

# Beyond the Bar Chart.

11 underused chart types that transform how your dashboards, models and reports communicate.

11 Chart Types

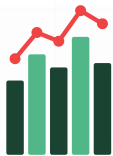
55 Enterprise Use Cases

Complexity Scored Per Chart

Platform Compatibility Per Chart

WRITTEN BY **101 Excel Hacks**

COMBO



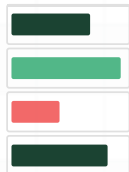
●

FUNNEL



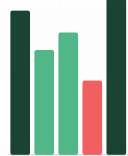
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IN-CELL



●

WATERFALL



●

GANTT



●

WAFFLE



●

BUTTERFLY



●

CHECKBOX



●

SPEEDOMETER



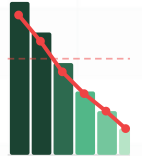
●

IMAGE COPY-PASTE



●

PARETO



●

## — INTRODUCTION

# Most Excel dashboards tell the truth. They just don't tell it well.

A bar chart is honest. A pie chart is familiar. But familiar is not the same as effective – and in a world where your audience is overloaded, a chart that is merely accurate is not enough. It needs to stop the scroll, demand attention, and make the insight impossible to miss.

The good news is that Excel – the tool already sitting on every desk in your organisation – is hiding one of the most powerful data visualisation toolkits in the world. Not in a plugin. Not behind a paywall. Right there, beneath the surface of Insert → Charts.

This guide is your invitation to find it.

## — HOW TO USE THIS GUIDE

|                             |                                                                                                                                               |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Overview</b>             | What the chart is, when to reach for it, which platforms support it, and whether any VBA is required.                                         |
| <b>Complexity scorecard</b> | A five-dimension rating – features, formatting, formulas, form controls and build time – plus the constraints worth knowing before you start. |
| <b>How to build it</b>      | A step-by-step walkthrough, one step per page, each with a screen capture of the exact click.                                                 |

*Charts are sequenced from simplest to most complex, so early wins build confidence before the advanced builds.*

## — WHAT IS INSIDE

**3**

BEGINNER  
BUILDS

**6**

INTERMEDIATE  
BUILDS

**2**

ADVANCED  
BUILDS

**Bar charts inform. These charts convince, clarify and captivate.**

# Beyond the Bar Chart

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|    |                        |                                                                                       |
|----|------------------------|---------------------------------------------------------------------------------------|
| 01 | Combo Chart            |    |
| 02 | Funnel Chart           |    |
| 03 | In-Cell Chart          |    |
| 04 | Waterfall Chart        |    |
| 05 | Gantt Chart            |    |
| 06 | Waffle Chart           |    |
| 07 | Butterfly Chart        |    |
| 08 | Checkbox Chart         |    |
| 09 | Speedometer Chart      |    |
| 10 | Image Copy-Paste Chart |  |
| 11 | Pareto Chart           |  |

## DIFFICULTY SIGNAL

-  Beginner
-  Intermediate
-  Advanced

— BEFORE YOU START

# How to read this guide

Every chart is reported the same way, so you can compare one build against another before you commit an afternoon to it. Two of those reports carry symbols worth defining once, here, rather than eleven times over.

— COMPATIBILITY - WHERE THE CHART SURVIVES

Every overview page carries a compatibility table that answers one question per row: if I build this chart and someone opens it there, what do they see? Five platforms are reported against.

|                              |                                                                                                                              |
|------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| Excel Desktop                | Windows and Mac, Microsoft 365 or the perpetual release named in the row. The reference build for every chart in this guide. |
| Excel Desktop 2013 and below | Legacy perpetual builds. Called out only where a chart type did not yet exist and has to be simulated.                       |
| Excel Mobile                 | The iOS and Android apps. Reading and presenting, not building.                                                              |
| Excel Web                    | Excel in the browser, including the viewer embedded in Teams and SharePoint.                                                 |
| Google Sheets import         | What survives when the workbook is opened or converted in Sheets.                                                            |

THE THREE SUPPORT STATES

|           |                                                                                                                                                                                                                                            |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ✓ Full    | The chart type is native here. You can build it, edit it, and it renders exactly as designed. Nothing in the build steps needs changing for this platform.                                                                                 |
| ⓘ Partial | It renders, with a caveat worth knowing before you send it out: view-only with no editing, a setting that sometimes drops on transfer, or a dependency on a font or feature that may not be present. Open it on the platform and check it. |
| ✗ Breaks  | The chart does not survive. The platform has no equivalent, so it falls back to a different chart type, or the feature is unavailable outright. Rebuild it natively there, or keep the file in Excel.                                      |

— COMPLEXITY SCORECARD - WHAT THE BUILD WILL COST YOU

Three stars, not five. Every chart is scored on the same five dimensions, and each star has a written definition behind it rather than a feeling. The band below is the shape of the build overall.

|                 |                                                                                          |
|-----------------|------------------------------------------------------------------------------------------|
| ★ BEGINNER      | Native tools, few settings, repeatable on a first attempt.                               |
| ★★ INTERMEDIATE | Helper data or deliberate formatting stands between you and the finished chart.          |
| ★★★ ADVANCED    | Layered chart objects and careful sequencing. Worth keeping as a template once it works. |

| DIMENSION                                                                   | ★☆☆                                                      | ★★☆                                                                                          | ★★★                                                                            |
|-----------------------------------------------------------------------------|----------------------------------------------------------|----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|
| Features needed<br>How much of Excel's chart engine the build reaches for.  | One native chart type, inserted and used as it comes     | A native type plus a second feature - secondary axis, combo series or conditional formatting | Two or more chart objects or features layered into a single visual             |
| Formatting effort<br>How much of the finished look you have to set by hand. | Excel's defaults land close to final; light tidying only | Axes, colours, gap widths and labels all need setting deliberately                           | Pixel-level work - cell sizing, transparent fills, rotation or manual overlays |
| Formulas needed<br>How much calculation sits behind the chart.              | Charts directly off the source range; no helper cells    | One helper column derived from the source data                                               | A helper table with conditional, cumulative or lookup logic feeding the series |
| Form controls<br>Whether the reader drives the chart from the sheet.        | None - the chart is static once it is built              | One optional control, added for convenience rather than function                             | Linked Form Controls and cell links are core to how the chart works            |
| Time to develop<br>First build, blank sheet to finished chart.              | Under 10 minutes                                         | 10 to 30 minutes                                                                             | 30 minutes or more - worth saving as a reusable template                       |

## — BEFORE YOU START

# What this guide covers

The use cases are not illustrations. Each one is a report someone actually runs, drawn from the functions below, and each chart is scoped against five of them.

**11** CHART TYPES

**55** ENTERPRISE USE CASES

**9** BUSINESS FUNCTIONS

**39** CONSTRAINT NOTES

## — ENTERPRISE FUNCTIONS IN SCOPE

Every use case on an overview page carries the colour of the function that owns it, and each page prints the key for the functions it draws on. The count is how many of the 55 use cases belong to that function.

### Finance & Accounting 14

P&L, budgets, cash flow, variance and board reporting

### Sales & Revenue 7

Pipeline, quota attainment, territory and account performance

### Marketing & Growth 6

Acquisition, conversion, market share and campaign returns

### Supply Chain & Operations 6

Inventory, demand planning, capacity, throughput and safety

### HR & People 7

Headcount, hiring, attrition, diversity and workforce planning

### Customer Support & Success 5

Onboarding, SLAs, complaint volumes, NPS and retention

### IT & Quality 2

Incidents, defects, root-cause analysis and service reliability

### Project & PMO 3

Schedules, roadmaps, milestones, dependencies and delivery status

### Executive & Strategy 5

Headline KPIs, scorecards, board packs and leadership decks

## — WHAT WE MEAN BY CONSTRAINTS AND LIMITATIONS

Every chart carries a short list of things that will bite you. They are not reasons to avoid a chart – they are the decisions Excel leaves to you. All of them fall into six families.

### ⚠ Version and platform gaps

The chart type does not exist in an older Excel, or does not cross into Sheets, mobile or the browser intact.

### ⚠ Manual setup steps

Settings Excel will not apply for you - marking totals, reversing an axis, enabling connector lines - easy to miss, and they change what the chart says.

### ⚠ Helper-data dependency

The chart is drawn from derived cells rather than raw data, so adding or removing a category means revisiting the helper range.

### ⚠ Formatting fragility

Fonts, row heights, column widths or image scaling hold the visual together. Change one and the chart distorts.

### ⚠ Axis and scale defaults

Excel's own defaults - a 0-120% cumulative axis, an unsynchronised mirrored scale - misrepresent the data until you lock them.

### ⚠ Missing native features

What the chart type simply does not offer: conversion-rate labels, an 80% reference line, dependency arrows between tasks.

CHART 01 OF 11

# Combo Chart

Two scales, one plot area

 BEGINNER





CHART 01 OF 11

## Combo Chart

Two scales, one plot area

### — WHAT IT IS

A combo chart overlays two different chart types on the same plot area – most commonly a column chart and a line chart – each mapped to its own axis. It solves one of the most common dashboard problems: showing two datasets that live on fundamentally different scales in the same visual space.

### — ENTERPRISE USE CASES

**Revenue and margin dashboard** – show monthly revenue as columns and gross margin % as a line, revealing whether margin holds as revenue grows

**Sales and headcount reporting** – track sales volume (columns) against sales team size (line) to visualise productivity per head

**Inventory and demand planning** – display stock levels as bars alongside order volumes as a line to flag replenishment timing

**Budget vs actuals reporting** – actual spend as columns, cumulative budget burn as a line, with a secondary axis for percentage utilisation

**Customer acquisition and churn** – new customers added (columns) overlaid with monthly churn rate (line) for retention analysis

### — BEST PAIRED WITH

Executive dashboards

Monthly reporting

KPI packs

Margin analysis

## — COMPLEXITY SCORECARD

### ★ BEGINNER

|                   |      |
|-------------------|------|
| Features needed   | ★☆☆  |
| Formatting effort | ★★☆☆ |
| Formulas needed   | ★☆☆  |
| Form controls     | ★☆☆  |
| Time to develop   | ★☆☆  |

#### ✓ No VBA required

No. Built entirely with native Excel chart tools.

#### 📌 PRO TIP

Set the secondary axis maximum to roughly double your line's peak value. It keeps the line clear of the columns instead of cutting through them.

## — COMPATIBILITY

| PLATFORM              | SUPPORT   | NOTE                                                               |
|-----------------------|-----------|--------------------------------------------------------------------|
| Excel Desktop (2016+) | ✓ Full    | native chart type                                                  |
| Excel Mobile          | ⚠ Partial | no editing capability                                              |
| Excel Web             | ✓ Full    | browser rendering accurate                                         |
| Google Sheets import  | ⚠ Partial | combo renders but secondary axis sometimes drops; verify on import |

## — CONSTRAINTS & LIMITATIONS

⚠ Maximum two chart types in one combo (e.g. column + line; bar + area). Three-way combos are not natively supported.

⚠ **Secondary axis scaling is manual** – if your data ranges shift significantly, the axis may need recalibrating

⚠ In Excel 2013 and below, combo chart creation is more manual: insert two separate series, then change chart type per series individually

## 01 Insert a clustered column chart →

Select your two data series and insert a clustered column chart

## 02 Change one series to a line

## 03 Set the line series to Line

## 04 Send the line to a secondary axis

## 05 Calibrate axes and clean up formatting

The screenshot shows the Microsoft Excel interface. The 'Insert' tab is selected on the ribbon. The 'Recommended Charts' button is highlighted with a green arrow. A chart selection menu is open, showing various chart types. The '2-D Column' chart type is highlighted with a green box. The data table below shows the following data:

| Month | Revenue (£) | Gross Margin % |
|-------|-------------|----------------|
| Jan   | 412,000     | 41.2%          |
| Feb   | 388,500     | 40.5%          |
| Mar   | 501,200     | 42.8%          |
| Apr   | 476,800     | 41.9%          |
| May   | 545,300     | 43.7%          |
| Jun   | 589,100     | 44.1%          |
| Jul   | 553,700     | 42.4%          |
| Aug   | 498,200     | 40.8%          |
| Sep   | 612,400     | 44.6%          |
| Oct   | 658,900     | 45.2%          |
| Nov   | 701,300     | 45.8%          |
| Dec   | 744,600     | 46.3%          |

01 Insert a clustered column chart

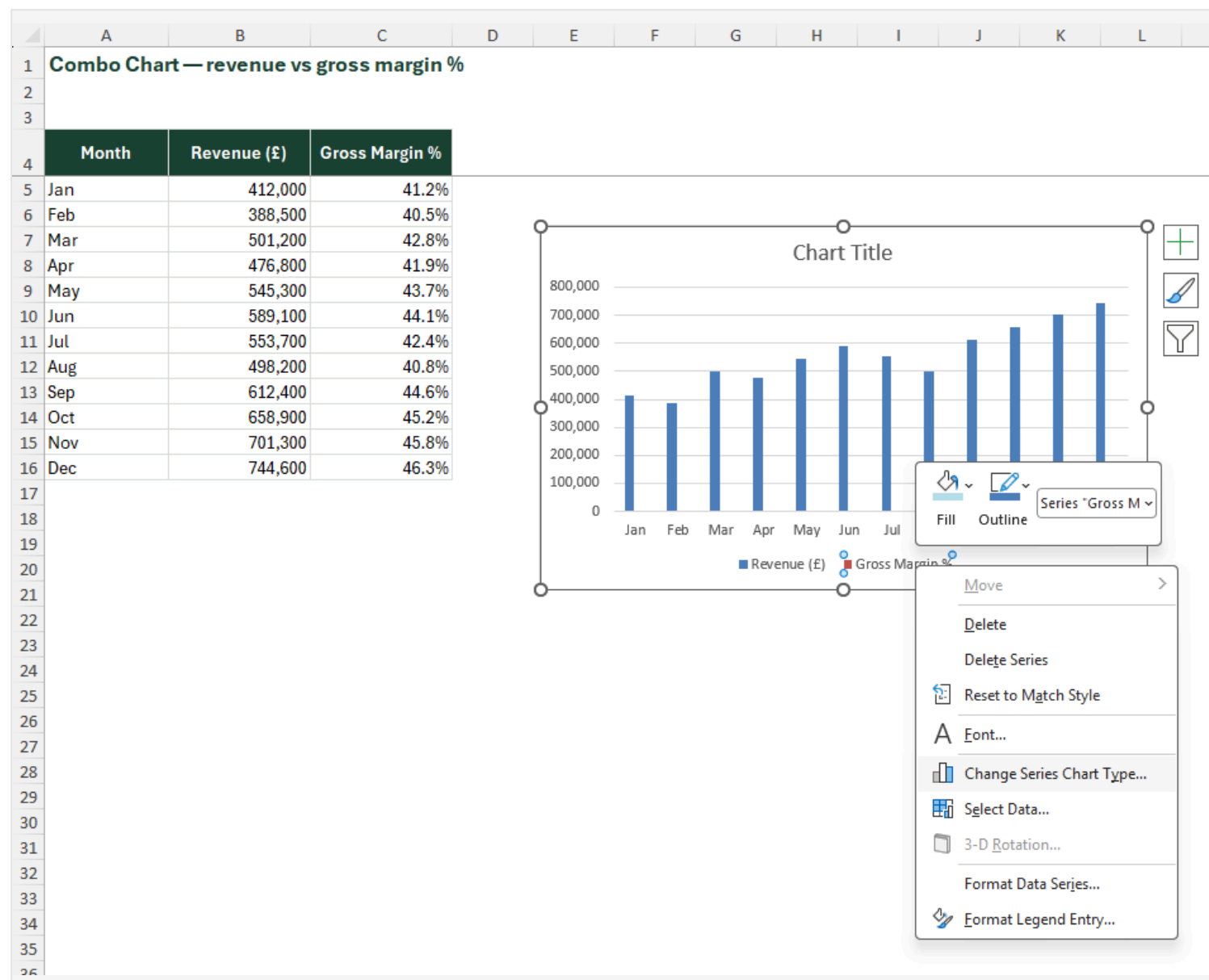
02 Change one series to a line →

Click on the series you want as a line → right-click → "Change Series Chart Type"

03 Set the line series to Line

04 Send the line to a secondary axis

05 Calibrate axes and clean up formatting



01 Insert a clustered column chart

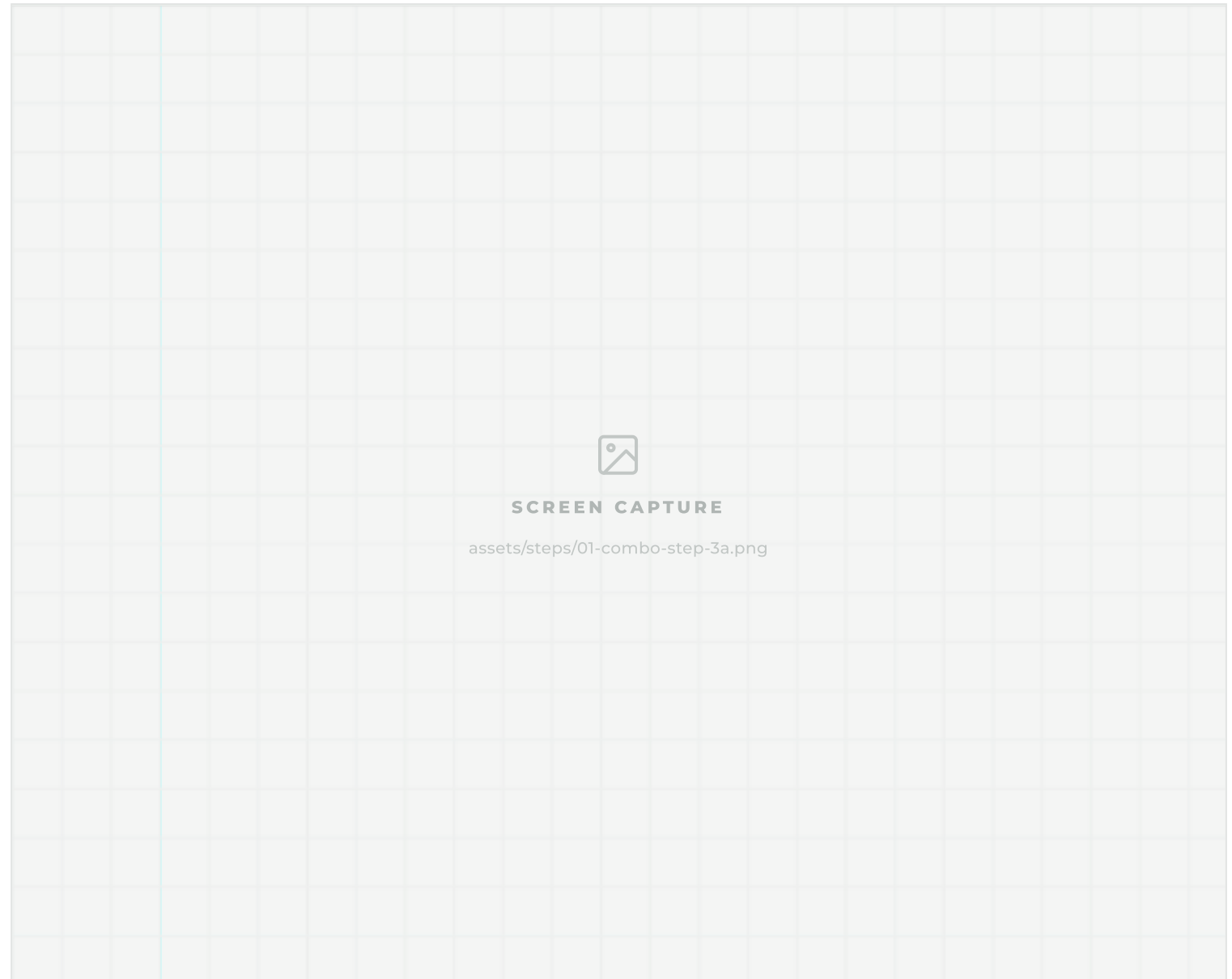
02 Change one series to a line

03 **Set the line series to Line** →

In the dialog, set Series 2 to Line

04 Send the line to a secondary axis

05 Calibrate axes and clean up formatting



01 Insert a clustered column chart

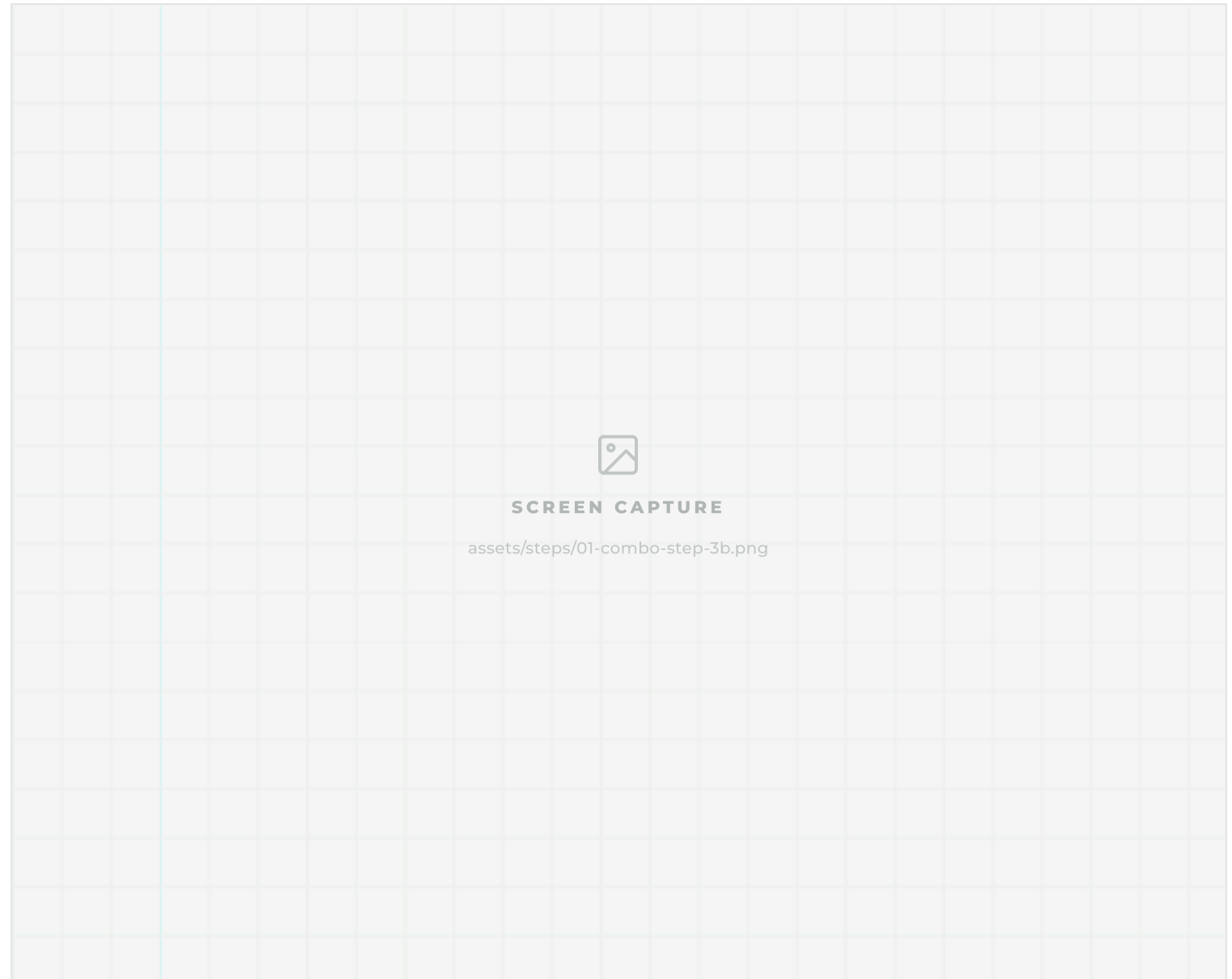
02 Change one series to a line

03 Set the line series to Line

04 Send the line to a secondary axis →

Check "Secondary Axis" for the line series

05 Calibrate axes and clean up formatting



01 Insert a clustered column chart

02 Change one series to a line

03 Set the line series to Line

04 Send the line to a secondary axis

05 Calibrate axes and clean up formatting →

Format both axes – adjust scale min/max so both series display cleanly; then remove excess gridlines, format the line with a contrasting colour, and add data labels selectively

🔗 Full walkthrough

📄 Download template

Workbook tab 01\_Combo

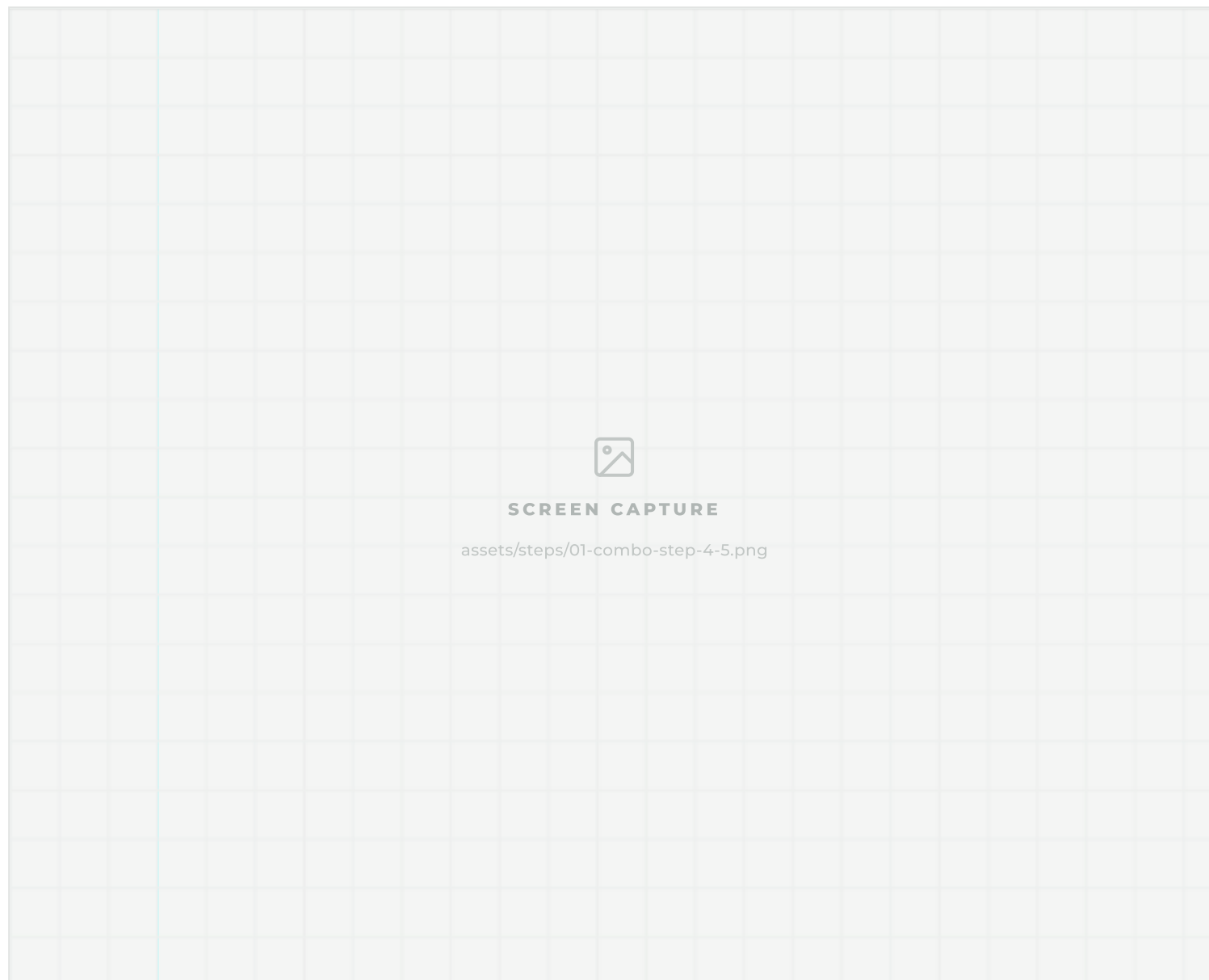
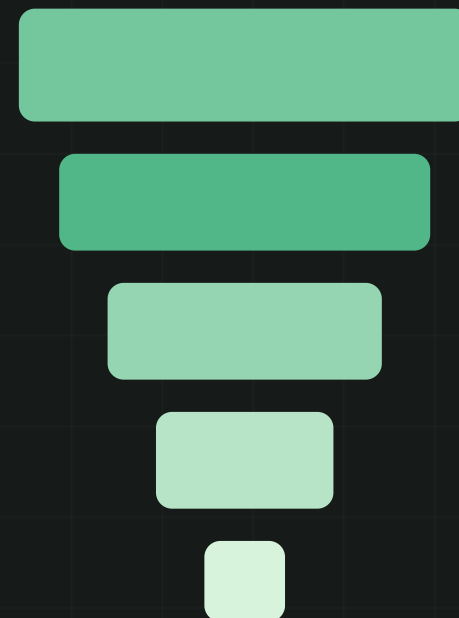


CHART 02 OF 11

# Funnel Chart

Stage-by-stage drop-off

 BEGINNER



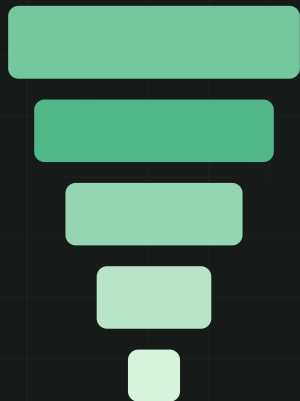


CHART 02 OF 11

## Funnel Chart

Stage-by-stage drop-off

### — WHAT IT IS

A funnel chart shows values progressively decreasing across sequential stages – visualising drop-off, conversion, or attrition through a process. Each bar is centred and narrower than the one above, creating a distinctive funnel silhouette that makes the relative size of each stage immediately legible.

