adding only 3 of the 4 required sheets, often leaving out the heatmap or dual-axis chart.
- Not setting dashboard size to Automatic — leaving a fixed pixel size that doesn't adapt to screen.
- Not enabling 'Show Dashboard Title' or manually typing a title as a text object instead of using the dashboard title feature.
- Creating the filter action with the wrong source sheet (e.g., making every sheet a source instead of only 'Roast Level Batch Count').
- Filter action targeting only one or two sheets instead of all other three sheets.
- Forgetting to add the text object summary at the bottom of the dashboard.
- Text object placed inside a container that shrinks it to invisible — students don't verify the layout renders correctly.
- Grid is not 2x2 — sheets are stacked vertically or arranged differently than specified.

Socratic Questions (When Students Are Stuck)

- If the layout is not 2x2: 'The instructions specify a 2x2 grid using tiled layout. What container types in Tableau let you arrange sheets side by side versus stacked? How would you nest containers to get a 2x2 result?'

- If the filter action doesn't work: 'Click a bar in Roast Level Batch Count — do the other sheets update? Go to Dashboard > Actions and look at your filter action. What is set as the Source Sheet and what are the Target Sheets?'
- If dashboard title is missing: 'The instructions say to show the dashboard title. Under which menu can you toggle that on, and where does it appear on the dashboard canvas?'
- If text object is missing: 'The instructions require a one-sentence operational takeaway at the bottom. What type of dashboard object lets you add static text, and where in the Objects panel do you find it?'

Solution Walkthrough

1. Click the 'New Dashboard' button (sheet icon with a grid) at the bottom of the Tableau workspace. 2. In the Dashboard pane on the left, set Size to 'Automatic' using the Size dropdown. 3. Enable tiled layout: ensure 'Tiled' is selected (not Floating) at the bottom of the Dashboard pane. 4. Enable dashboard title: go to Dashboard menu > Show Title (or check 'Show dashboard title' checkbox in the Dashboard pane). Double-click the title and type 'Coffee Roast Operations Overview'. 5. Build the 2x2 grid using containers: drag a Horizontal container from the Objects panel onto the canvas — this becomes the top row. Drag 'Roast Level Batch Count' sheet into the left half of this container, then drag 'Monthly Roast Volume Over Time' into the right half. 6. Drag a second Horizontal container below the first — this becomes the bottom row. Drag 'Green Bean Roast Efficiency Heatmap' into the left half and 'Dual Axis: Green vs Roasted Weight by Batch' into the right half. (Both horizontal containers should be inside an implicit or explicit vertical container.) 7. Drag a Text object from the Objects panel to the bottom of the dashboard, below both horizontal containers. Double-click and type a one-sentence operational summary (e.g., 'Medium and Dark roast levels dominate production volume and show the highest weight loss, suggesting yield improvement efforts should prioritize these segments.'). 8. Create the filter action: go to Dashboard > Actions > Add Action > Filter. Set Name to something descriptive (e.g., 'Roast Level Filter'). Set Source Sheets: select only 'Roast Level Batch Count'. Set Run Action On: 'Select'. Set Target Sheets: check 'Monthly Roast Volume Over Time', 'Green Bean Roast Efficiency Heatmap', and 'Dual Axis: Green vs Roasted Weight by Batch'. Set Clearing the selection: 'Show all values'. Click OK. 9. Test the action: click a bar in Roast Level Batch Count and verify the other three sheets filter accordingly. Click an empty area to clear the selection. 10. Double-click the dashboard tab at the bottom and rename it 'Coffee Roast Operations Overview'.

Grading Tips

Award full 15 points for: all 4 required sheets present (3 pts), 2x2 tiled grid layout (2 pts), Automatic dashboard size (1 pt), dashboard title displayed and correctly named (2 pts), filter action with correct source (Roast Level Batch Count) filtering all three other sheets (4 pts — deduct 1 per missing target sheet), text object present with a summary sentence at the bottom (2 pts), dashboard tab named correctly (1 pt — can overlap with title check). Award 10–13 pts if the filter action works but targets only 1–2 sheets instead of all three. Award 7–9 pts if the layout is wrong but all sheets are present and the filter action works. Award partial credit of 3–6 pts if sheets are added but no action is configured and the layout is incorrect.