### — ENTERPRISE USE CASES

**Sales pipeline** – prospects → qualified leads → proposals sent → negotiations → closed won, showing conversion at each stage

**Recruitment funnel** – applications received → screened → interviewed → offered → accepted, for talent acquisition reporting

**Customer onboarding** – sign-ups → verified → profile complete → first purchase → repeat purchase, for product analytics

**Budget approval pipeline** – submitted → reviewed → revised → approved → allocated, for finance governance dashboards

**Website conversion** – visitors → product page views → add-to-cart → checkout initiated → purchase completed, for e-commerce reporting

### — BEST PAIRED WITH

Sales pipeline

Recruitment

Product analytics

E-commerce

## — COMPLEXITY SCORECARD

### ★ BEGINNER

|                   |     |
|-------------------|-----|
| Features needed   | ★★☆ |
| Formatting effort | ★★☆ |
| Formulas needed   | ★☆☆ |
| Form controls     | ★☆☆ |
| Time to develop   | ★☆☆ |

### ✓ No VBA required

No.

### 📌 PRO TIP

Excel gives you no conversion-rate labels. Add a helper column of stage-over-stage percentages and link each data label to it with "Value From Cells".

## — COMPATIBILITY

| PLATFORM              | SUPPORT   | NOTE                                                |
|-----------------------|-----------|-----------------------------------------------------|
| Excel Desktop (2019+) | ✓ Full    | Full native support                                 |
| Excel Desktop 2016    | ✗ Breaks  | simulate with bar chart trick (centre-aligned bars) |
| Excel Mobile          | 🕒 Partial | View only                                           |
| Excel Web             | ✓ Full    | Full support                                        |
| Google Sheets import  | ✗ Breaks  | reverts to bar chart; rebuild natively in Sheets    |

## — CONSTRAINTS & LIMITATIONS

- ⚠ **Values must decrease from top to bottom** – the chart does not handle non-monotonic sequences gracefully; bars will appear out of proportion
- ⚠ **No built-in percentage labels** – you must add a helper column and overlay text manually
- ⚠ Excel 2016 users must simulate using a stacked bar chart with an invisible left spacer series

## 01 Insert the native funnel chart →

Select range → Insert → Charts → Funnel (available in Excel 2019+)

## 02 Tighten gap width, remove chrome

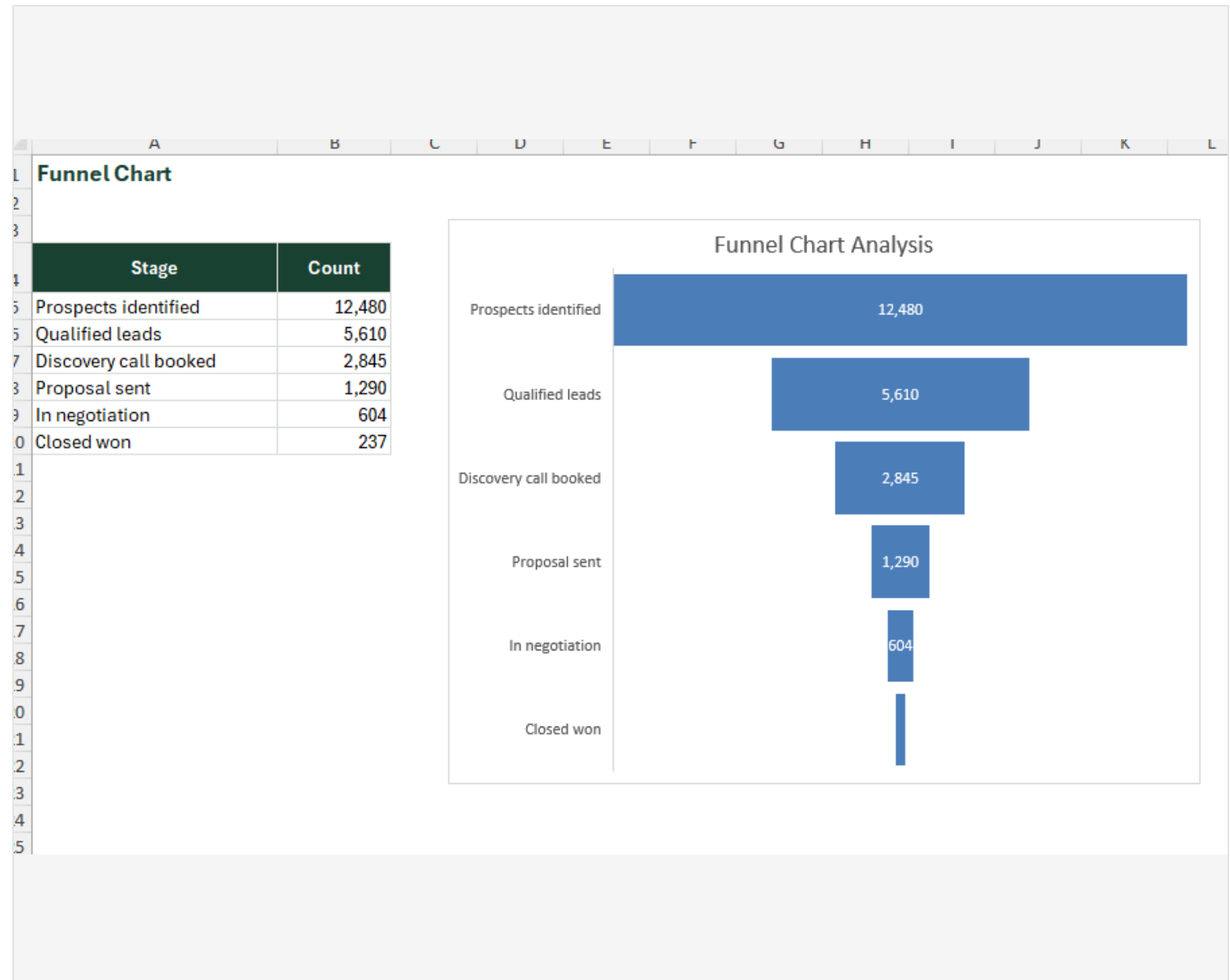
## 03 Apply a top-to-bottom colour ramp

The screenshot shows the Excel interface with the 'Insert' tab selected. The 'Recommended Charts' button in the 'Charts' group is highlighted with a green box and the number 1. The 'Funnel Chart' data table is highlighted with a green box and the number 2. The 'Insert Chart' task pane is open, showing the 'All Charts' tab with a green box and the number 3. The 'Funnel' chart type is selected in the 'All Charts' list with a green box and the number 4. The 'Funnel' chart preview is shown on the right.

| Stage                 | Count  |
|-----------------------|--------|
| Prospects identified  | 12,480 |
| Qualified leads       | 5,610  |
| Discovery call booked | 2,845  |
| Proposal sent         | 1,290  |
| In negotiation        | 604    |
| Closed won            | 237    |

**01 Insert the native funnel chart****02 Tighten gap width, remove chrome** →

Format: remove legend, remove axis, increase gap width to 15–20%

**03 Apply a top-to-bottom colour ramp**

01 Insert the native funnel chart

02 Tighten gap width, remove chrome

03 Apply a top-to-bottom colour ramp →

Apply colour gradient from dark to light top-to-bottom to reinforce the narrowing narrative

[Full walkthrough](#)

[Download template](#)

Workbook tab 02\_Funnel

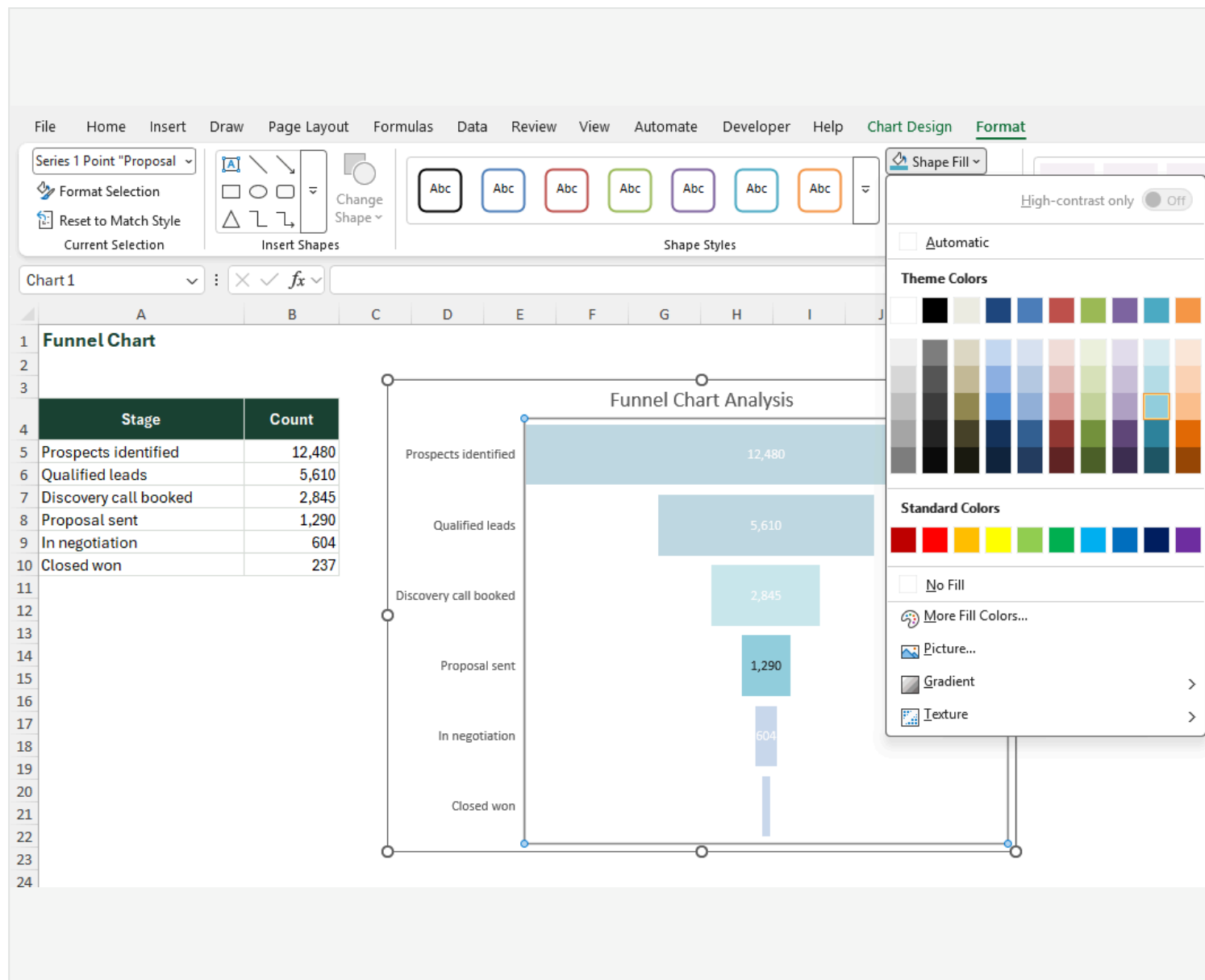


CHART 03 OF 11

# In-Cell Chart

Charts that live inside cells

 BEGINNER

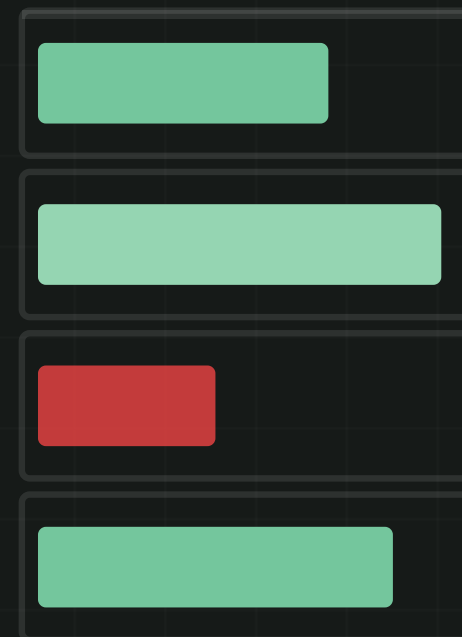




CHART 03 OF 11

## In-Cell Chart

Charts that live inside cells

### — WHAT IT IS

In-cell charts are micro-visualisations that live inside spreadsheet cells rather than as separate chart objects. They take two forms: Excel's native Sparklines (miniature line, bar or win/loss charts embedded in a cell), and REPT-function bar charts (a formula-driven technique that fills a cell with repeated characters scaled to a value). Both allow data tables to carry their own visual context without a separate chart object.

### — ENTERPRISE USE CASES

**KPI scorecards** – a column of sparkline trend lines beside monthly KPI values shows direction without requiring a separate chart

**League tables and rankings** – REPT bars next to a ranked list give instant proportional context to each row

**Financial model summaries** – win/loss sparklines in cash flow tables indicate positive vs negative periods at a glance

**HR dashboards** – attendance or performance score tables with in-cell bars allow dense data display in a compact layout

**Operational monitoring** – production output tables with embedded sparklines replace entire chart sheets in tight-layout reports

### — BEST PAIRED WITH

KPI scorecards

League tables

Dense tables

HR dashboards

## — COMPLEXITY SCORECARD

### ★ BEGINNER

|                   |     |
|-------------------|-----|
| Features needed   | ★★☆ |
| Formatting effort | ★★☆ |
| Formulas needed   | ★★☆ |
| Form controls     | ★☆☆ |
| Time to develop   | ★★☆ |

### ✓ No VBA required

No.

### 📌 PRO TIP

REPT bars only line up if every cell in the column uses the same font. Set it to Playbill before you build, not after.

## — COMPATIBILITY

| PLATFORM             | SUPPORT   | NOTE                                                                               |
|----------------------|-----------|------------------------------------------------------------------------------------|
| Excel Desktop        | ✓ Full    | Full support for both Sparklines and REPT bars                                     |
| Excel Mobile         | ⚠ Partial | may render inconsistently depending on font                                        |
| Excel Web            | ⚠ Partial | Sparklines display correctly; REPT bars work if the Wingdings/Courier font renders |
| Google Sheets import | ✗ Breaks  | recreate using Sheets' native SPARKLINE function; REPT bars import as text only    |

## — CONSTRAINTS & LIMITATIONS

⚠ **Sparklines cannot be individually formatted per data point** – they are all-or-nothing per group

⚠ REPT bars depend on the column's font choice for consistent width; changing it after building breaks the visual

⚠ **Sparklines do not respond to standard chart formatting** – colours and axes are limited to the Sparkline design ribbon

⚠ Sparklines are invisible in print unless cells are explicitly formatted before printing

## 01 Insert a sparkline beside your data →

For Sparklines: Select a blank cell beside your data row → Insert → Sparklines → Line (or Column/Win-Loss) → select data range → confirm

## 02 Style high, low and marker points

## 03 Build a REPT bar in Playbill

## 04 Adjust the divisor to control bar length

## 05 Colour-code bars by value band

The screenshot illustrates the first step of creating an in-cell chart in Excel. The 'Insert' tab is active, and the 'Sparklines' group is highlighted. A green arrow points to the 'Sparklines' button. Below the ribbon, a table titled 'In-Cell Chart—sparklines and REPT bars' is shown. The table has columns for 'Rep', months (Jan-Jun), 'Total', 'Sparkline', and 'REPT bar'. Data is entered for reps A. Okafor, M. Chen, S. Patel, L. Dubois, R. Silva, K. Akiyemi, T. Nowak, and J. Murphy. A green arrow points to the 'Sparkline' column. To the right, a zoomed-in view of the table shows the 'Sparkline' and 'REPT bar' columns. A 'Create Sparklines' dialog box is open, showing 'Data Range' as '\$B\$5:\$I\$12' and 'Location Range' as '\$J\$5:\$J\$12'. A green arrow points to the 'OK' button.

| Rep        | Jan | Feb | Mar | Apr | May | Jun | Total | Sparkline | REPT bar |
|------------|-----|-----|-----|-----|-----|-----|-------|-----------|----------|
| A. Okafor  | 42  | 51  | 48  | 63  | 59  | 71  | 334   |           |          |
| M. Chen    | 88  | 79  | 92  | 85  | 97  | 103 | 544   |           |          |
| S. Patel   | 31  | 38  | 29  | 45  | 52  | 49  | 244   |           |          |
| L. Dubois  | 67  | 72  | 65  | 56  | 74  | 81  | 417   |           |          |
| R. Silva   | 55  | 49  | 61  | 79  | 66  | 78  | 379   |           |          |
| K. Akiyemi | 94  | 101 | 88  | 112 | 106 | 119 | 620   |           |          |
| T. Nowak   | 23  | 27  | 35  | 31  | 40  | 38  | 194   |           |          |
| J. Murphy  | 76  | 68  | 83  | 79  | 91  | 87  | 484   |           |          |

| Jun | Total | Sparkline | REPT bar |
|-----|-------|-----------|----------|
| 99  | 71    | 334       |          |
| 97  | 103   | 544       |          |
| 92  | 49    | 244       |          |
| 74  | 81    | 417       |          |
| 66  | 78    | 379       |          |
| 106 | 119   | 620       |          |
| 40  | 38    | 194       |          |
| 91  | 87    | 484       |          |

Create Sparklines

Choose the data that you want

Data Range: \$B\$5:\$I\$12

Choose where you want the sparklines to be placed

Location Range: \$J\$5:\$J\$12

OK Cancel

01 Insert a sparkline beside your data

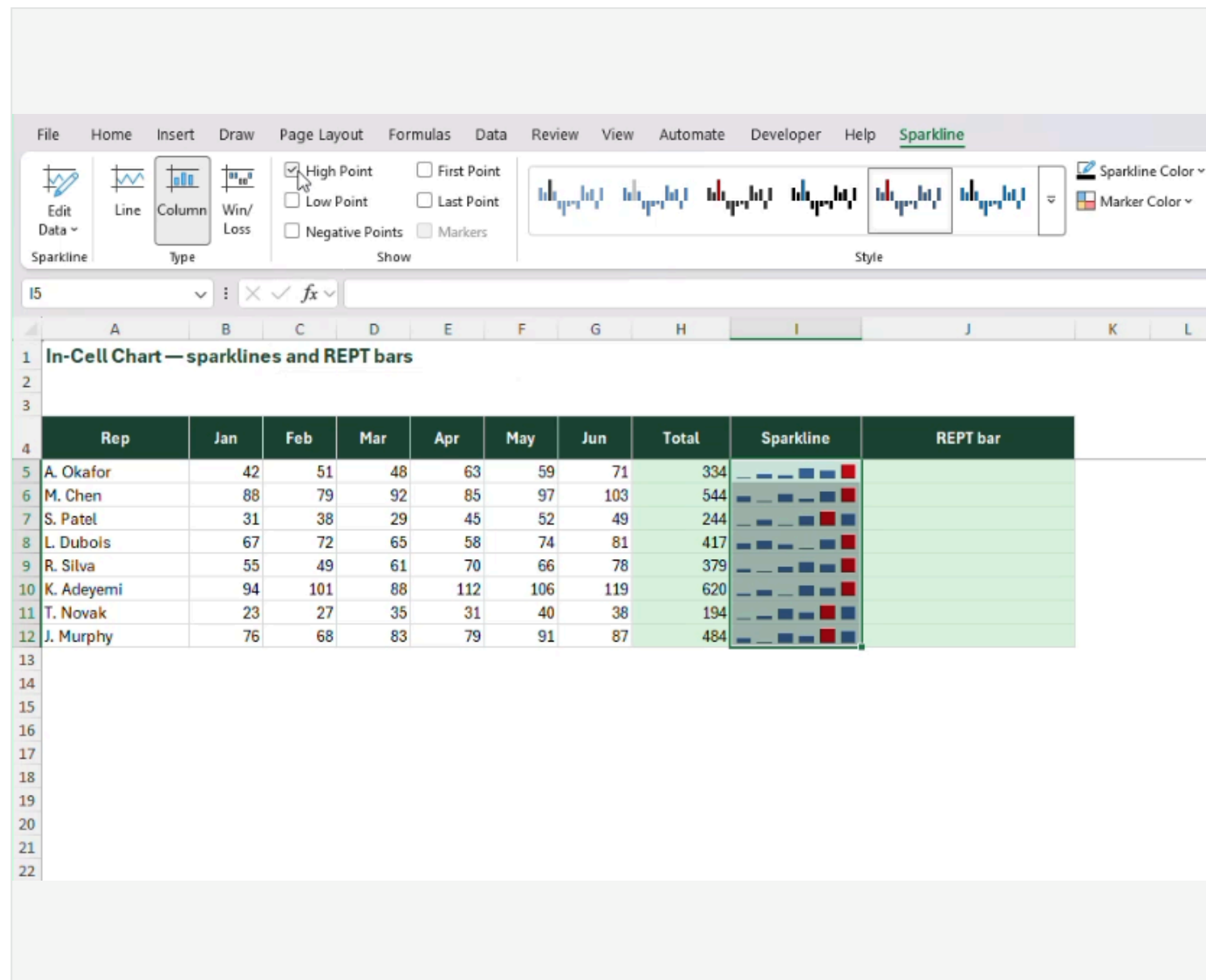
02 Style high, low and marker points →

Customise via Sparkline Design tab: set high/low point colours, axis scale

03 Build a REPT bar in Playbill

04 Adjust the divisor to control bar length

05 Colour-code bars by value band



01 Insert a sparkline beside your data

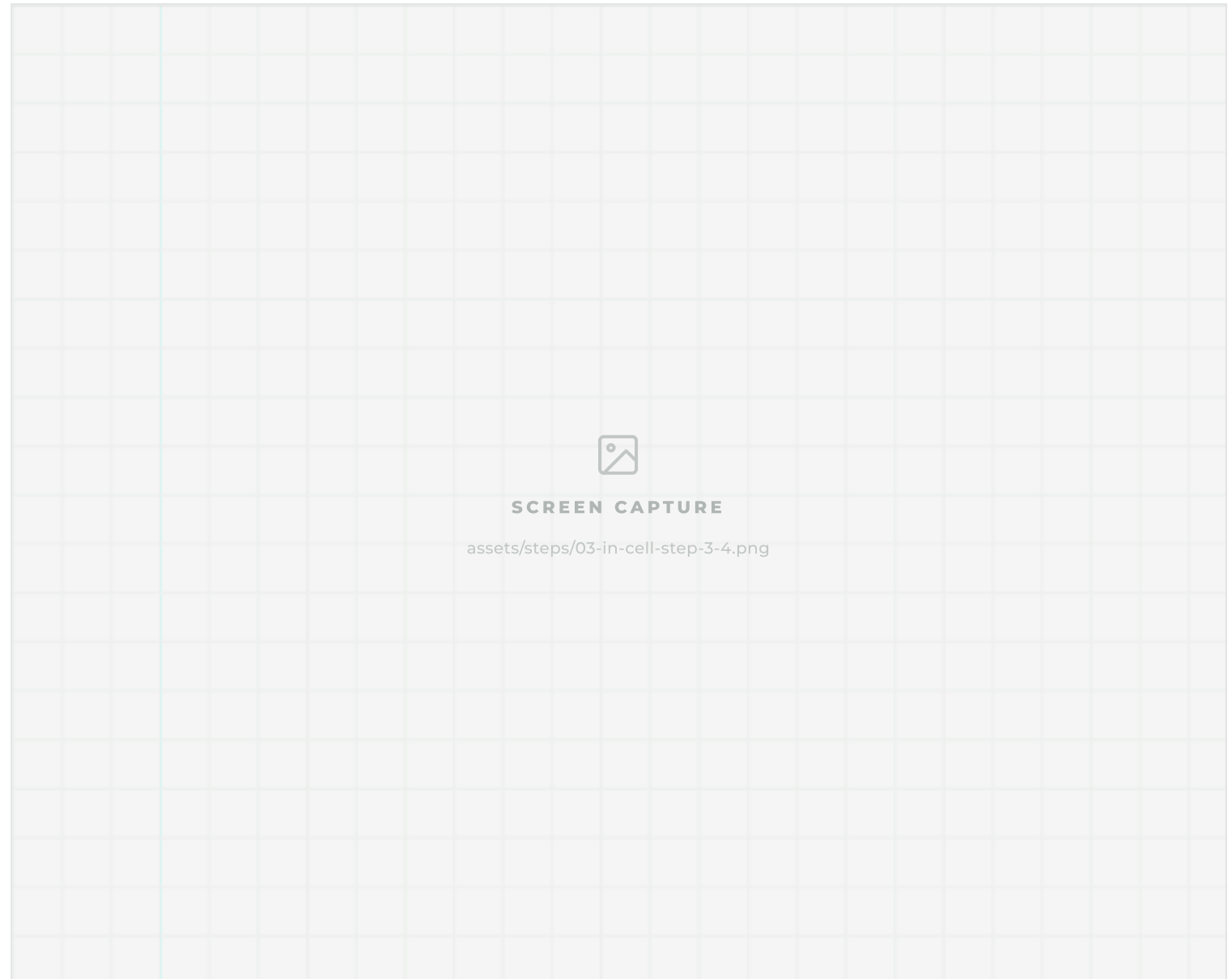
02 Style high, low and marker points

03 **Build a REPT bar in Playbill** →

For REPT bars: In a new column enter =REPT("|",[TOTALVALUE]) and set that column's font to Playbill

04 Adjust the divisor to control bar length

05 Colour-code bars by value band



01 Insert a sparkline beside your data

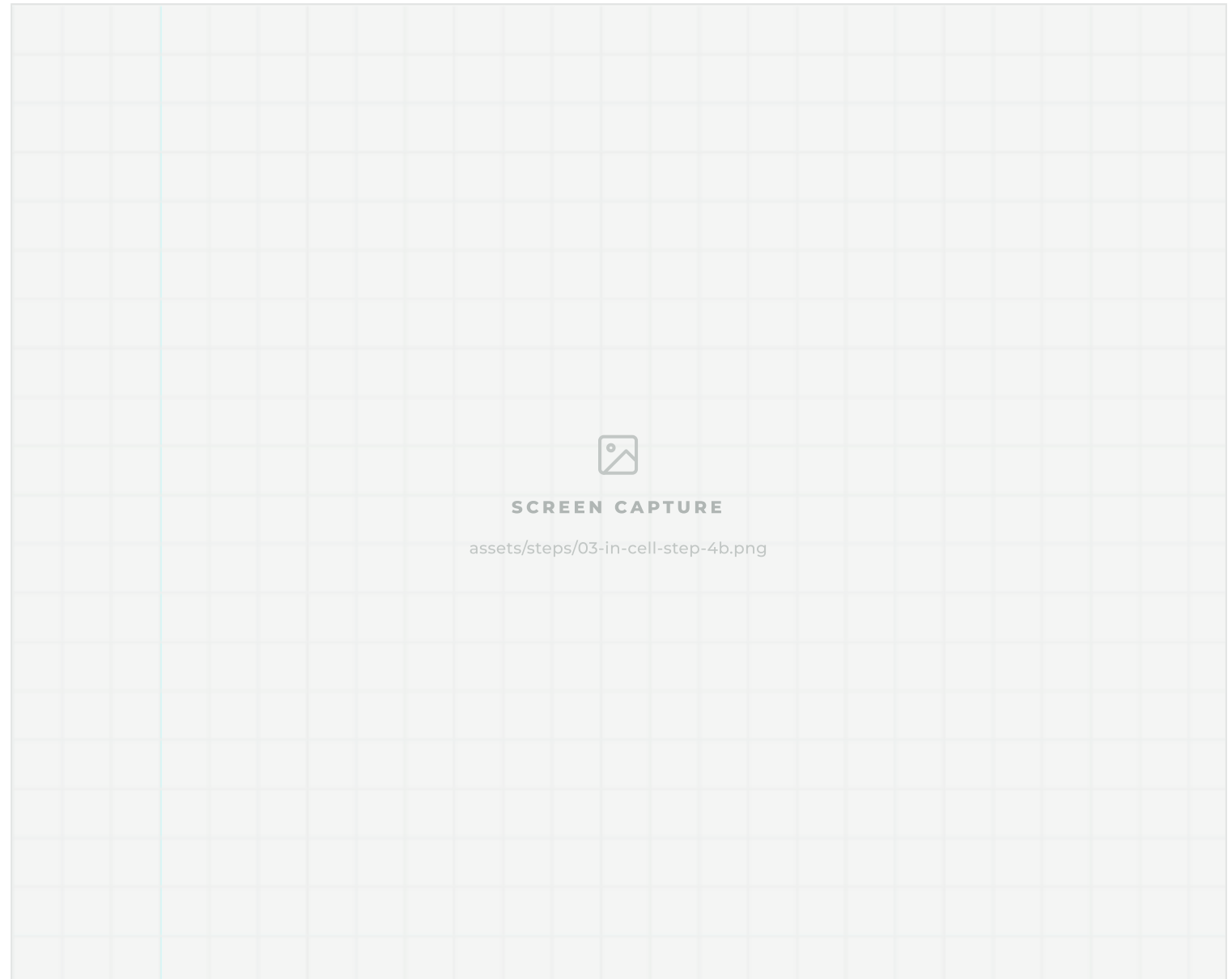
02 Style high, low and marker points

03 Build a REPT bar in Playbill

04 **Adjust the divisor to → control bar length**

Adjust the divisor to control the maximum bar length – e.g. `=REPT("|",[TOTALVALUE]/5)`; this example uses a divisor of 5

05 Colour-code bars by value band



01 Insert a sparkline beside your data

02 Style high, low and marker points

03 Build a REPT bar in Playbill

04 Adjust the divisor to control bar length

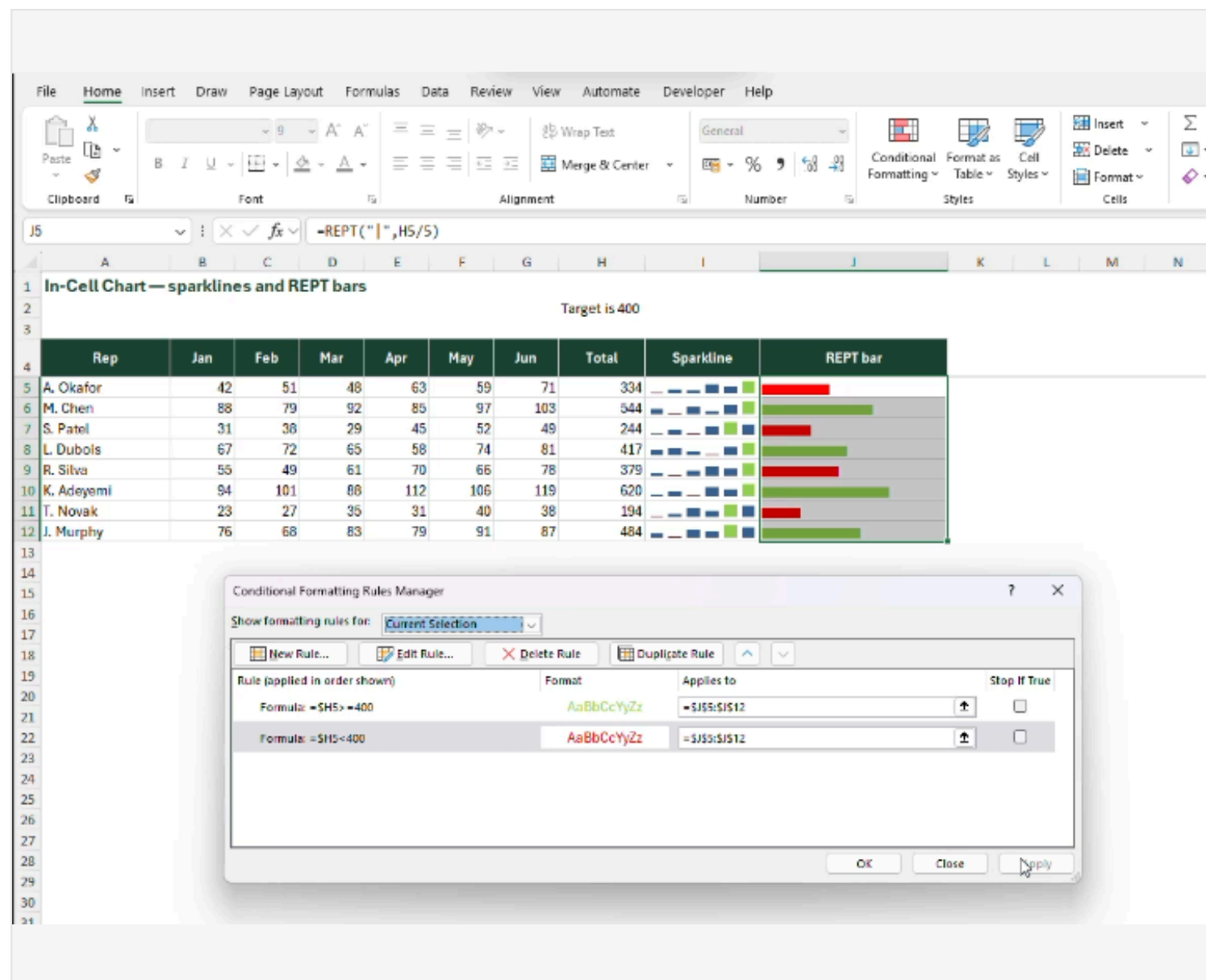
05 Colour-code bars by value band →

Apply conditional formatting to colour-code bars by value band (e.g. green above target, red below)

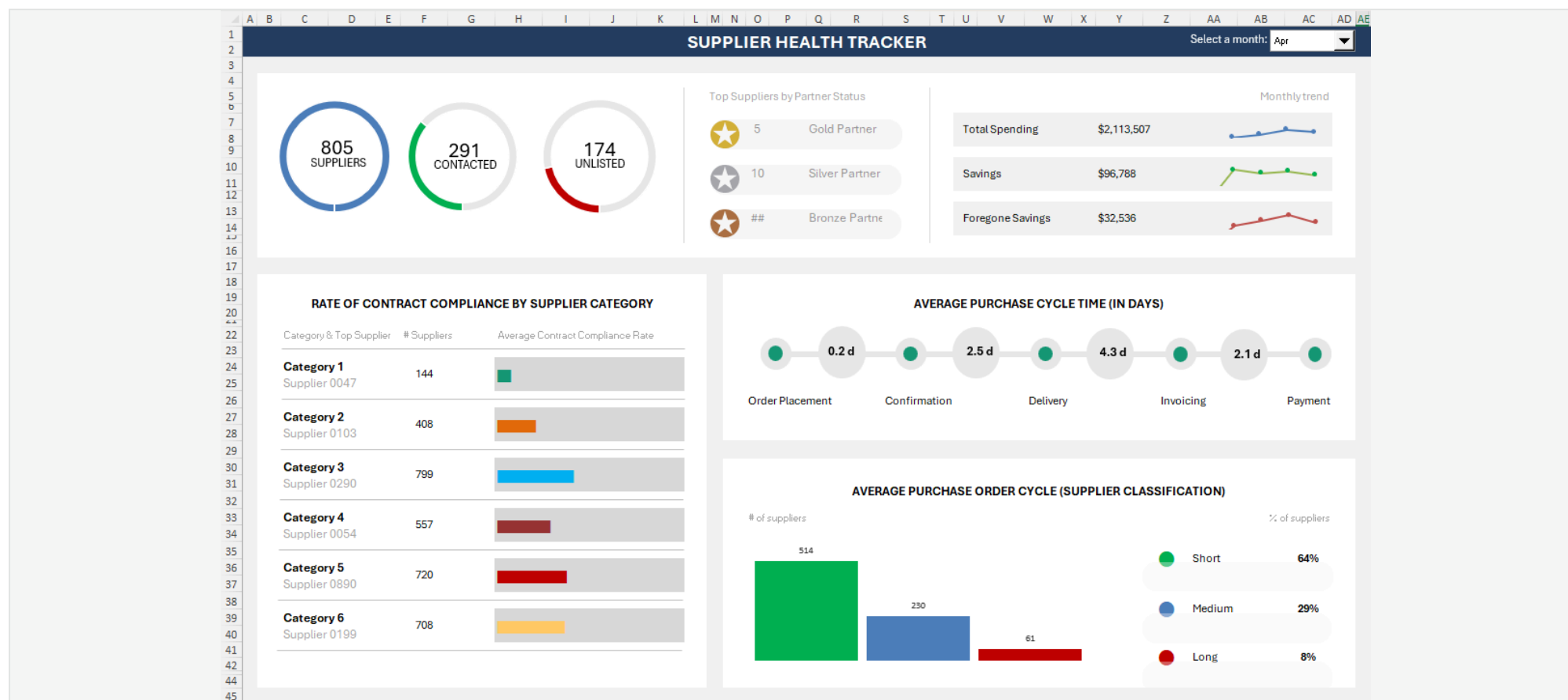
[Full walkthrough](#)

[Download template](#)

Workbook tab **03\_In-Cell**



# Supplier Health Tracker



The compliance table in the bottom-left panel is built from the same REPT-bar technique this guide just walked through, sitting alongside sparkline trend cells and dial KPIs in one live dashboard.

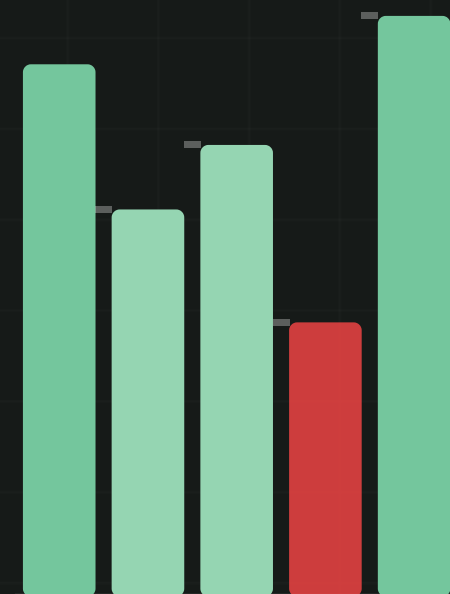
[Watch the tutorial](#)

CHART 04 OF 11

# Waterfall Chart

Show cumulative change across categories

 INTERMEDIATE



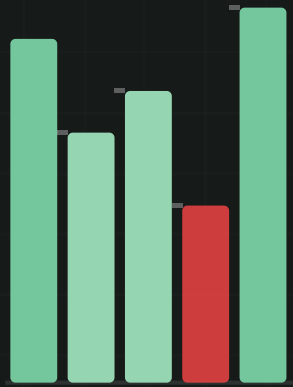


CHART 04 OF 11

## Waterfall Chart

Show cumulative change across categories

### — WHAT IT IS

A waterfall chart visualises how an initial value is built up or broken down by a series of intermediate positive and negative contributions, arriving at a final total. Bars float at heights corresponding to cumulative running totals – each bar's top marks where the next bar begins – making the path from start to finish immediately readable. It is one of the most analytically powerful chart types in business reporting and one of the most underused.

### — ENTERPRISE USE CASES

**P&L bridge** – show how EBITDA moves from prior year to current year, with each driver (volume, price, cost, FX) as a separate floating bar

**Inventory stock movement** – opening stock → receipts → issues → write-offs → closing stock, showing exactly where units entered and left the warehouse

**Cash flow reconciliation** – opening cash balance → inflows → outflows by category → closing balance, in a single chart

**Headcount movement** – opening headcount → hires → departures → transfers → closing headcount, for HR reporting

**Revenue attribution** – total revenue decomposed by product line, region or channel, showing how each contributes to the whole

### — BEST PAIRED WITH

Financial dashboards

CFO reports

Variance analysis

Board packs

## — COMPLEXITY SCORECARD

★★ INTERMEDIATE

|                   |     |
|-------------------|-----|
| Features needed   | ★★☆ |
| Formatting effort | ★★☆ |
| Formulas needed   | ★★☆ |
| Form controls     | ★☆☆ |
| Time to develop   | ★★☆ |

✓ **No VBA required**

No.

### 📌 PRO TIP

In Excel 2013 or earlier, recreate this with a stacked bar plus an invisible base series – set the base fill to "No Fill, No Border" to make the bars float.

## — COMPATIBILITY

| PLATFORM                     | SUPPORT   | NOTE                                                                   |
|------------------------------|-----------|------------------------------------------------------------------------|
| Excel Desktop 2016+          | ✓ Full    | Full native support                                                    |
| Excel Desktop 2013 and below | ⚠ Partial | Must simulate using stacked bar with invisible base series             |
| Excel Mobile                 | ⚠ Partial | View only                                                              |
| Excel Web                    | ✓ Full    | Full support                                                           |
| Google Sheets import         | ✗ Breaks  | reverts to standard bar chart on import; no native waterfall in Sheets |

## — CONSTRAINTS & LIMITATIONS

- ⚠ **"Set as Total" must be applied manually by right-clicking each total/subtotal bar** – new users frequently miss this step
- ⚠ Excel 2013 workaround requires a helper column computing the invisible base value: =SUM of preceding values; any data change requires rechecking the base series
- ⚠ Dynamic ranges that add or remove categories can disrupt the invisible base series in legacy builds

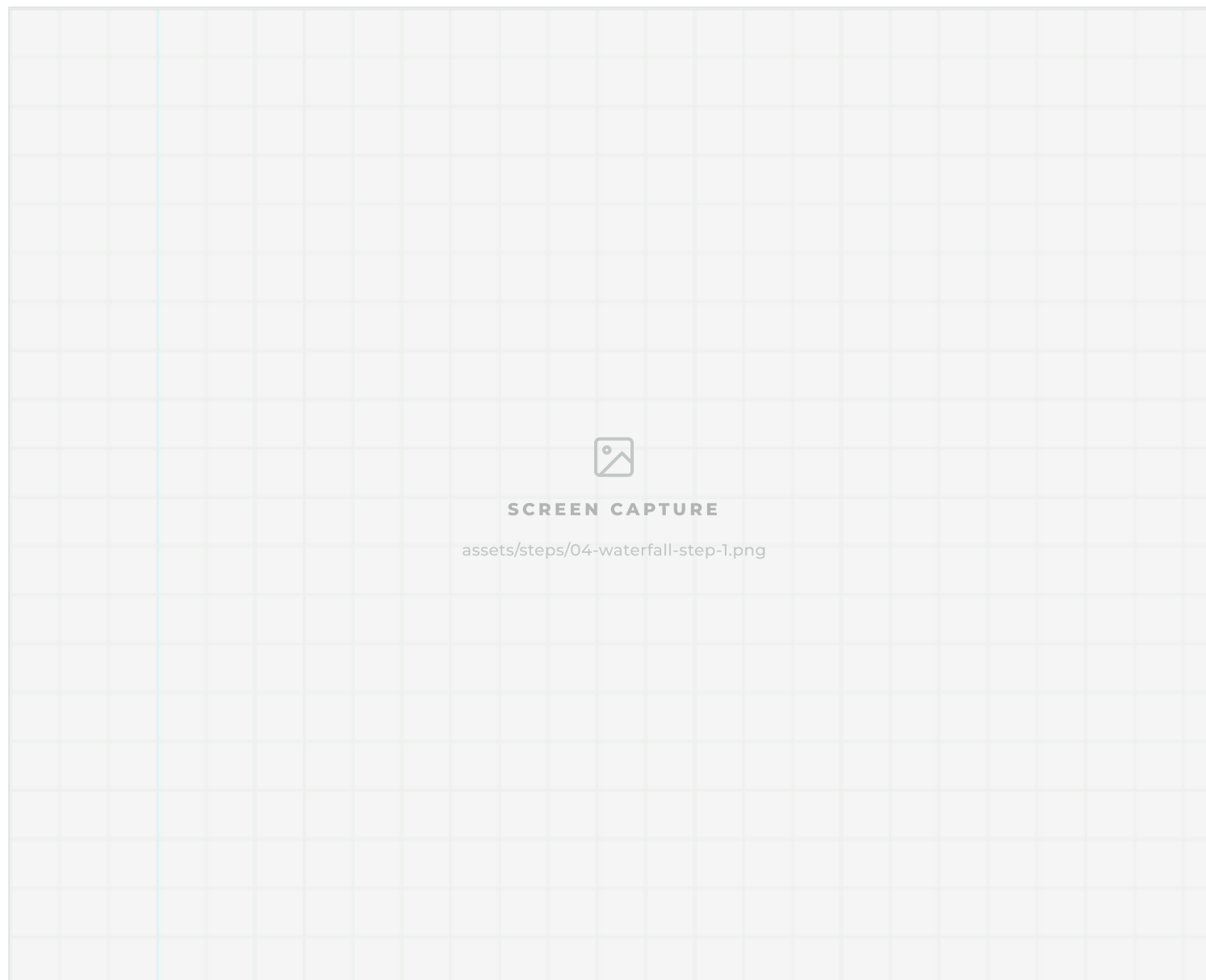
## 01 Build a three-column data table →

Create a table: Column A = category names, Column B = values (+ve for increases, -ve for decreases), Column C = type (mark "Total" for first and last rows)

## 02 Insert the waterfall chart

## 03 Mark opening and closing bars as totals

## 04 Remove gridlines



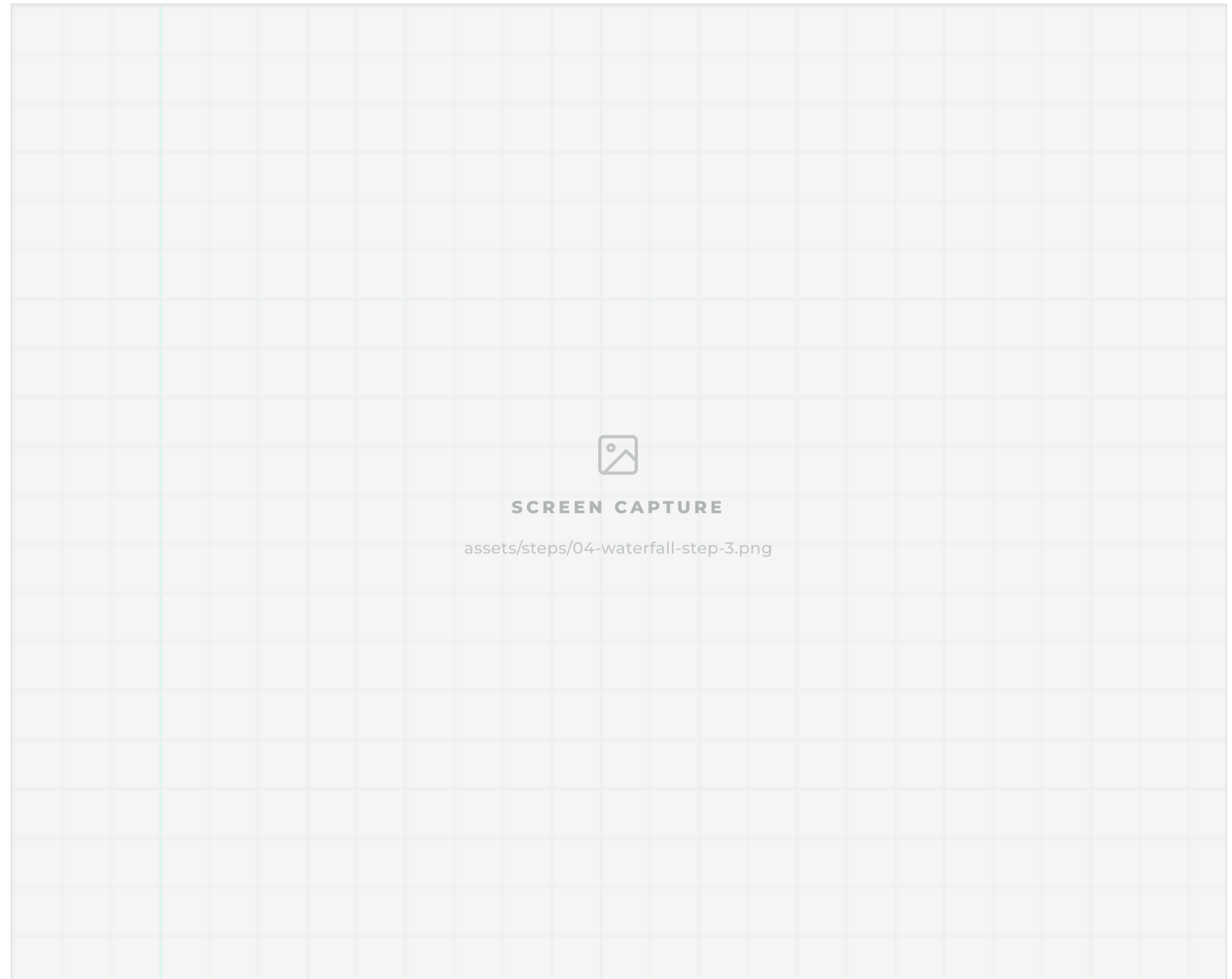
**01 Build a three-column data table**

**02 Insert the waterfall chart** →

Select range → Insert → Charts → Waterfall

**03 Mark opening and closing bars as totals**

**04 Remove gridlines**



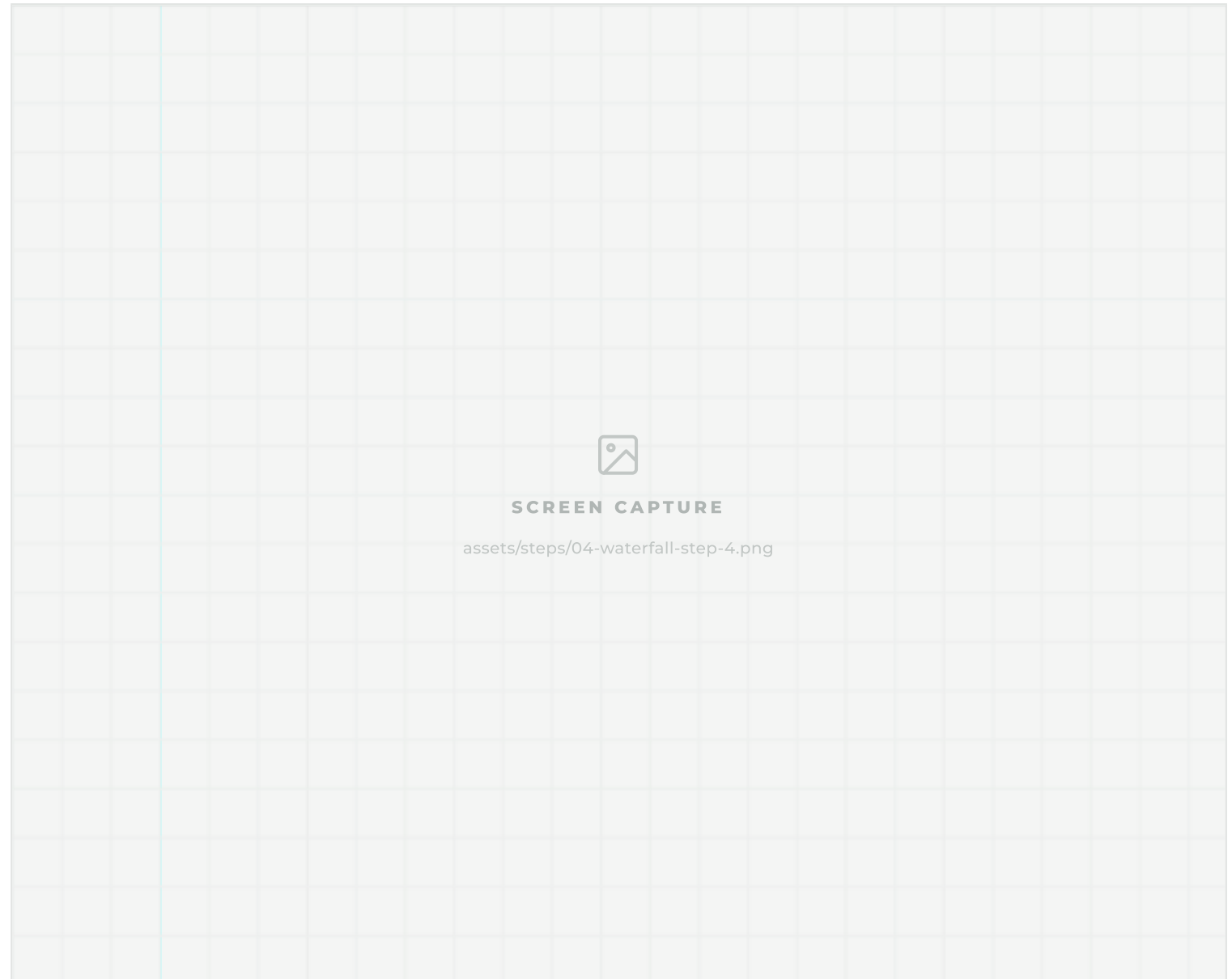
01 Build a three-column data table

02 Insert the waterfall chart

03 **Mark opening and closing bars as totals** →

Right-click the first bar → "Set as Total"; repeat for the last bar and any subtotals

04 Remove gridlines



01 Build a three-column data table

02 Insert the waterfall chart

03 Mark opening and closing bars as totals

04 **Remove gridlines** →

Format: remove gridlines

🔗 Full walkthrough

📄 Download template

Workbook tab **04\_Waterfall**

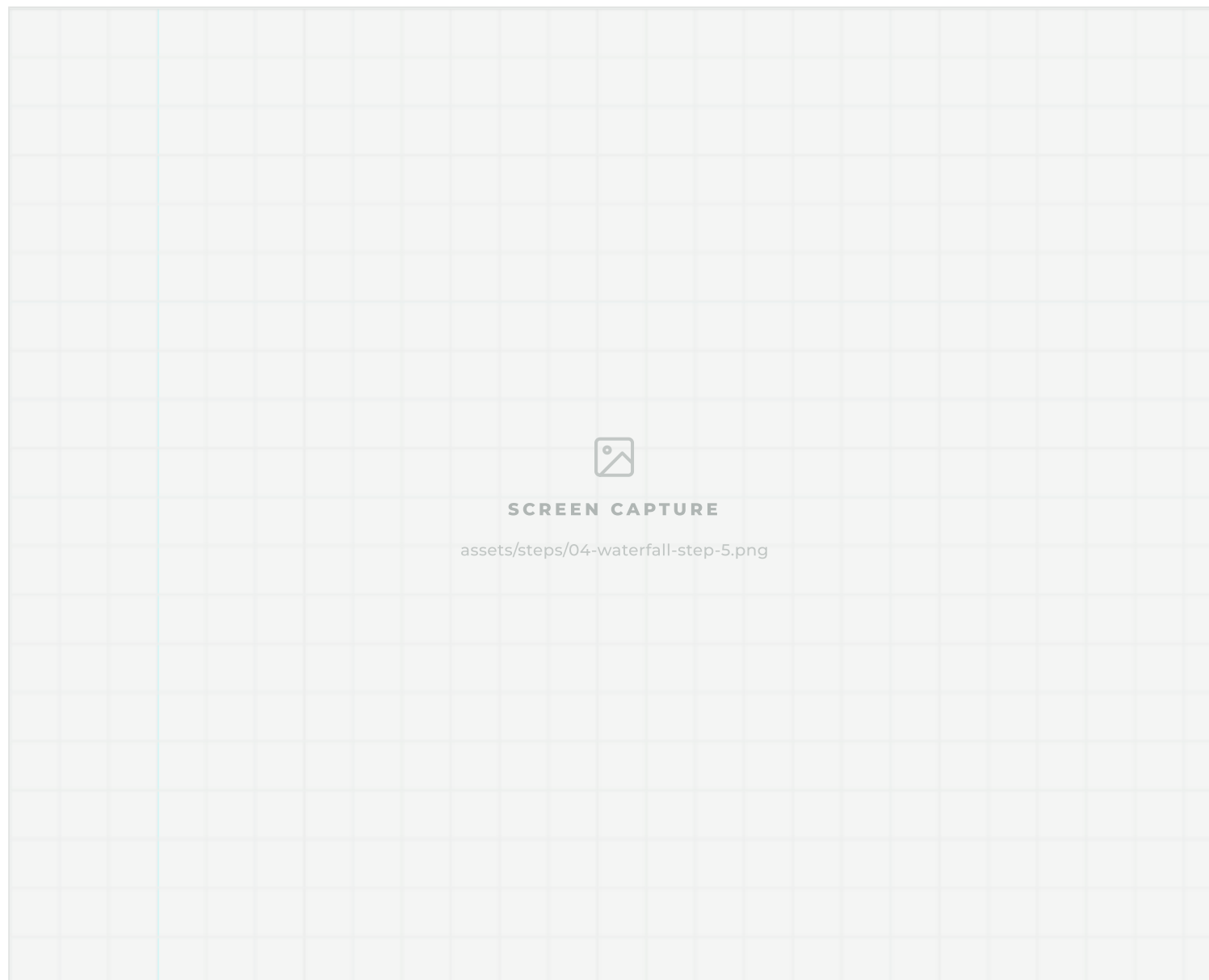


CHART 05 OF 11

# Gantt Chart

Tasks laid out along a timeline

 INTERMEDIATE

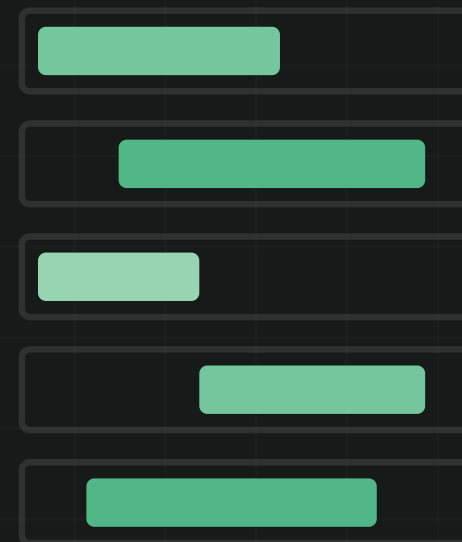




CHART 05 OF 11

## Gantt Chart

Tasks laid out along a timeline

### — WHAT IT IS

A Gantt chart is a horizontal bar chart where each bar represents a task or phase, positioned along a timeline. Its x-axis is time; its y-axis is a list of activities. Bars begin at the task start date and end at the task end date. Excel has no native Gantt chart type – it is built by combining a stacked bar chart with an invisible start-date series, producing one of Excel's most valued dashboard constructs.

### — ENTERPRISE USE CASES

**Project planning** – phases, milestones and dependencies for any project, from IT implementations to product launches

**Monthly close schedule** – finance teams track each close activity (accruals, reconciliations, reporting) across the close calendar

**Audit planning** – schedule fieldwork, review cycles and report issuance dates across multiple audit engagements

**Product roadmap** – feature development timelines across sprints or quarters for product and engineering teams

**Resource planning** – visualise team member allocation across concurrent workstreams in a single view

### — BEST PAIRED WITH

Project planning

Close calendars

Audit schedules

Roadmaps

## — COMPLEXITY SCORECARD

### ★★ INTERMEDIATE

|                   |     |
|-------------------|-----|
| Features needed   | ★★☆ |
| Formatting effort | ★★★ |
| Formulas needed   | ★★☆ |
| Form controls     | ★☆☆ |
| Time to develop   | ★★☆ |

#### ⚠ VBA may be required

Optional. A basic Gantt works without VBA. For dynamic Gantts with automated "today" line, progress shading, or dropdown-driven filtering, VBA or named range formulas are needed.

#### 🕒 PRO TIP

Reversing the category axis is the step everyone forgets. Without it your first task sits at the bottom and the whole schedule reads upside down.

## — COMPATIBILITY

| PLATFORM             | SUPPORT   | NOTE                                                                                                            |
|----------------------|-----------|-----------------------------------------------------------------------------------------------------------------|
| Excel Desktop        | ✓ Full    | built manually using stacked bar technique                                                                      |
| Excel Mobile         | ⚠ Partial | View only                                                                                                       |
| Excel Web            | ✓ Full    | renders correctly in browser                                                                                    |
| Google Sheets import | ✗ Breaks  | The stacked bar structure imports but axis date formatting usually breaks; requires manual axis reconfiguration |

## — CONSTRAINTS & LIMITATIONS

⚠ **No native Gantt type** – always a workaround build using stacked bars with an invisible first series

⚠ Date axis requires careful formatting: axis type must be set to "Date axis" not "Text axis" or bars will not align correctly

⚠ **Dependencies (arrows between tasks) are not natively supported** – must be drawn manually using shapes

⚠ **Scaling breaks when date ranges span both days and months** – choose one unit of granularity and stick to it

## 01 Build a task, start date and duration table →

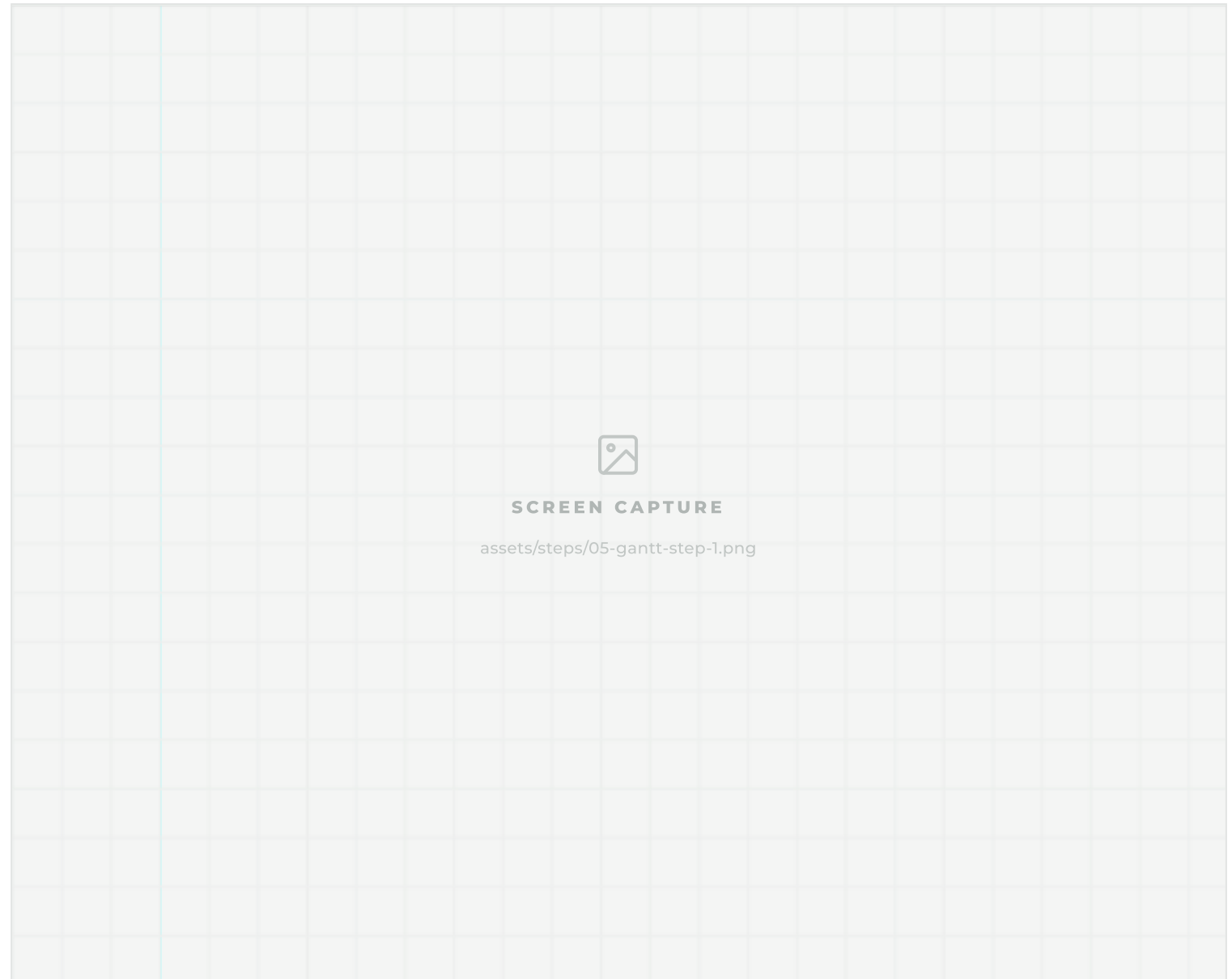
Create table: Task name, Start Date, Duration (days), Category.  
Enter dates as real Excel date values

## 02 Insert a stacked bar chart

## 03 Make the start-date series invisible

## 04 Reverse the category axis order

## 05 Fix the date axis bounds and format



01 Build a task, start date and duration table

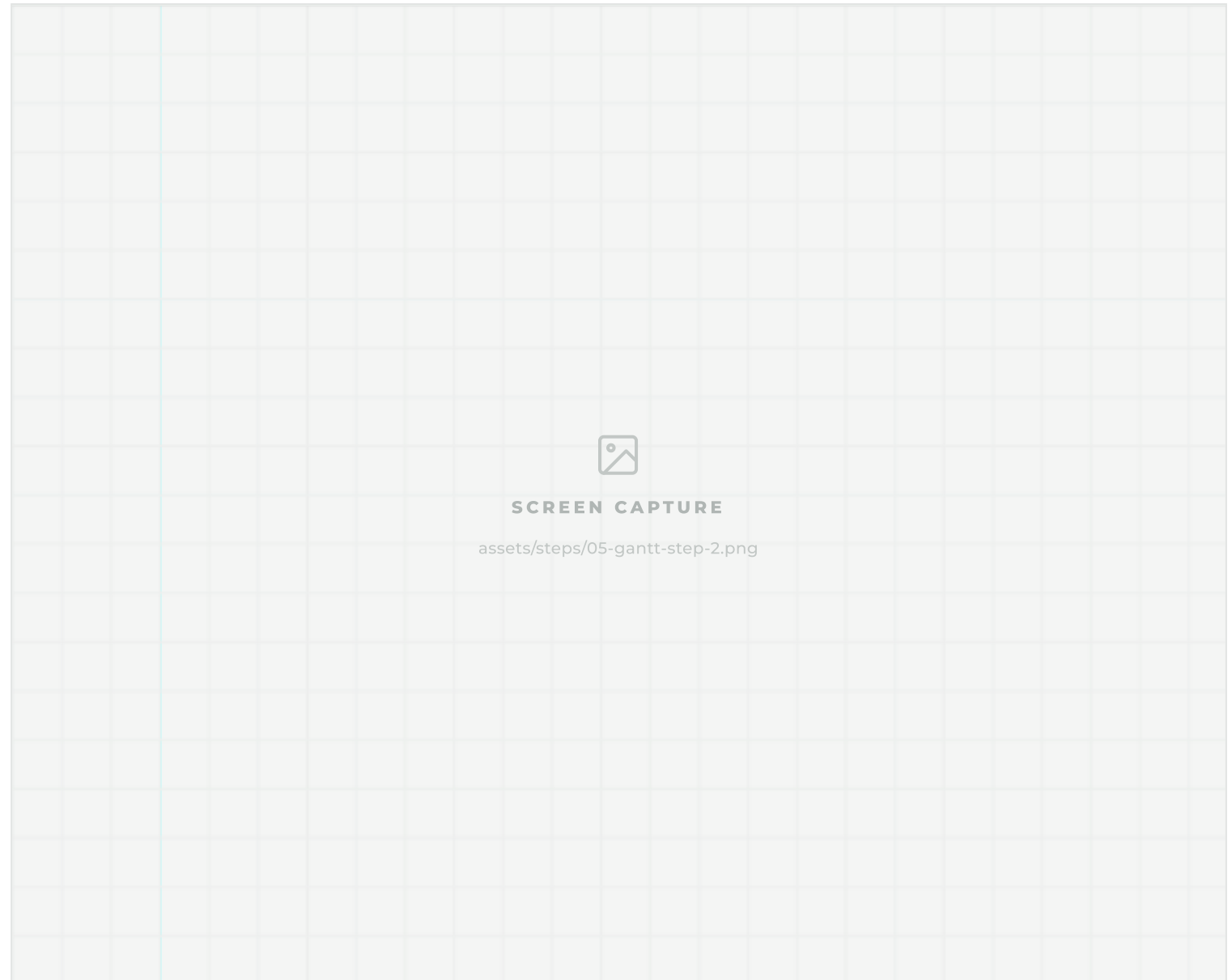
02 **Insert a stacked bar chart** →

Insert stacked bar chart using Start Date and Duration as two series

03 Make the start-date series invisible

04 Reverse the category axis order

05 Fix the date axis bounds and format



01 Build a task, start date and duration table

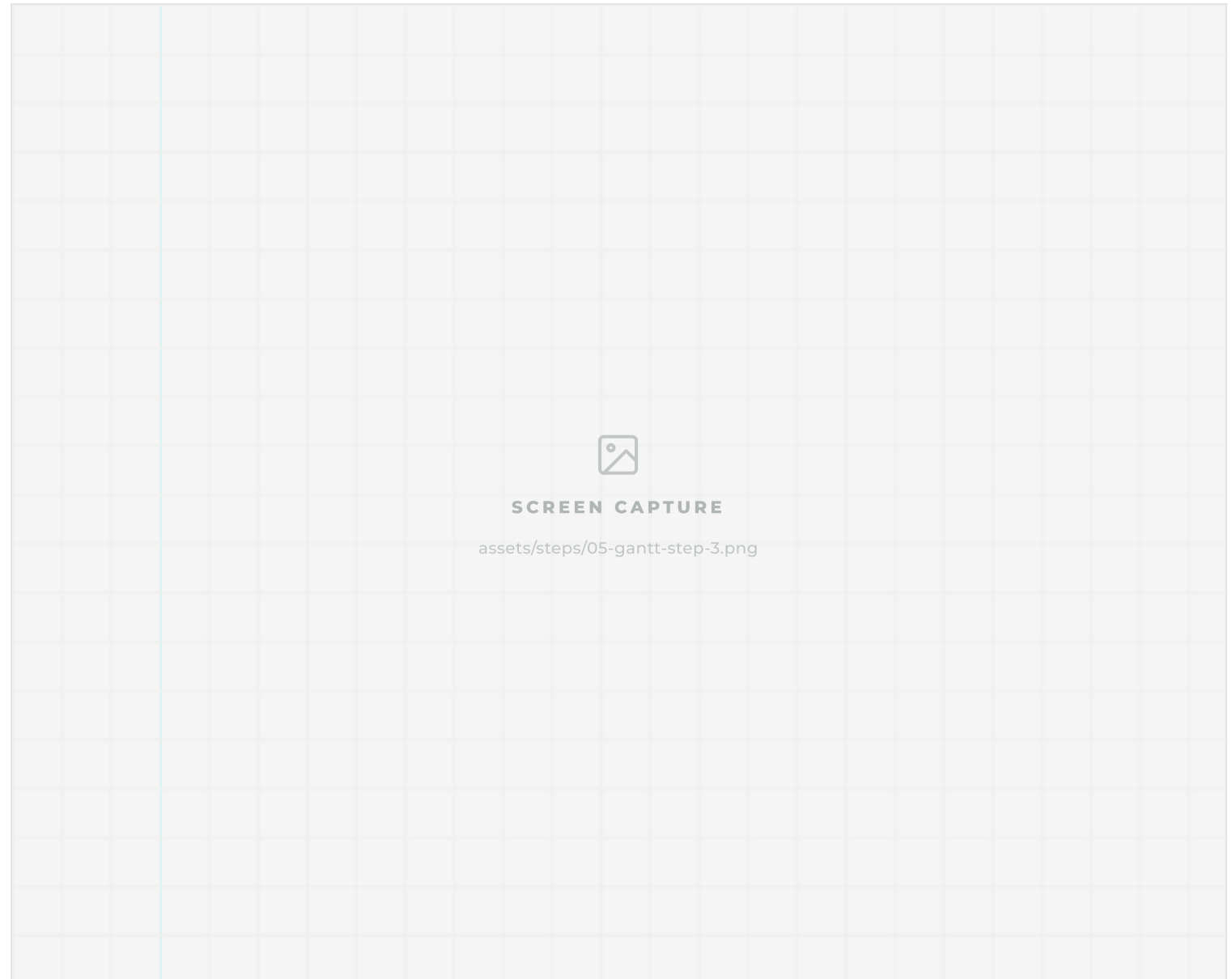
02 Insert a stacked bar chart

03 **Make the start-date series invisible** →

Select the Start Date series →  
Format Data Series → No Fill, No Border (makes it invisible – this is the spacer)

04 Reverse the category axis order

05 Fix the date axis bounds and format



01 Build a task, start date and duration table

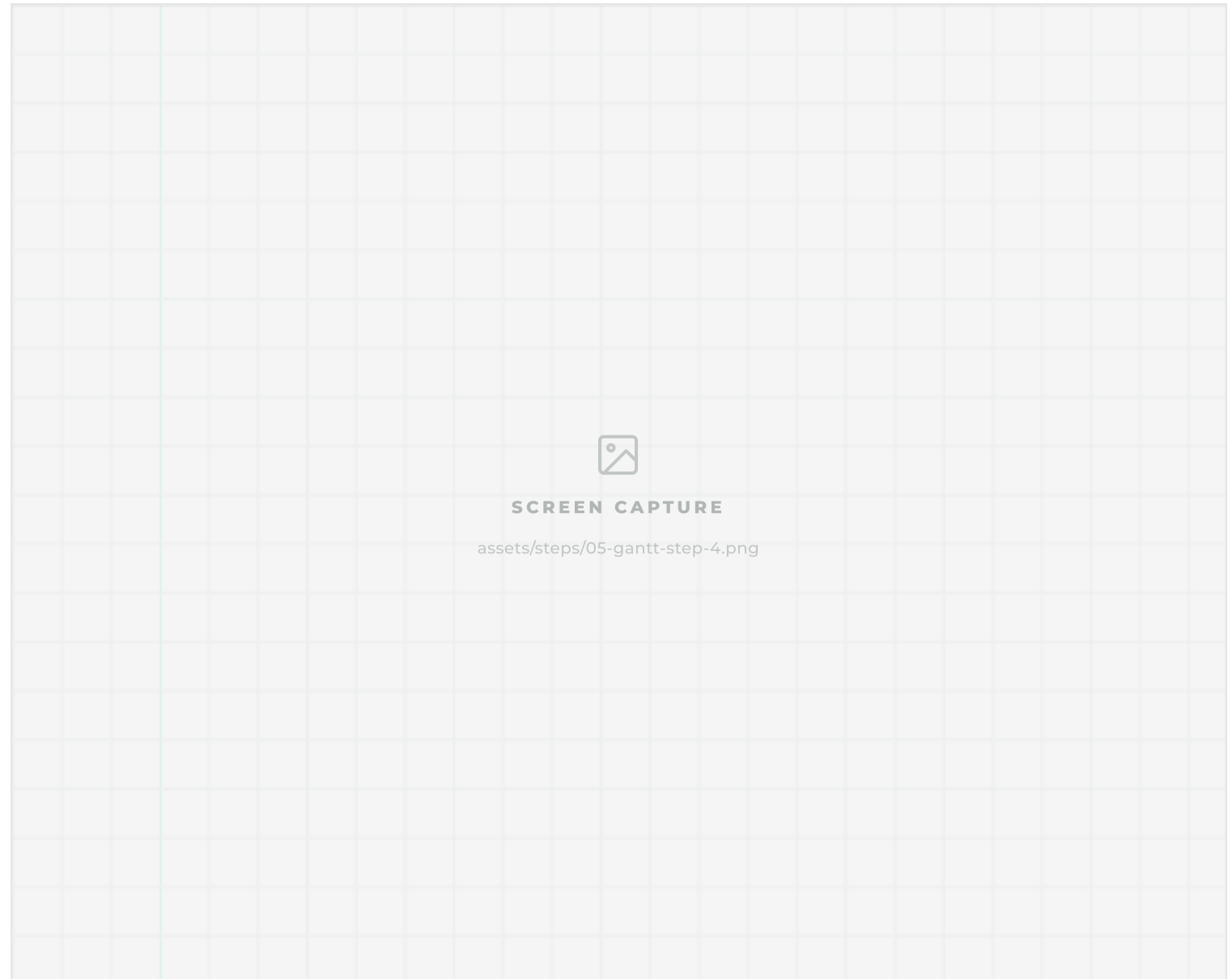
02 Insert a stacked bar chart

03 Make the start-date series invisible

04 **Reverse the category axis order** →

Set x-axis to date axis type; set minimum to your project start date as a number value; adjust major unit to 7 (weekly) or 30 (monthly)

05 Fix the date axis bounds and format



01 Build a task, start date and duration table

02 Insert a stacked bar chart

03 Make the start-date series invisible

04 Reverse the category axis order

05 **Fix the date axis bounds and format** →

Reverse y-axis order (Format Axis → Categories in reverse order) so tasks read top-to-bottom; add a "today" vertical line using a scatter series with error bars

🔗 Full walkthrough

📄 Download template

Workbook tab **05\_Gantt**

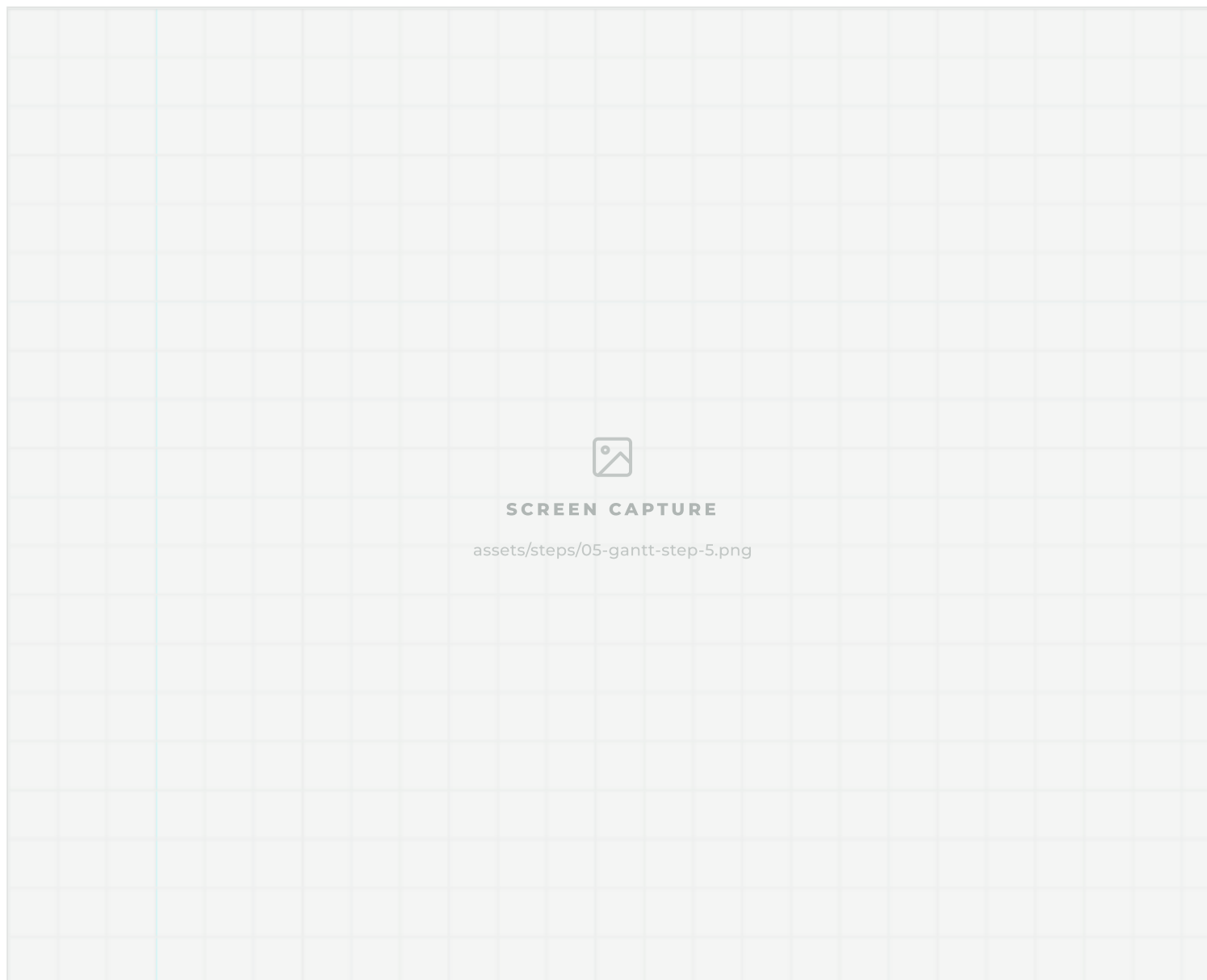


CHART 06 OF 11

# Waffle Chart

A 10x10 grid as a percentage

 INTERMEDIATE

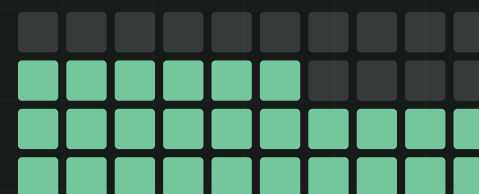




CHART 06 OF 11

## Waffle Chart

A 10x10 grid as a percentage

### — WHAT IT IS

A waffle chart is a 10×10 grid of equal squares where each square represents 1% of a total. Filled squares (typically coloured) show the actual percentage; unfilled squares show the remainder. It is a visually compelling alternative to a pie or donut chart for single-percentage KPIs – more precise, more readable, and significantly more striking in a dashboard layout.

### — ENTERPRISE USE CASES

**KPI completion rate** – project completion percentage, budget utilisation rate, or target achievement displayed as a filled grid

**Market share visualisation** – company's share of a total addressable market shown as a proportion of 100 squares

**Survey or NPS results** – percentage of promoters, passives and detractors shown as three colour zones on the grid

**Headcount diversity metrics** – percentage representation of a demographic shown as a filled waffle beside a benchmark

**Capacity utilisation** – warehouse, fleet or server capacity displayed as a percentage-filled grid on an operational dashboard

### — BEST PAIRED WITH

Progress tracking

Infographics

Survey results

Goal dashboards

## — COMPLEXITY SCORECARD

★★ INTERMEDIATE

|                   |     |
|-------------------|-----|
| Features needed   | ★★☆ |
| Formatting effort | ★★★ |
| Formulas needed   | ★★☆ |
| Form controls     | ★☆☆ |
| Time to develop   | ★★☆ |

### ✓ No VBA required

No. Built using conditional formatting and a supporting percentage formula in a helper cell.

### 📌 PRO TIP

Make the 10x10 block genuinely square before you format it. Set both row height and column width by pixel, or your percentage reads as a distorted rectangle.

## — COMPATIBILITY

| PLATFORM             | SUPPORT   | NOTE                                                                                  |
|----------------------|-----------|---------------------------------------------------------------------------------------|
| Excel Desktop        | ✓ Full    | built using conditional formatting on a 10×10 cell grid                               |
| Excel Mobile         | ⚠ Partial | Displays correctly if the file is pre-built; conditional formatting renders on mobile |
| Excel Web            | ✓ Full    | Full support                                                                          |
| Google Sheets import | ⚠ Partial | Cell structure imports but conditional formatting rules may need recreation           |

## — CONSTRAINTS & LIMITATIONS

⚠ **Resolution is limited to 1% increments** – not suitable for datasets requiring decimal precision

⚠ Building a 10×10 grid manually is time-consuming; a template is strongly recommended

⚠ Animating the fill (e.g. on refresh) requires VBA; static fills update on formula recalculation only

⚠ Multiple waffles on one sheet require separate grids and separate conditional formatting ranges

## 01 Build a square 10x10 → cell grid

In a 10×10 cell block, number each cell 1–100 left-to-right, bottom-to-top (so cell 1 is bottom-left, cell 100 is top-right). Use a formula:  $= (\text{ROW}(\$A\$1) - \text{ROW}()) * 10 + \text{COLUMN}() - \text{COLUMN}(\$A\$1) + 1$  adjusted for your grid position

## 02 Number the cells 1 to 100

## 03 Write the percentage helper formula

## 04 Apply the conditional formatting rule

## 05 Hide the numbers and add a label



SCREEN CAPTURE

assets/steps/06-waffle-step-1.png

01 Build a square 10x10 cell grid

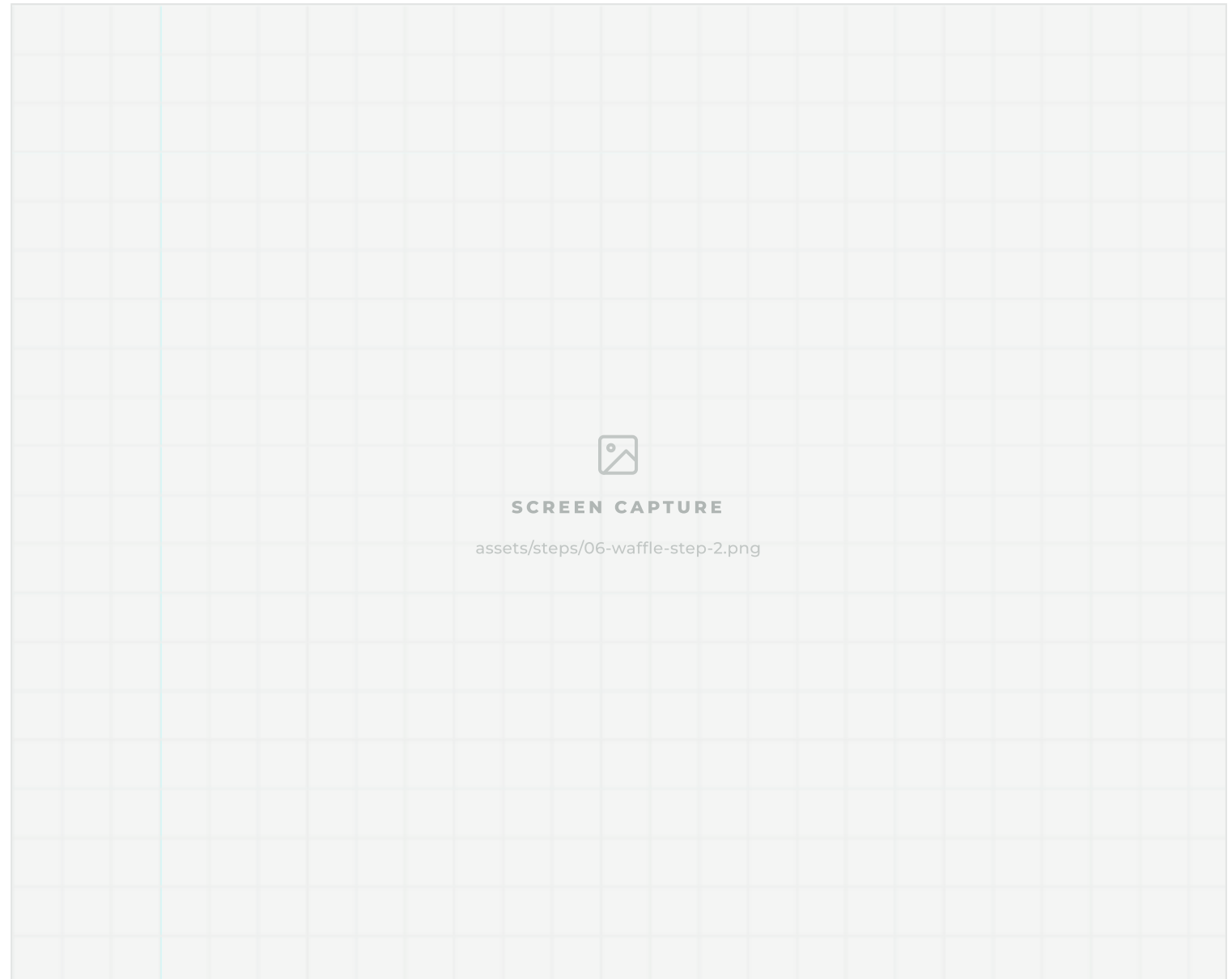
02 Number the cells 1 to 100 →

Make all cells square: set row height = column width (approximately 20×20 points)

03 Write the percentage helper formula

04 Apply the conditional formatting rule

05 Hide the numbers and add a label



01 Build a square 10x10 cell grid

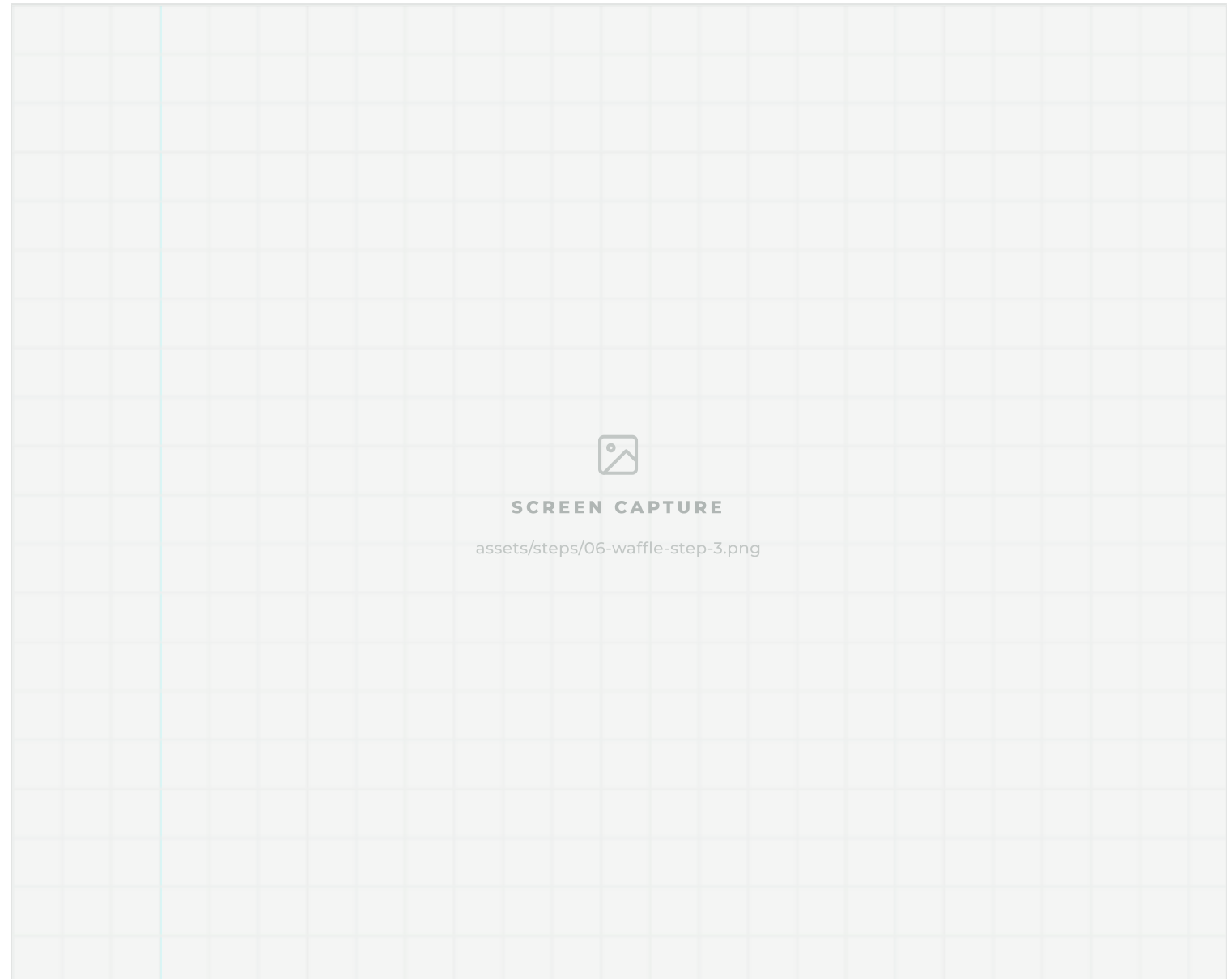
02 Number the cells 1 to 100

03 Write the percentage helper formula →

Apply conditional formatting:  
"Format cells where cell value <= [percentage\_cell]\*100" → fill with blue (#1E40AF)

04 Apply the conditional formatting rule

05 Hide the numbers and add a label



01 Build a square 10x10 cell grid

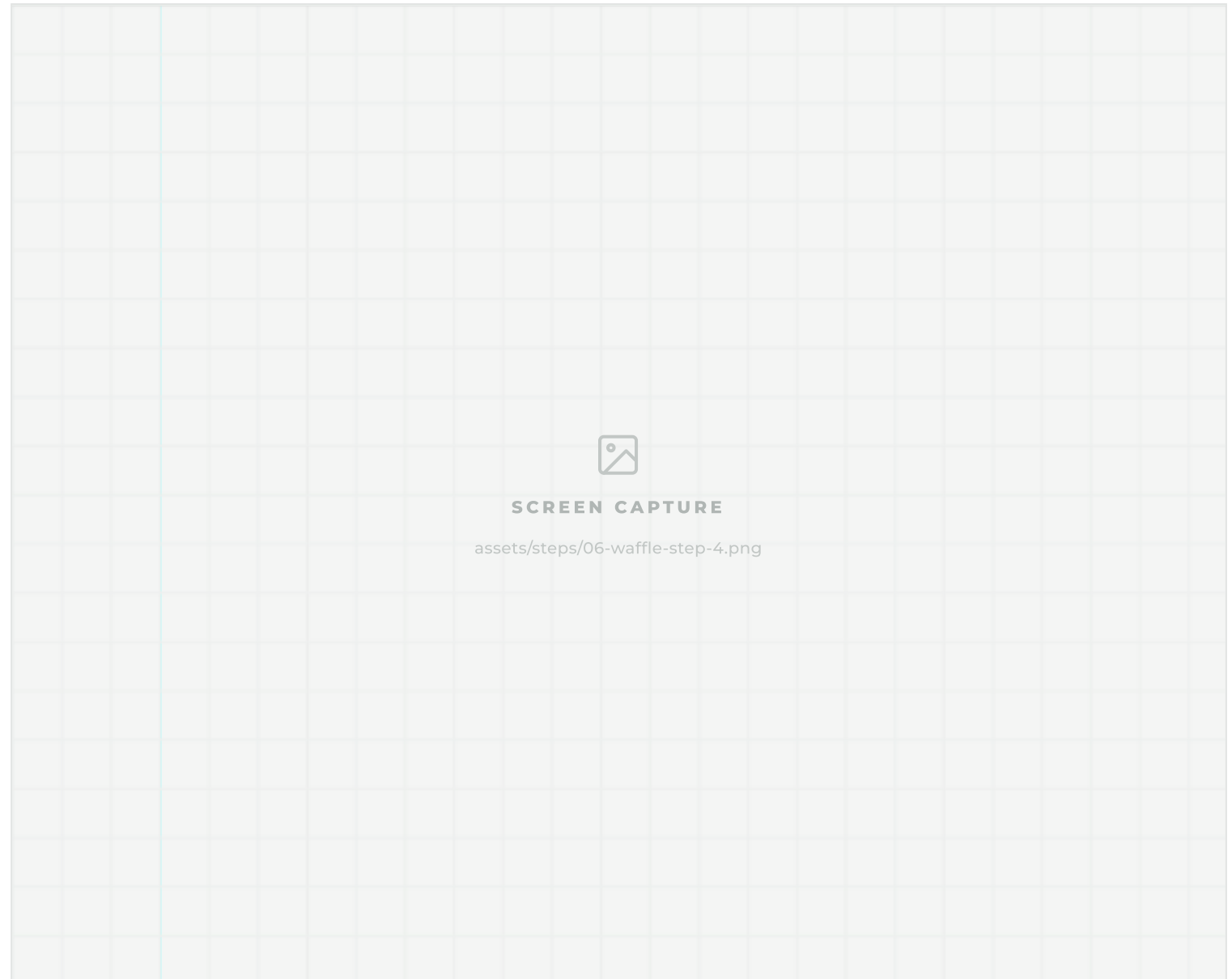
02 Number the cells 1 to 100

03 Write the percentage helper formula

04 **Apply the conditional formatting rule** →

Apply a second rule for the remainder: cell value > percentage → fill with light grey (#E0E0E0)

05 Hide the numbers and add a label



01 Build a square 10x10 cell grid

02 Number the cells 1 to 100

03 Write the percentage helper formula

04 Apply the conditional formatting rule

05 **Hide the numbers and add a label** →

Add a percentage label in a merged cell below the grid

[↗ Full walkthrough](#)

[⬇ Download template](#)

Workbook tab **06\_Waffle**

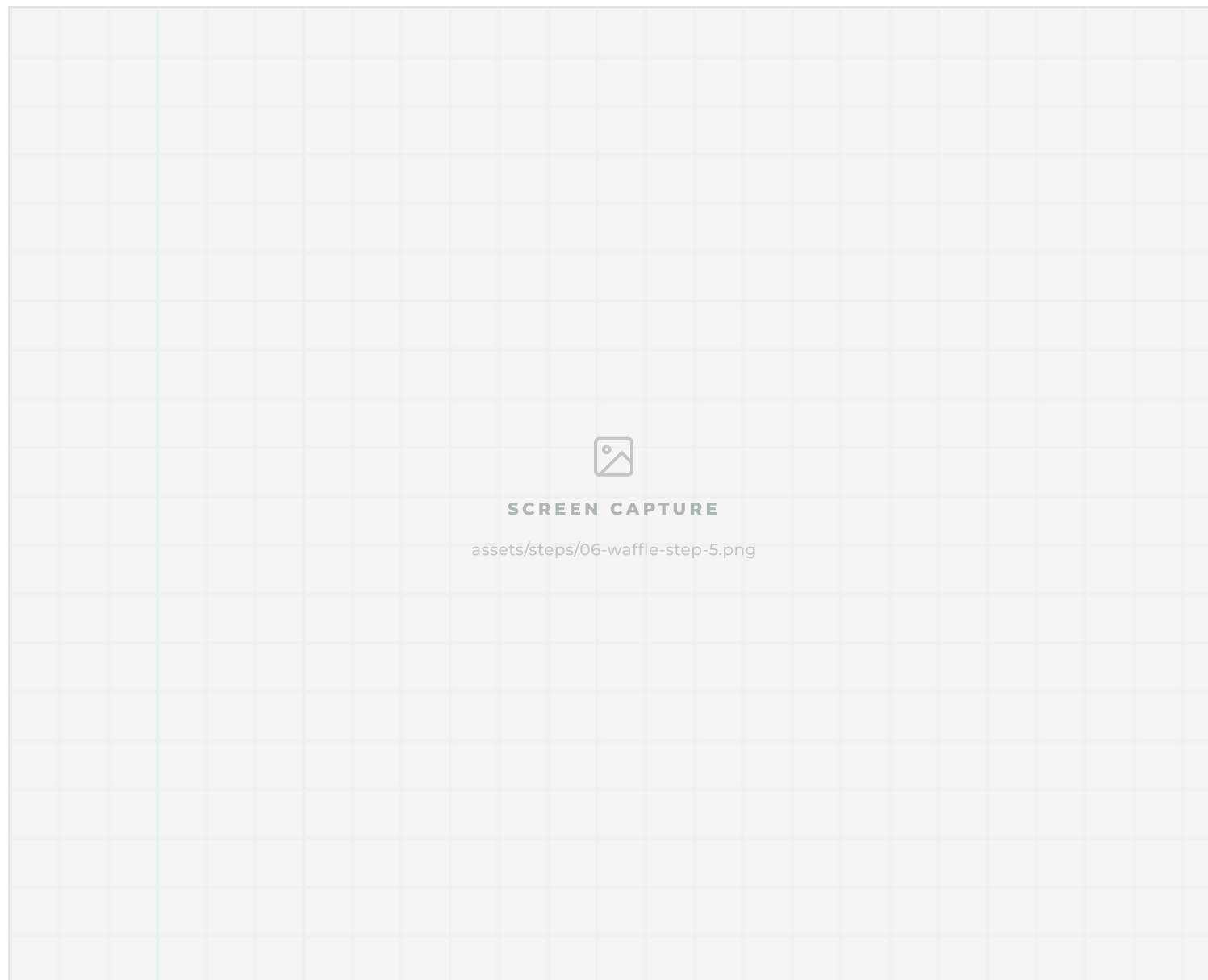


CHART 07 OF 11

# Butterfly Chart

Two populations, mirrored

 INTERMEDIATE





CHART 07 OF 11

## Butterfly Chart

Two populations, mirrored

### — WHAT IT IS

A butterfly chart (also called a tornado chart or back-to-back bar chart) displays two datasets horizontally on either side of a central axis, with categories shared between them. Left bars extend leftward; right bars extend rightward. It excels at head-to-head comparisons – making differences and similarities across a shared category list instantly readable.

### — ENTERPRISE USE CASES

**Demographic analysis** – age and gender population pyramid showing male vs female distribution across age bands

**Competitor benchmarking** – your company vs a competitor across multiple performance dimensions

**Before and after comparison** – pre-intervention vs post-intervention metrics across departments or regions

**Survey response comparison** – agree vs disagree distributions for multiple survey questions shown side by side

**Budget vs actuals by department** – planned and actual spend for each cost centre shown as mirrored bars, highlighting which departments are over or underspent

### — BEST PAIRED WITH

HR analytics

Demographics

A/B comparison

Competitor analysis

## — COMPLEXITY SCORECARD

★★ INTERMEDIATE

|                   |     |
|-------------------|-----|
| Features needed   | ★★☆ |
| Formatting effort | ★★★ |
| Formulas needed   | ★★☆ |
| Form controls     | ★☆☆ |
| Time to develop   | ★★☆ |

✓ **No VBA required**

No.

### 📌 PRO TIP

Negate one side with a helper column, then use a custom number format such as 0;0 so the axis and labels still read as positive values.

## — COMPATIBILITY

| PLATFORM             | SUPPORT   | NOTE                                                                                    |
|----------------------|-----------|-----------------------------------------------------------------------------------------|
| Excel Desktop        | ✓ Full    | built using a bar chart with a reversed axis trick                                      |
| Excel Mobile         | ⚠ Partial | View only                                                                               |
| Excel Web            | ✓ Full    | Full support                                                                            |
| Google Sheets import | ⚠ Partial | Bar chart structure imports but axis reversal formatting may reset; requires manual fix |

## — CONSTRAINTS & LIMITATIONS

- ⚠ **The left-side bars require negative values or a reversed axis to point leftward** – the data itself may need to be stored as negative numbers, which can confuse non-chart users reading the source data
- ⚠ **Category labels sit at the centre axis by default and may overlap with bars if labels are long** – use a helper column with short labels
- ⚠ Axis scale must be manually synchronised between left and right sides to ensure fair visual comparison

# Butterfly Chart

## 01 Negate one side in a helper column →

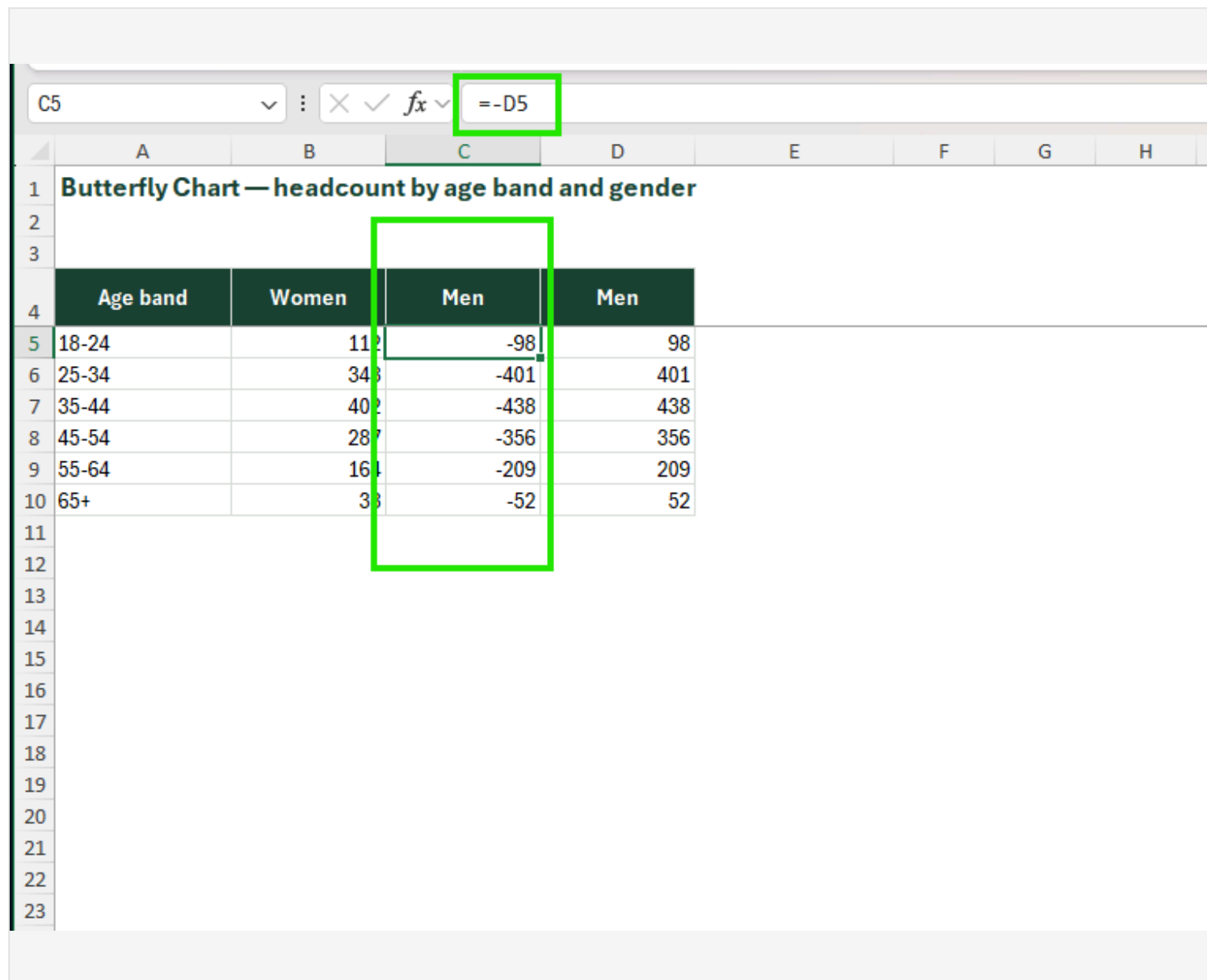
Structure data as three columns: Category, Left Series (as negative values or use axis reversal), Right Series (positive values)

## 02 Insert a bar chart from both series

## 03 Overlap the series to 100%

## 04 Hide the minus signs with a number format

## 05 Centre the category labels between wings



# Butterfly Chart

01 Negate one side in a helper column

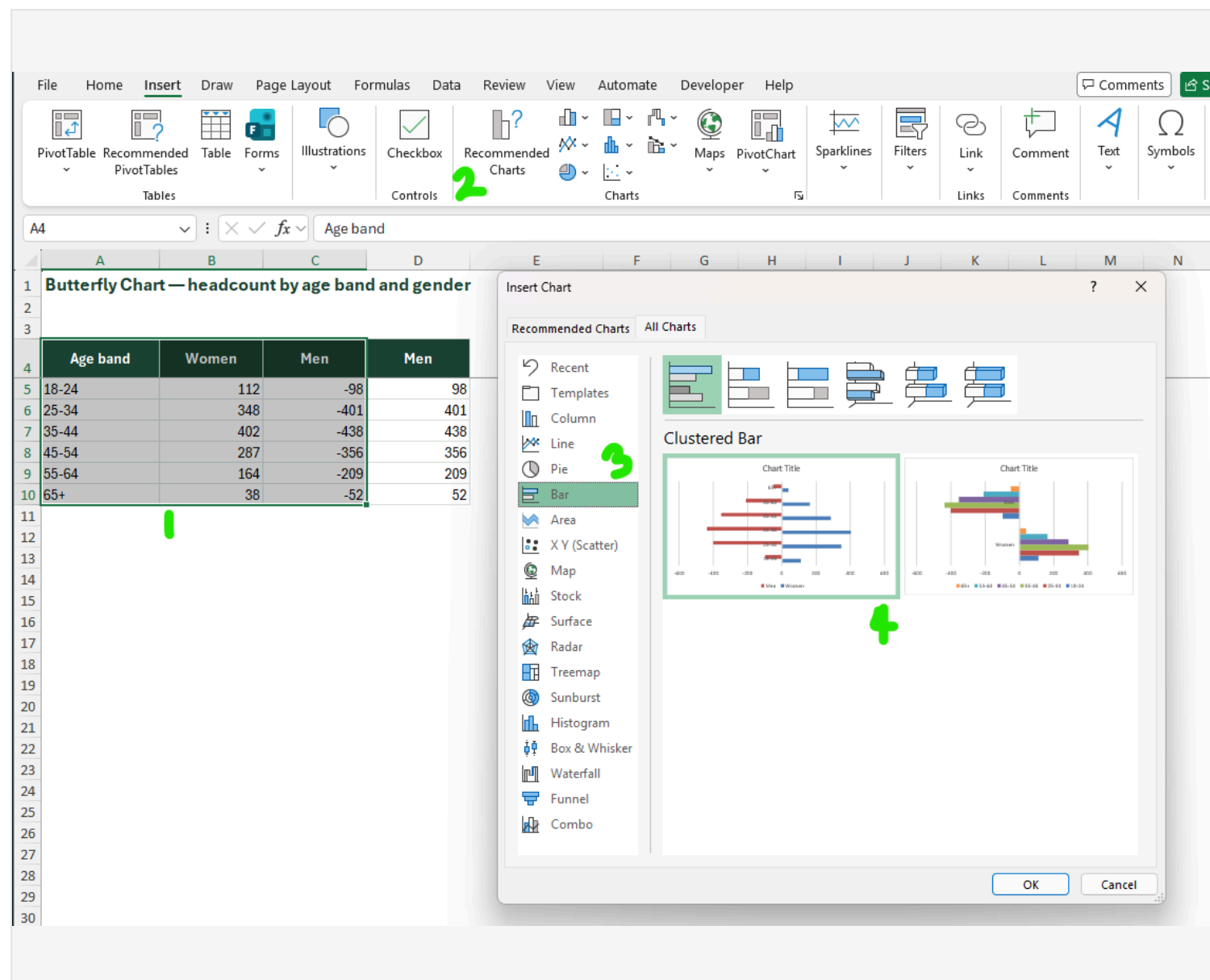
02 Insert a bar chart from both series →

Insert a horizontal bar chart using both series

03 Overlap the series to 100%

04 Hide the minus signs with a number format

05 Centre the category labels between wings



# Butterfly Chart

01 Negate one side in a helper column

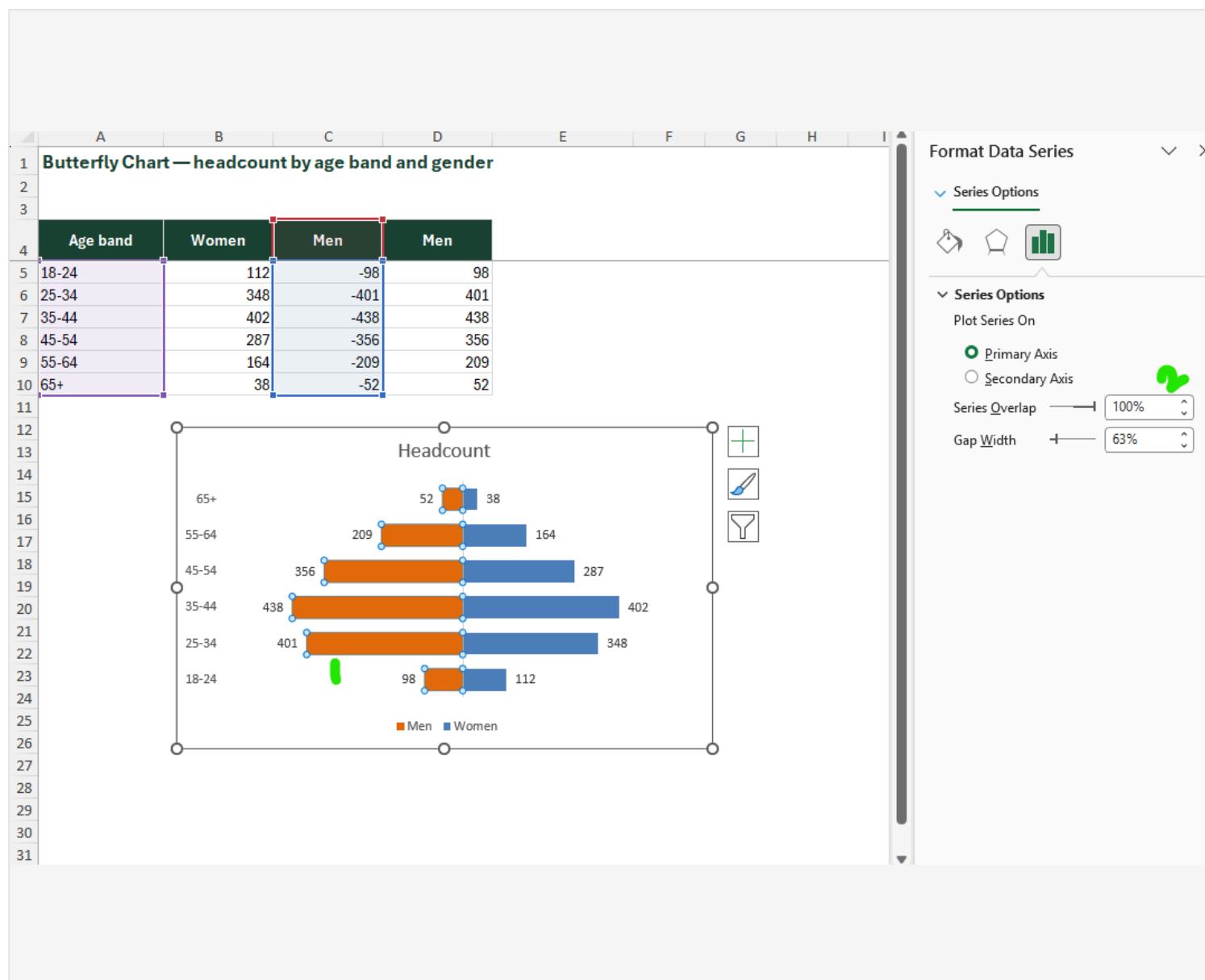
02 Insert a bar chart from both series

03 **Overlap the series to 100%** →

Select the left series bars → right-click → Format Data Series → Series Options → drag the Series Overlap slider to 100%

04 Hide the minus signs with a number format

05 Centre the category labels between wings



# Butterfly Chart

01 Negate one side in a helper column

02 Insert a bar chart from both series

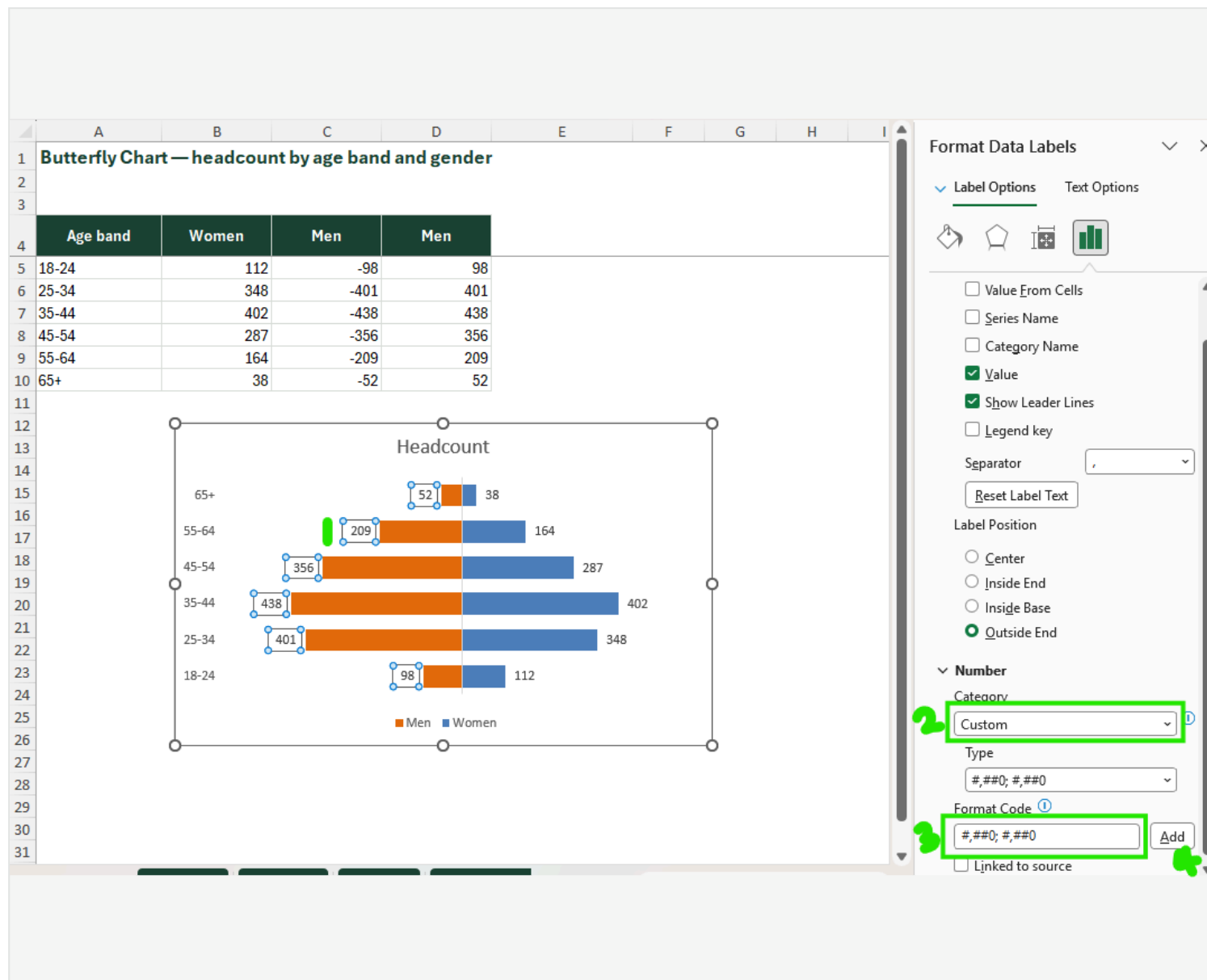
03 Overlap the series to 100%

04 Hide the minus signs with a number format



Apply a custom number format to the left series' values and labels: #,##0;#,##0 – this hides the minus sign so the negative values read as plain positive numbers

05 Centre the category labels between wings



# Butterfly Chart

- 01 Negate one side in a helper column
- 02 Insert a bar chart from both series
- 03 Overlap the series to 100%
- 04 Hide the minus signs with a number format

## 05 Centre the category labels between wings

Position category labels at the centre: select the category axis → Format Axis → set Label Position to "Low" → move labels manually or use a third invisible series to float centre labels

[Full walkthrough](#)

[Download template](#)

Workbook tab **07\_Butterfly**

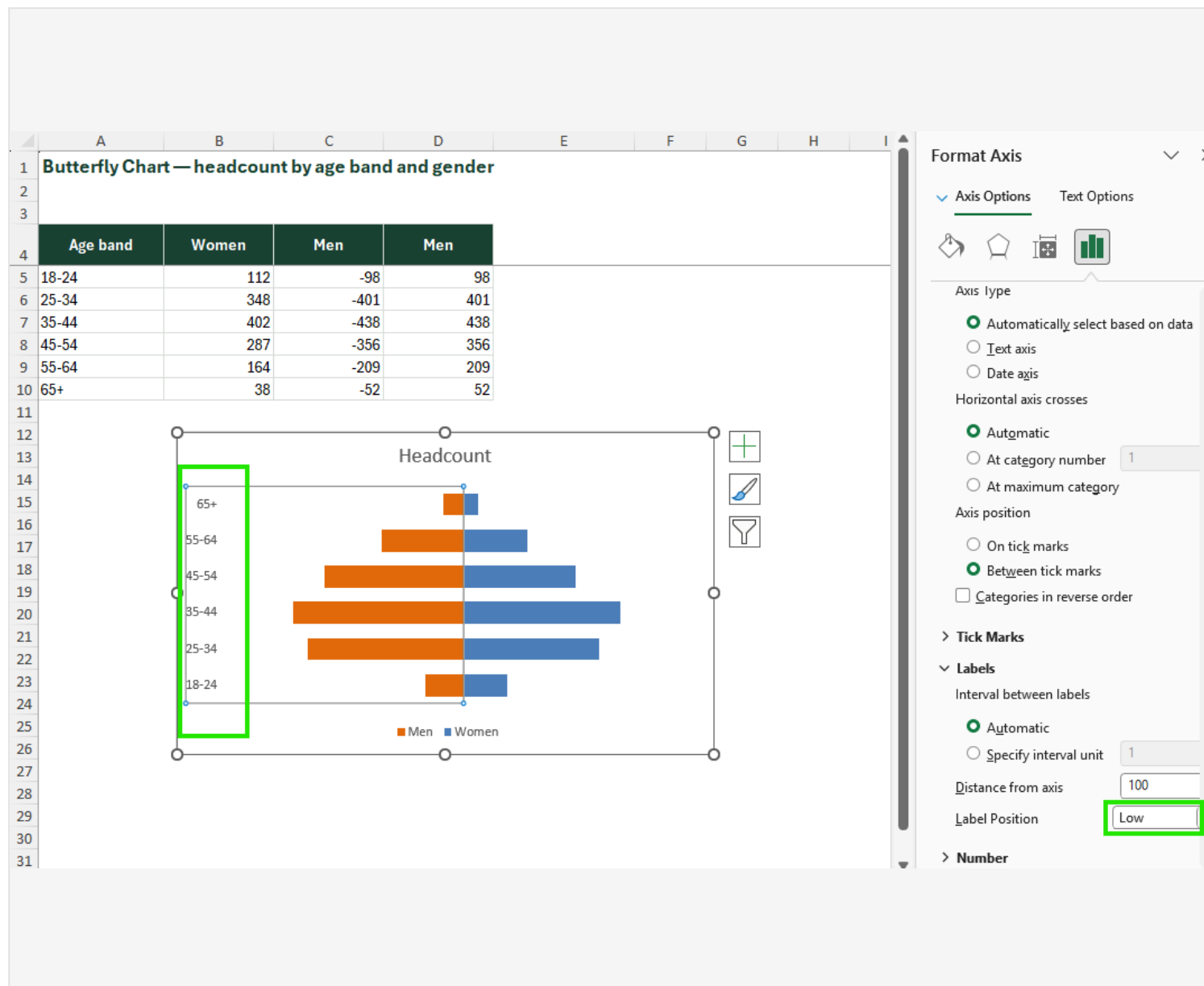
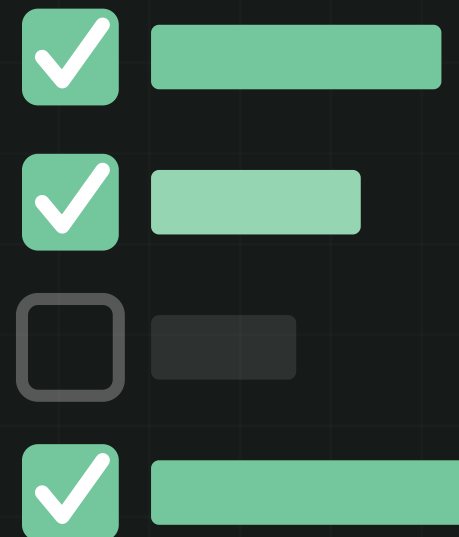


CHART 08 OF 11

# Checkbox Chart

Reader-controlled series toggles

 INTERMEDIATE



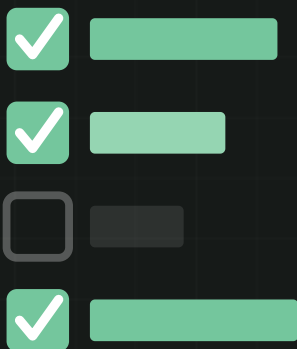


CHART 08 OF 11

## Checkbox Chart

Reader-controlled series toggles

### — WHAT IT IS

A checkbox chart is a standard chart (column, line, bar or other) connected to a set of Form Control checkboxes that show or hide individual data series dynamically. Checking a box makes a series visible; unchecking hides it. The result is an interactive dashboard element that allows users to control what they see without editing the underlying data – a powerful UX upgrade for shared reports and presentations.

### — ENTERPRISE USE CASES

**Multi-region sales dashboard** – toggle individual regions on/off to isolate performance without cluttering the chart with all series simultaneously

**Scenario comparison model** – show/hide Base Case, Upside and Downside forecast lines on a single chart

**Product line performance** – allow the reader to select which product lines to compare on a shared revenue chart

**Departmental cost dashboard** – finance teams can isolate specific cost centres for focused review

**Executive presentation charts** – build a "reveal" experience by checking boxes sequentially during a presentation to walk through data layer by layer

### — BEST PAIRED WITH

Interactive dashboards

Self-serve reports

Scenario views

Demos

## — COMPLEXITY SCORECARD

★★ INTERMEDIATE

|                   |     |
|-------------------|-----|
| Features needed   | ★★☆ |
| Formatting effort | ★★☆ |
| Formulas needed   | ★★★ |
| Form controls     | ★★★ |
| Time to develop   | ★★★ |

### ✓ No VBA required

No. Uses Form Control checkboxes linked to helper cells, combined with IF-based series toggle formulas. (VBA can be added for more advanced reset/select-all functionality.)

### 📌 PRO TIP

Return NA() rather than 0 from your toggle formula. A zero flattens the series onto the axis; NA() removes it from the plot entirely.

## — COMPATIBILITY

| PLATFORM             | SUPPORT   | NOTE                                                        |
|----------------------|-----------|-------------------------------------------------------------|
| Excel Desktop        | ✓ Full    | Form Controls are a desktop-only feature                    |
| Excel Mobile         | ⓘ Partial | Chart displays but checkboxes are non-interactive on mobile |
| Excel Web            | ⓘ Partial | chart will display in its default state only                |
| Google Sheets import | ✗ Breaks  | entire interactive mechanism must be rebuilt                |

## — CONSTRAINTS & LIMITATIONS

⚠ **Form Controls are Excel Desktop only** – this limits the chart's interactivity to desktop users

⚠ **Each checkbox requires a linked cell and a corresponding IF formula in the data preparation table** – complexity scales with number of series

⚠ The chart must be based on helper data (not raw data) to allow series toggling via formula

## 01 Write the IF/NA toggle formulas →

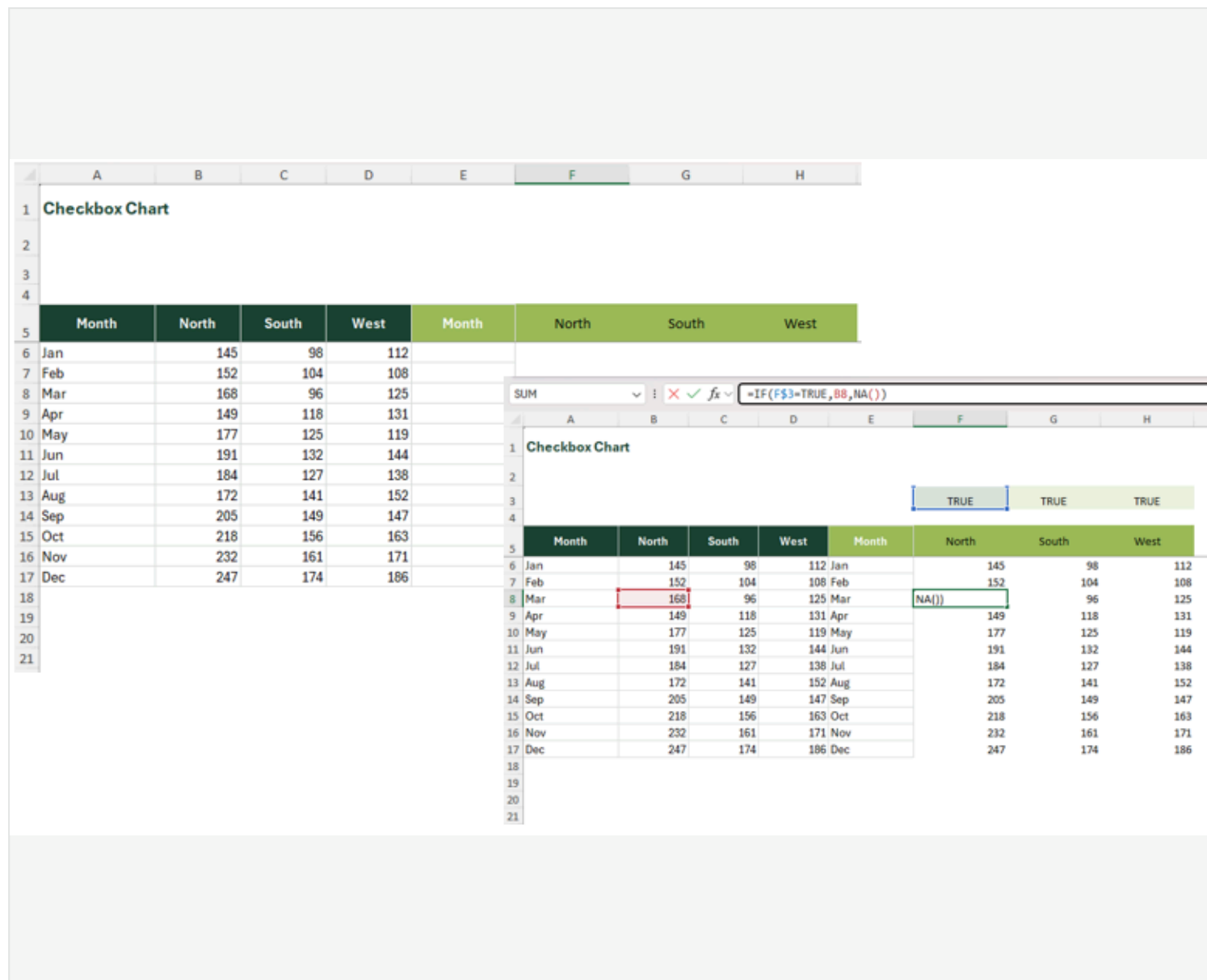
In your data prep area, create a helper table: for each series, write =IF(linked\_cell=TRUE, actual\_value, NA()) – NA() hides the series without removing it from the chart

## 02 Add Form Control checkboxes

## 03 Link each checkbox to a cell

## 04 Chart the toggled helper range

## 05 Position the controls over the chart



# Checkbox Chart

01 Write the IF/NA toggle formulas

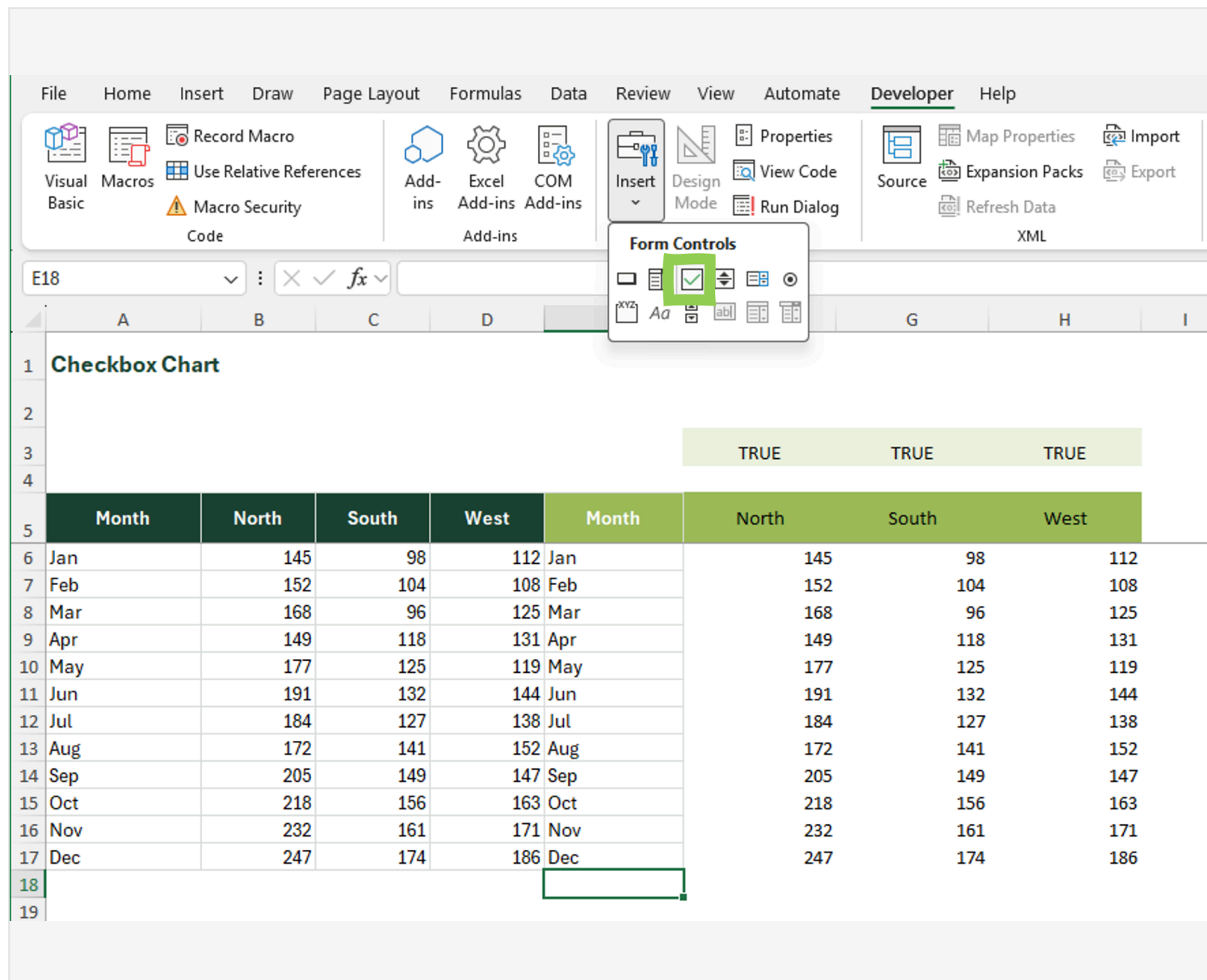
02 Add Form Control checkboxes →

Insert → Form Controls →  
Checkbox; draw a checkbox near  
the chart

03 Link each checkbox to a  
cell

04 Chart the toggled  
helper range

05 Position the controls  
over the chart



# Checkbox Chart

01 Write the IF/NA toggle formulas

02 Add Form Control checkboxes

03 Link each checkbox to a cell →

Right-click checkbox → Format Control → Cell link → select a blank cell (this cell will show TRUE/FALSE)

04 Chart the toggled helper range

05 Position the controls over the chart

1 Edit text of checkbox to column name (“North”) then right-click and select “Format Control”

2 In the Format Control dialog, change the cell link to F3 (the helper cell for the IF/NA formulas)

| Month | North | South | West | Month |
|-------|-------|-------|------|-------|
| Jan   | 145   | 98    | 112  | Jan   |
| Feb   | 152   | 104   | 108  | Feb   |
| Mar   | 168   | 96    | 125  | Mar   |
| Apr   | 149   | 118   | 131  | Apr   |
| May   | 177   | 125   | 119  | May   |
| Jun   | 191   | 132   | 144  | Jun   |
| Jul   | 184   | 127   | 138  | Jul   |
| Aug   | 172   | 141   | 152  | Aug   |
| Sep   | 205   | 149   | 147  | Sep   |
| Oct   | 218   | 156   | 163  | Oct   |
| Nov   | 232   | 161   | 171  | Nov   |
| Dec   | 247   | 174   | 186  | Dec   |

01 Write the IF/NA toggle formulas

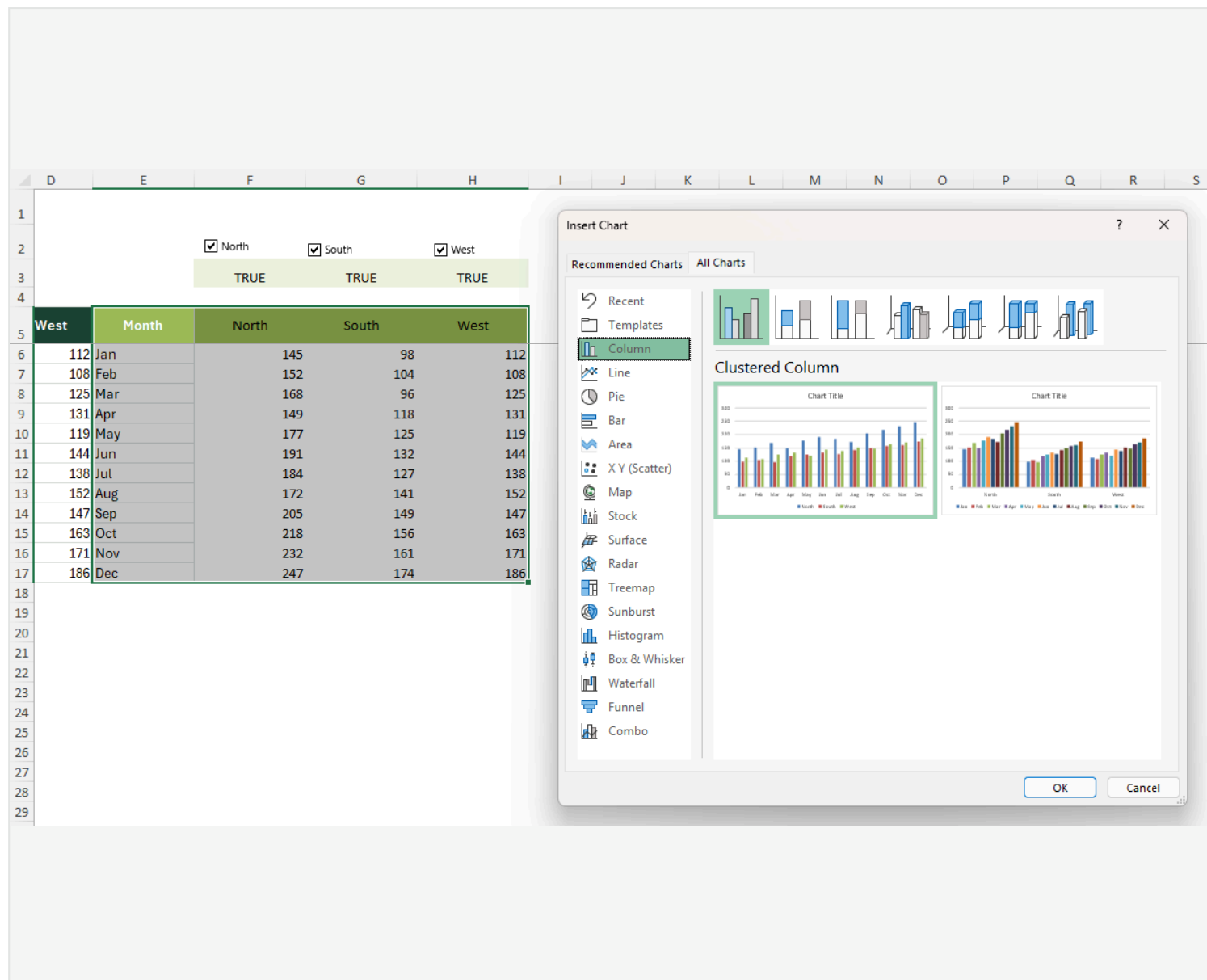
02 Add Form Control checkboxes

03 Link each checkbox to a cell

04 Chart the toggled helper range →

Build your chart using the helper table (not the raw data)

05 Position the controls over the chart



01 Write the IF/NA toggle formulas

02 Add Form Control checkboxes

03 Link each checkbox to a cell

04 Chart the toggled helper range

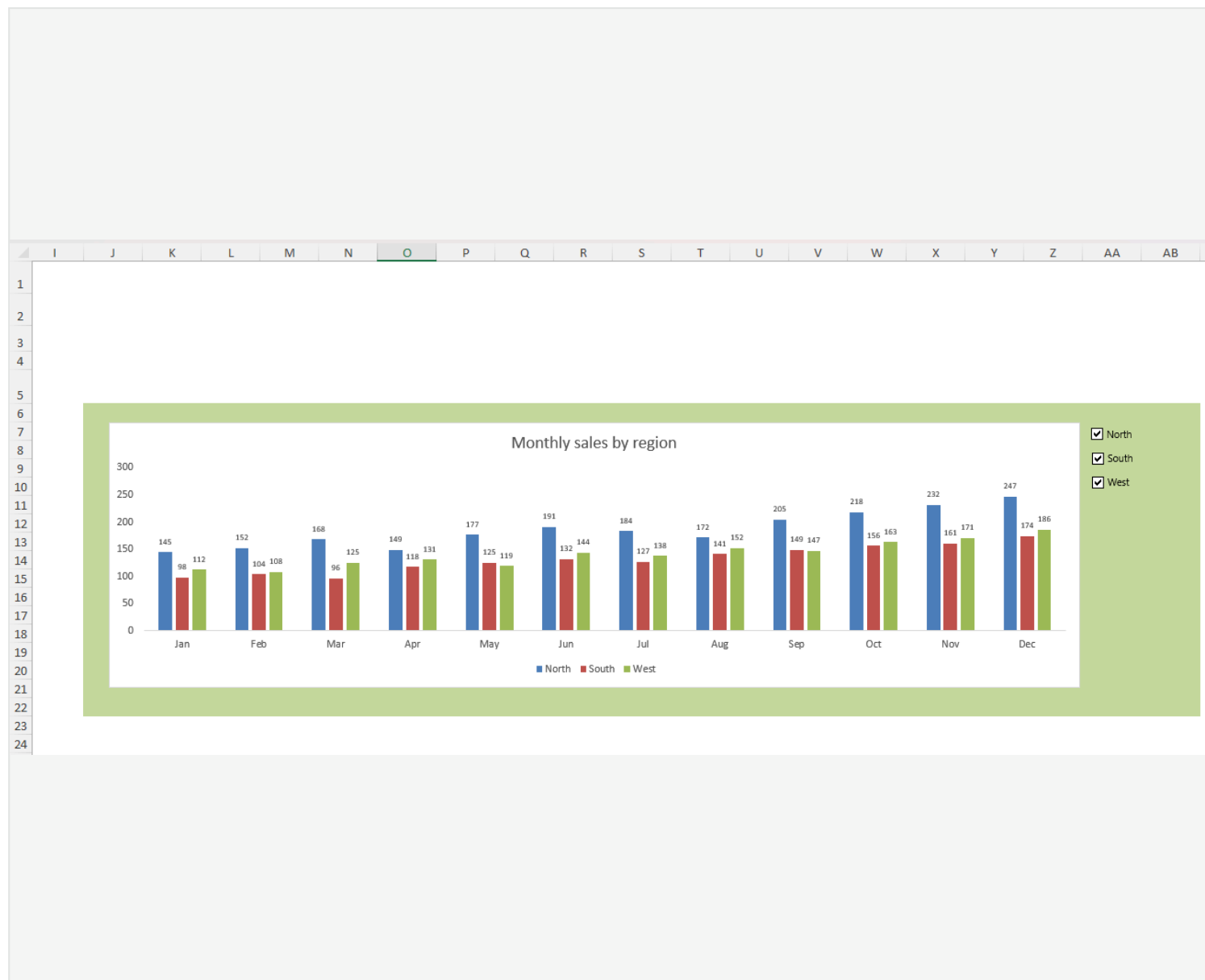
05 Position the controls over the chart →

Repeat for each series; align and label checkboxes; lock the worksheet to prevent accidental edits to helper cells

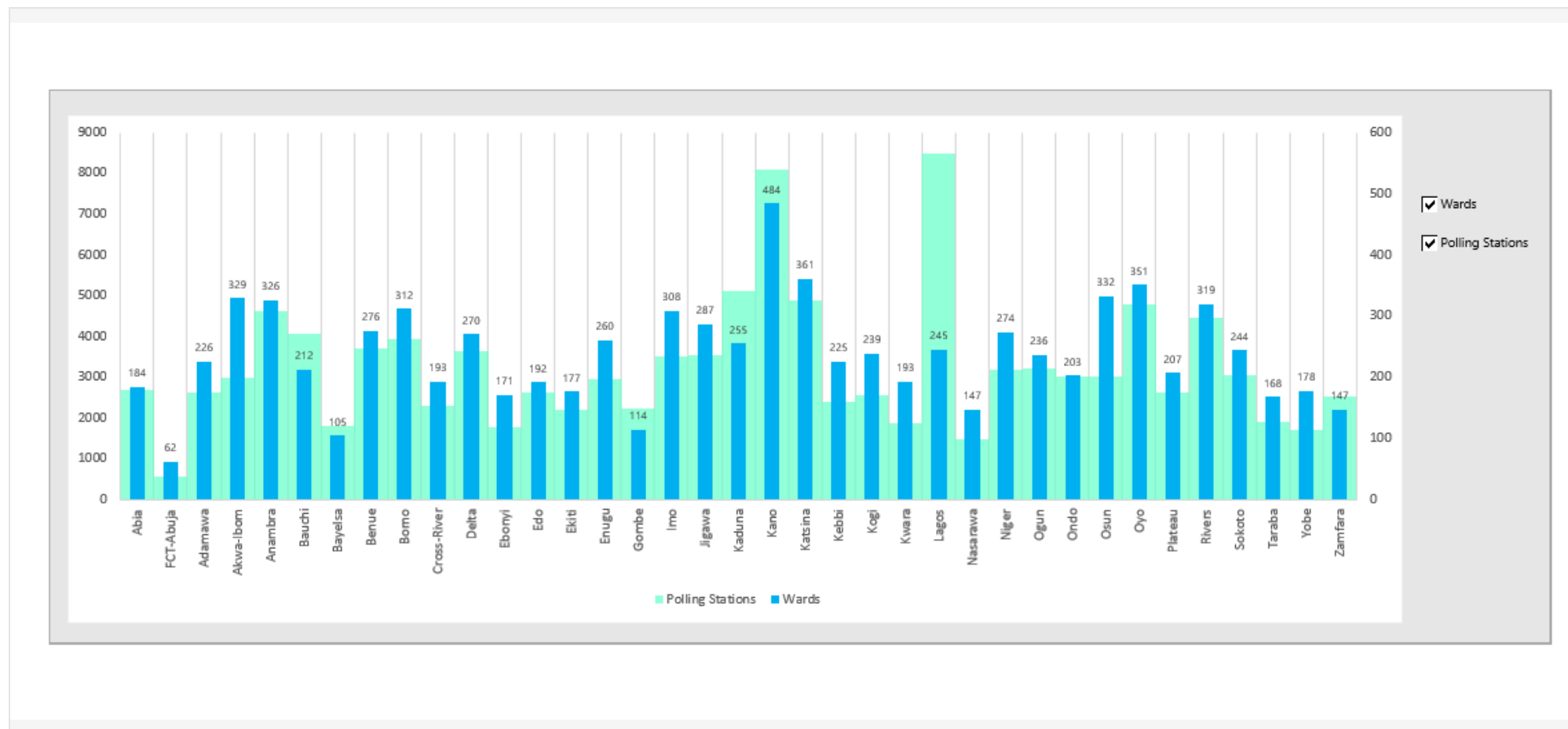
[Full walkthrough](#)

[Download template](#)

Workbook tab **08\_Checkbox**



# Ward & Polling Station Tracker



Two Form Control checkboxes on the right – Wards and Polling Stations – toggle each series on and off without touching the underlying state-by-state data.

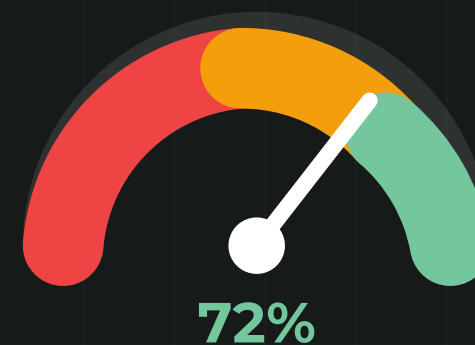
[Watch the tutorial](#)

CHART 09 OF 11

# Speedometer Chart

A dial for a single metric

ADVANCED



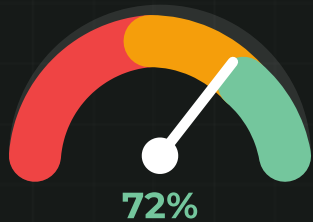


CHART 09 OF 11

## Speedometer Chart

A dial for a single metric

### — WHAT IT IS

A speedometer chart (also called a gauge or dial chart) displays a single KPI value on a semicircular arc divided into coloured zones – typically red (poor), amber (caution) and green (target). A needle points to the current value. Excel has no native gauge type – it is built by combining a doughnut chart (for the arc and zones) with a pie chart (for the needle), then overlaying them on the same plot area. The result is one of Excel's most visually striking chart types and a perennial favourite in executive dashboards.

### — ENTERPRISE USE CASES

**KPI dashboard headline metric** – NPS score, customer satisfaction rating or net promoter index as a dial on an executive summary page

**Sales target attainment** – percentage of quota achieved displayed as a gauge with red/amber/green zones

**Financial health indicator** – current ratio, debt-to-equity or margin versus benchmark, displayed as a single dial

**Operational SLA compliance** – percentage of tickets resolved within SLA, showing performance against threshold

**Safety and quality metrics** – defect rate or incident frequency displayed as a dial with regulatory thresholds as zone boundaries

### — BEST PAIRED WITH

Executive KPIs

SLA monitoring

Target tracking

Ops dashboards

## — COMPLEXITY SCORECARD

★★★ **ADVANCED**

|                   |     |
|-------------------|-----|
| Features needed   | ★★★ |
| Formatting effort | ★★★ |
| Formulas needed   | ★★★ |
| Form controls     | ★★☆ |
| Time to develop   | ★★★ |

### ⚠ **VBA may be required**

Optional for static gauge. Required for a dynamic needle that updates live when a linked cell changes without requiring a chart refresh.

### 💡 **PRO TIP**

The needle is a second doughnut ring, not a shape. Build it as three slices – before, needle, after – so it rotates with the value instead of needing to be dragged.

## — COMPATIBILITY

| PLATFORM             | SUPPORT          | NOTE                                                                   |
|----------------------|------------------|------------------------------------------------------------------------|
| Excel Desktop        | ✓ <b>Full</b>    | requires combining doughnut and pie charts                             |
| Excel Mobile         | ⌚ <b>Partial</b> | Displays if pre-built; no editing                                      |
| Excel Web            | ⌚ <b>Partial</b> | Displays correctly; no editing of combined chart type                  |
| Google Sheets import | ✗ <b>Breaks</b>  | doughnut/pie combination does not survive import; rebuild from scratch |

## — CONSTRAINTS & LIMITATIONS

- ⚠ **Built from two overlapping charts** – any accidental click can select the wrong chart layer, breaking the visual
- ⚠ **The needle is a very thin pie slice (1–3 degrees)** – precision is limited; small value changes produce barely visible needle movement
- ⚠ Zone boundaries must be hardcoded as separate doughnut series segments; changing zone thresholds requires manual data table edits
- ⚠ **The chart cannot display negative values on the arc** – all inputs must be normalised to a 0–100 or 0–max scale

## 01 Build the band and needle data table →

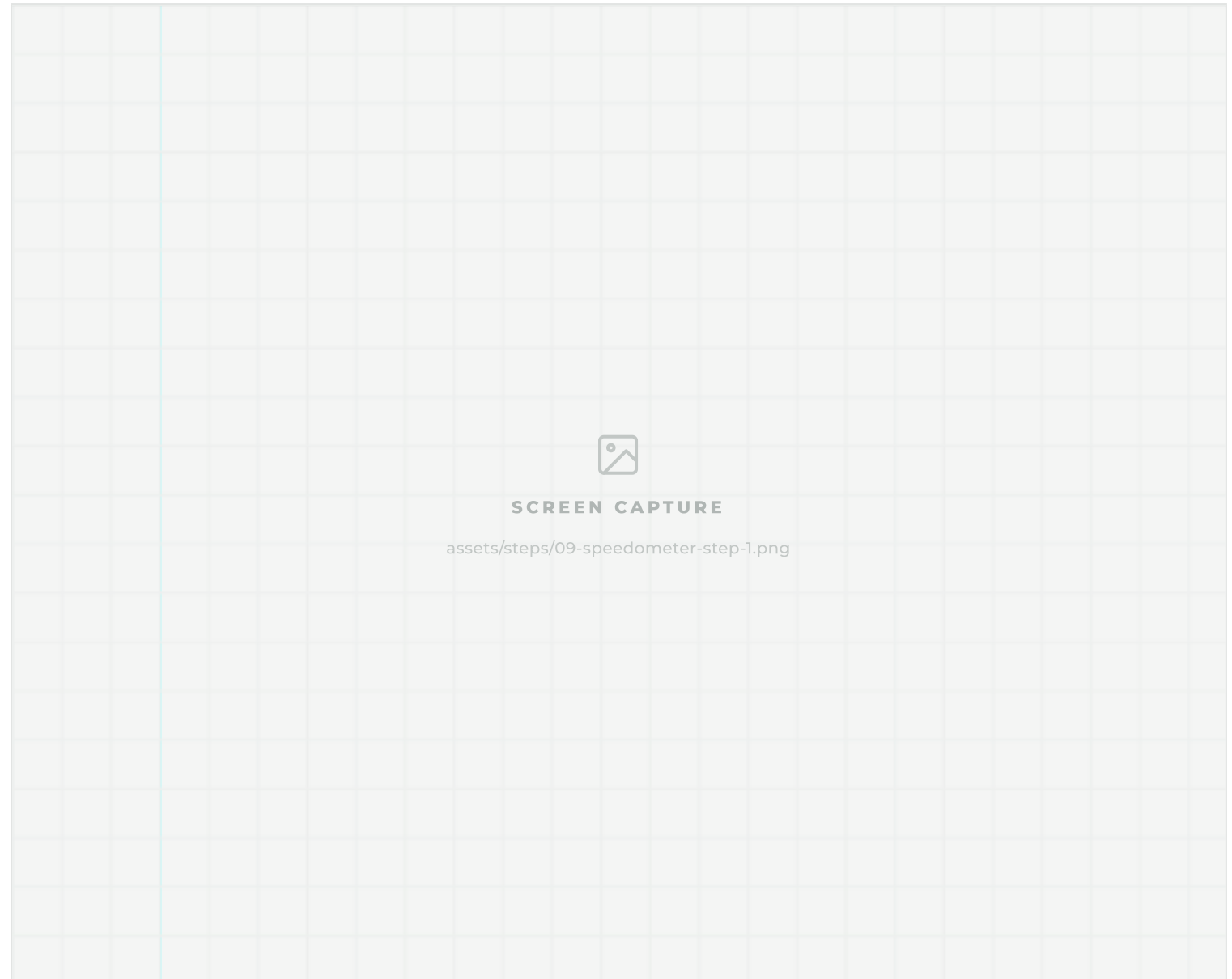
Build a data table with four rows: the three zone sizes (e.g. 33, 33, 34 for equal thirds) plus a "blank" row to create the bottom half of the doughnut arc

## 02 Insert a doughnut chart for the bands

## 03 Rotate and hide the lower half

## 04 Add the needle as a second series

## 05 Overlay the value and finish the dial



01 Build the band and  
needle data table

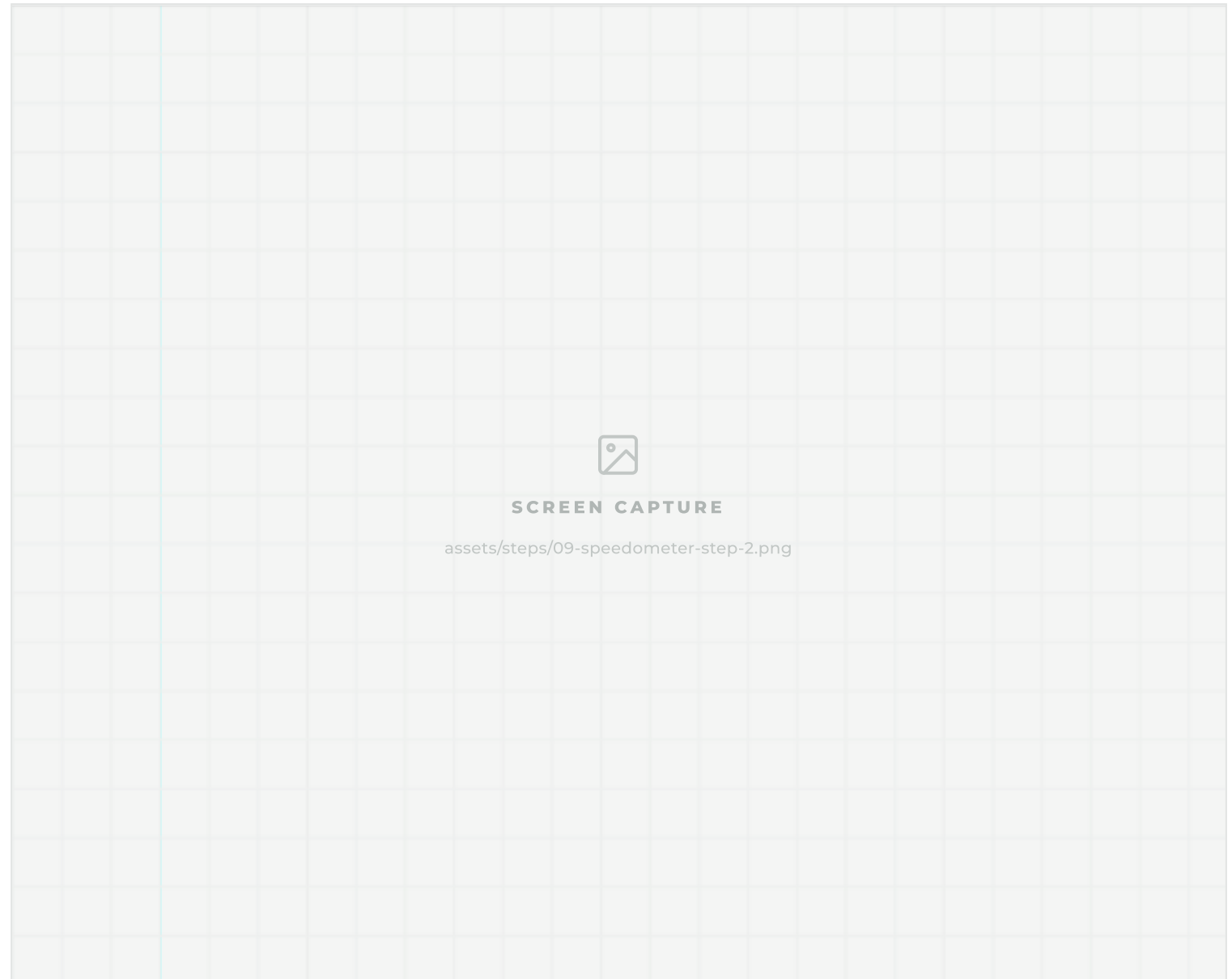
02 **Insert a doughnut  
chart for the bands** →

Insert a doughnut chart; format  
zone segments with red, amber  
and green fills; format the bottom  
half segment with no fill and no  
border

03 Rotate and hide the  
lower half

04 Add the needle as a  
second series

05 Overlay the value and  
finish the dial



01 Build the band and needle data table

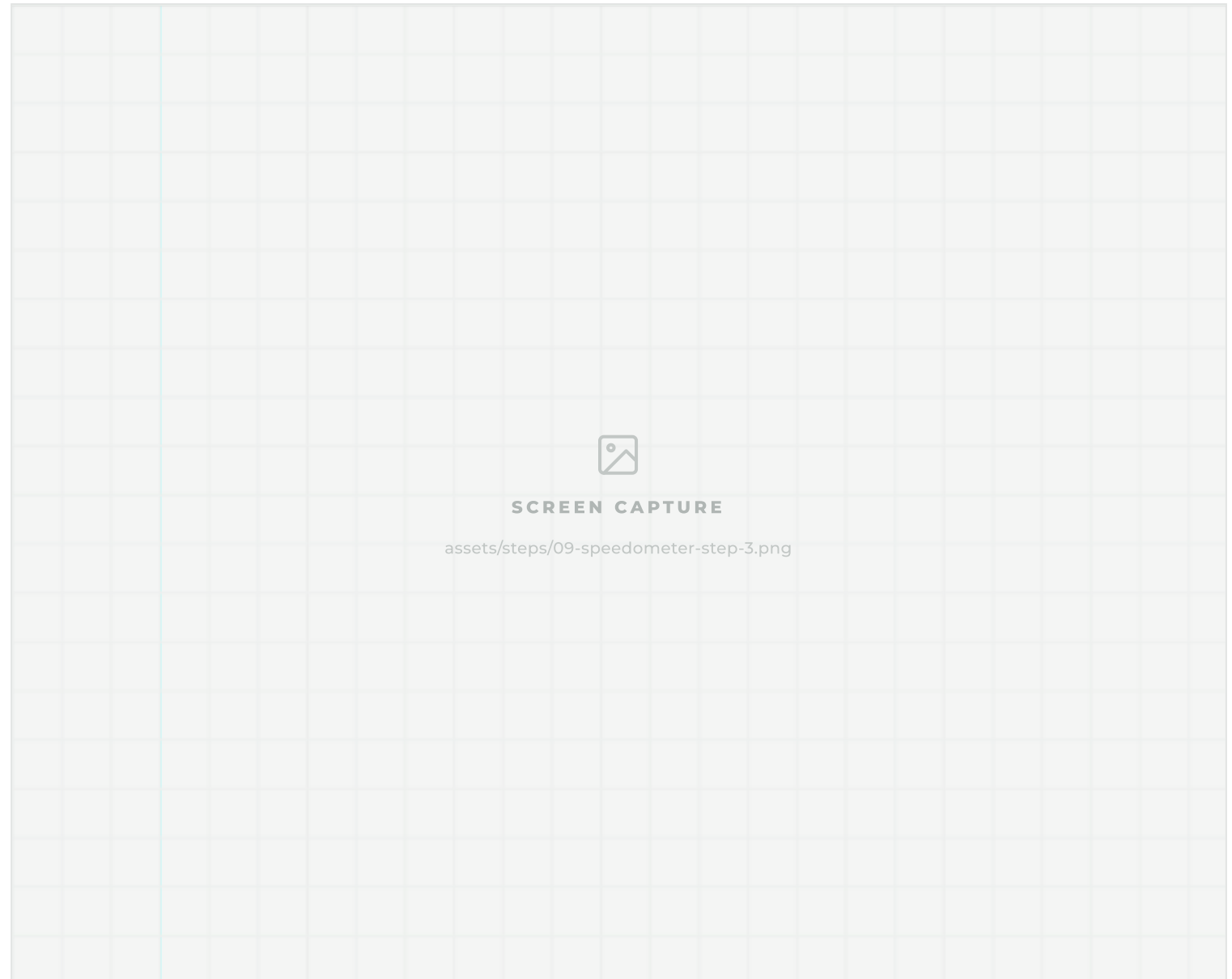
02 Insert a doughnut chart for the bands

03 Rotate and hide the lower half →

Rotate the doughnut 270° so the flat edge sits at the bottom  
(Format Data Series → Angle of first slice = 270)

04 Add the needle as a second series

05 Overlay the value and finish the dial



01 Build the band and needle data table

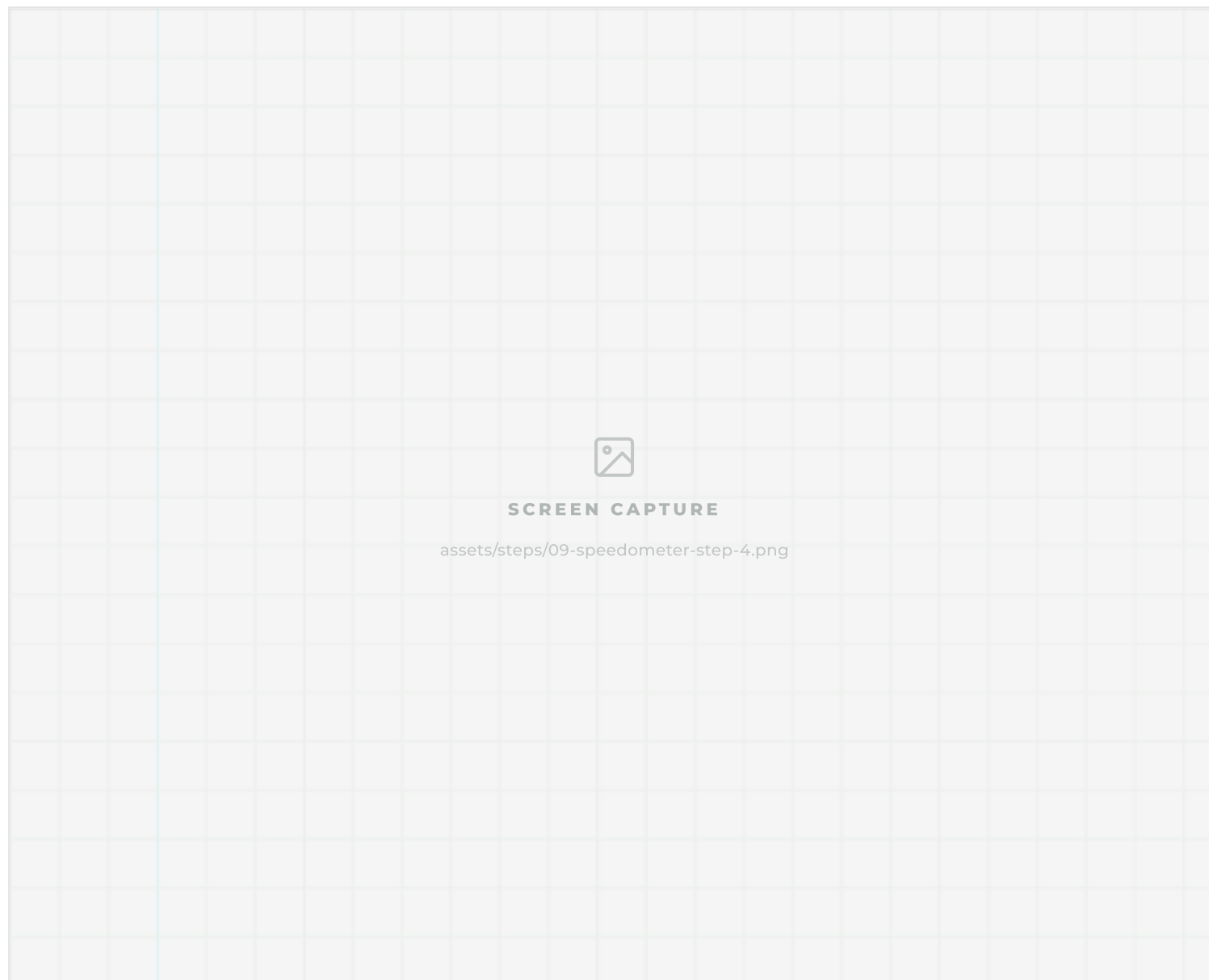
02 Insert a doughnut chart for the bands

03 Rotate and hide the lower half

04 Add the needle as a second series →

Add a second data series (the needle): three values – needle position, needle width (1–3), and the remaining arc value; change this series type to Pie; format the needle slice with a dark fill, the others with no fill

05 Overlay the value and finish the dial



01 Build the band and needle data table

02 Insert a doughnut chart for the bands

03 Rotate and hide the lower half

04 Add the needle as a second series

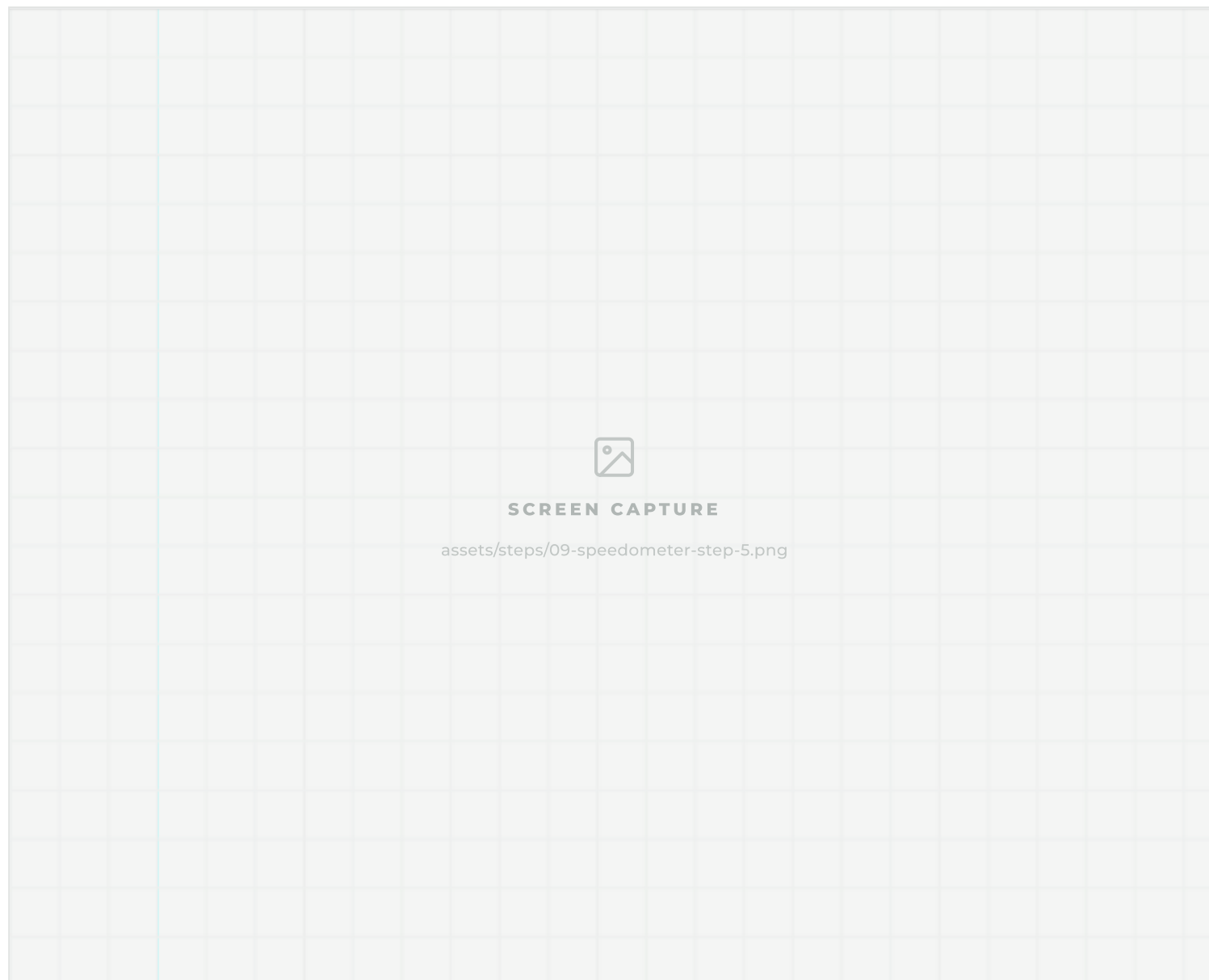
05 **Overlay the value and finish the dial** →

Overlay both charts on the same plot area; lock the chart group; add a linked text box showing the numeric value beneath the dial centre

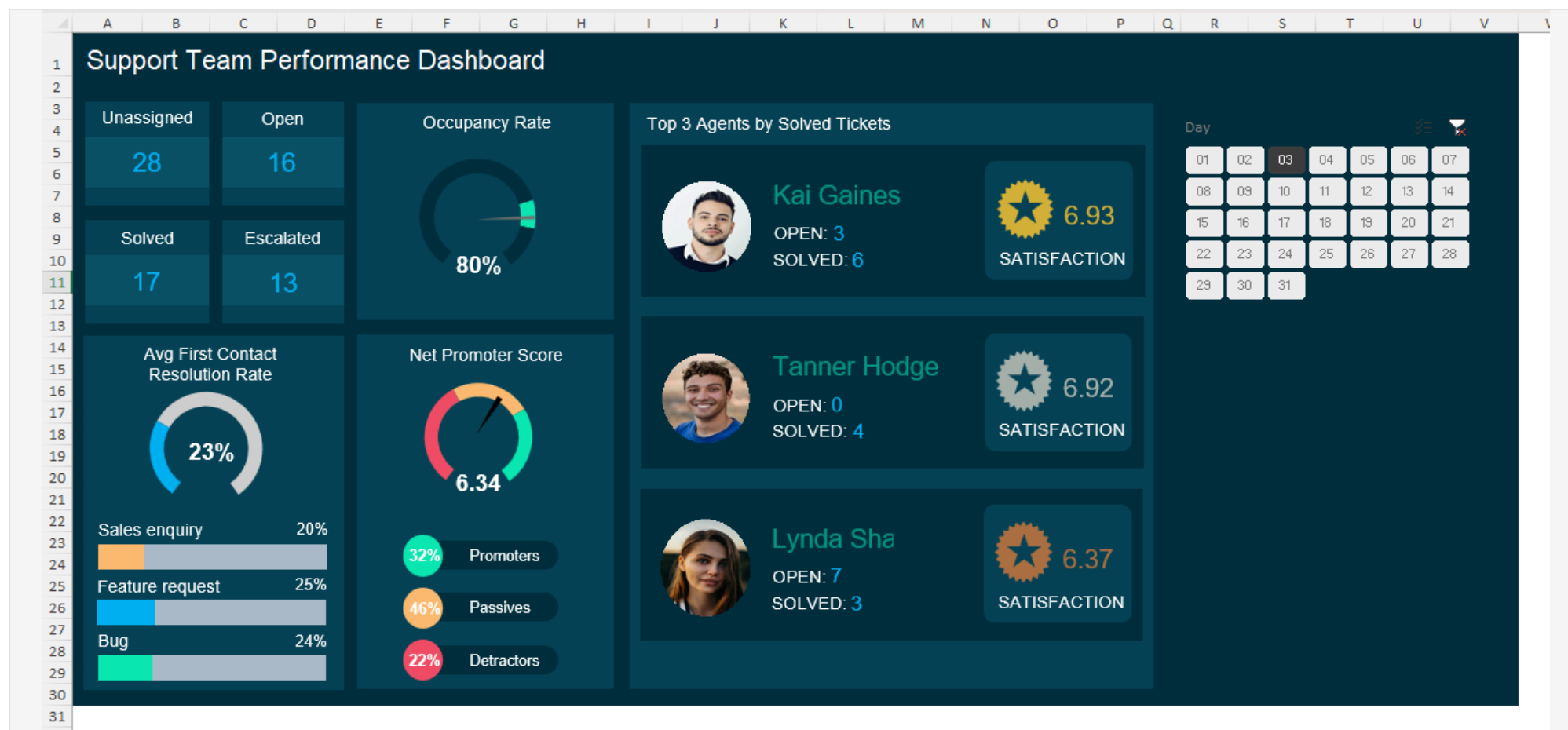
🔗 Full walkthrough

📄 Download template

Workbook tab **09\_Speedometer**



# Support Team Performance Dashboard

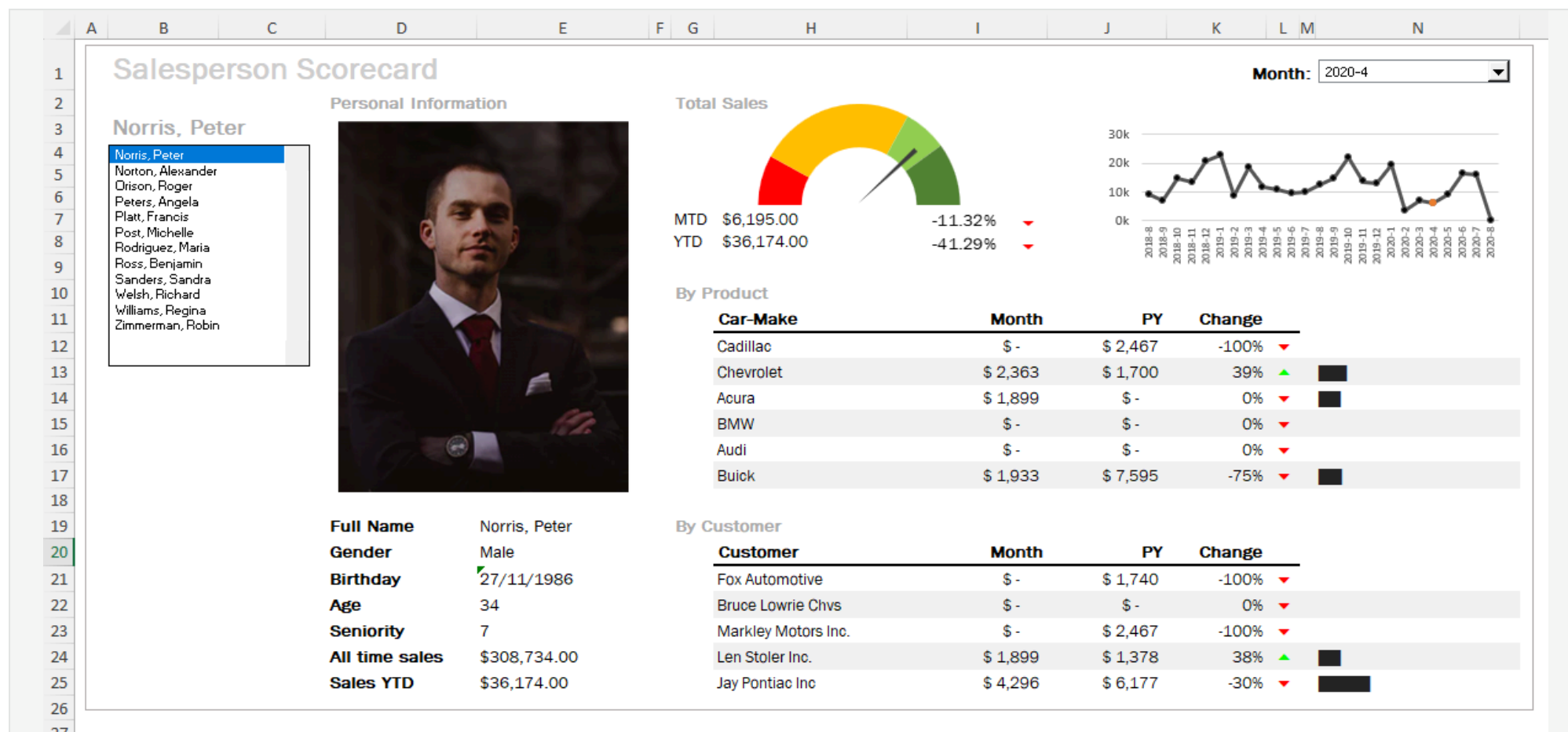


Occupancy Rate and Net Promoter Score are both built as the doughnut-plus-needle gauge this guide teaches – reused twice on the same executive dashboard.

[Watch the tutorial](#)

# Salesperson Scorecard

EXAMPLE 2 OF 2



The Total Sales gauge pairs with in-cell bars in the Change column – two techniques from this guide, side by side in one scorecard.

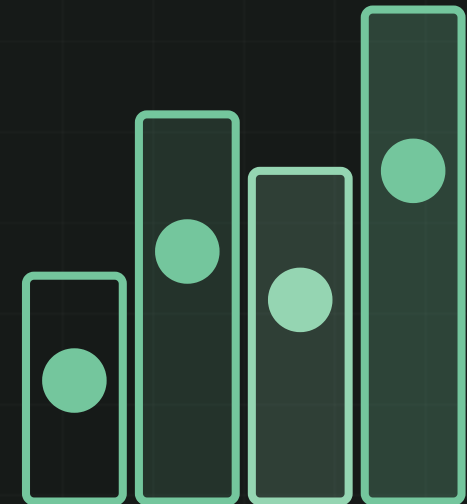
[Watch the tutorial](#)

CHART 10 OF 11

# Image Copy-Paste Chart

Bars filled with pictures

ADVANCED



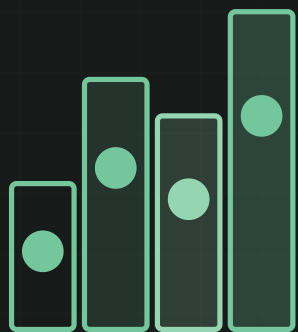


CHART 10 OF 11

## Image Copy-Paste Chart

Bars filled with pictures

### — WHAT IT IS

An image copy-paste chart (also called a picture fill chart or pictograph) is a bar or column chart where the fill of each bar is replaced by a repeated or stretched image – most often an icon, a product image or a branded graphic. This transforms a standard bar chart into a pictograph that communicates category identity through visual association, not just colour and height. It is built by copying an image to the clipboard and pasting it directly onto a selected chart bar.

### — ENTERPRISE USE CASES

**Product comparison charts** – each bar displays the product's own image as its fill, making category identification immediate without reading axis labels

**Regional sales dashboards** – bars filled with country flags or regional icons for geographic sales reporting

**HR and people analytics** – person icons stacked vertically to show headcount, making each unit of height represent one person

**Retail and FMCG reporting** – SKU images used as bar fills in a sales ranking chart for category management presentations

**Executive presentations** – branded report decks where chart bars carry the company logo or campaign imagery as fill, reinforcing visual identity

### — BEST PAIRED WITH

Product comparison

Retail reporting

People analytics

Exec decks

## — COMPLEXITY SCORECARD

★★★ **ADVANCED**

|                   |     |
|-------------------|-----|
| Features needed   | ★★☆ |
| Formatting effort | ★★★ |
| Formulas needed   | ★☆☆ |
| Form controls     | ★☆☆ |
| Time to develop   | ★★★ |

✓ **No VBA required**

No.

### 📌 **PRO TIP**

Always choose "Stack and Scale with" over "Stretch". Stretch distorts your icon every time the underlying value changes.

## — COMPATIBILITY

| PLATFORM             | SUPPORT          | NOTE                                                              |
|----------------------|------------------|-------------------------------------------------------------------|
| Excel Desktop        | ✓ <b>Full</b>    | paste image directly onto selected bar                            |
| Excel Mobile         | ⚠ <b>Partial</b> | Displays if pre-built; cannot apply picture fills on mobile       |
| Excel Web            | ⚠ <b>Partial</b> | Displays but picture fills cannot be applied or edited in browser |
| Google Sheets import | ✗ <b>Breaks</b>  | picture fills are stripped on import; bars revert to solid colour |

## — CONSTRAINTS & LIMITATIONS

⚠ **"Stretch" fill distorts images as bar heights change** – use "Stack and Scale" fill mode with a sensibly sized icon to avoid distortion

⚠ **Image resolution affects print quality** – use SVG or high-DPI PNG sources for report-quality output

⚠ **File size increases significantly when images are embedded in chart bars** – keep source images under 100KB each

⚠ **Updating the underlying data does not update the image** – the visual fill is static; only the bar height changes

## 01 Build a standard column chart →

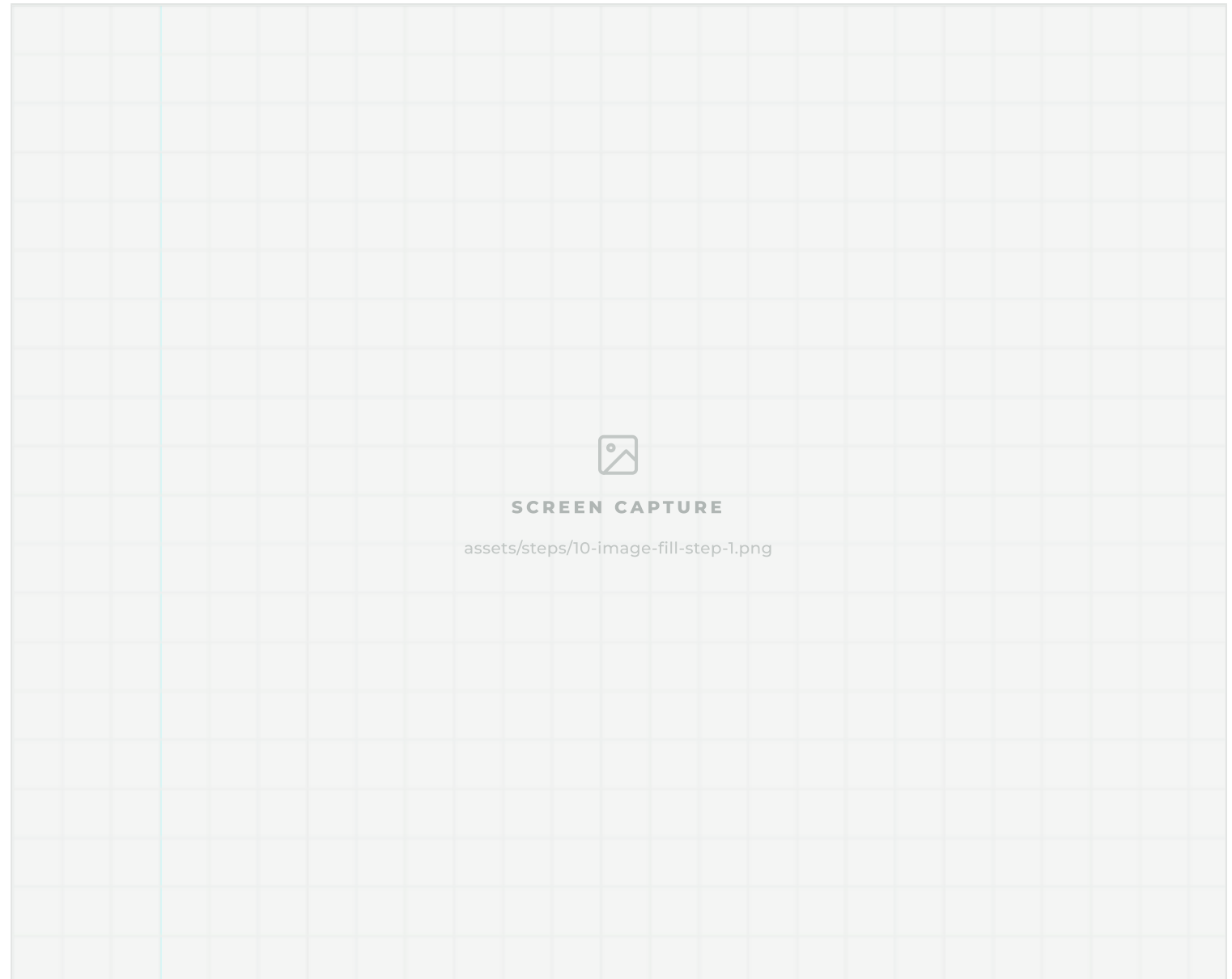
Build a standard column or bar chart using your data

## 02 Prepare square, transparent icons

## 03 Copy an icon to the clipboard

## 04 Select one bar and paste the fill

## 05 Switch to Stack and Scale units



01 Build a standard column chart

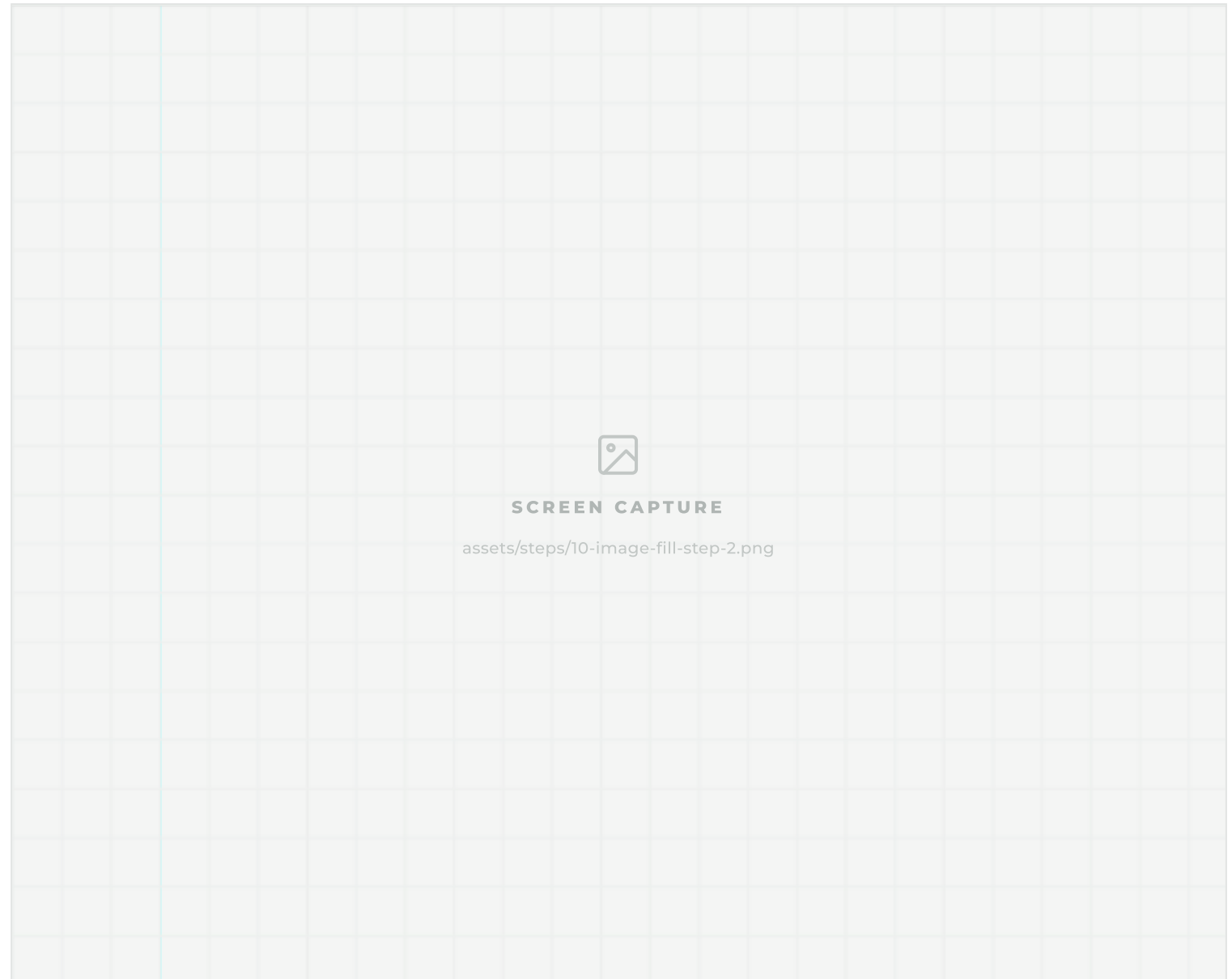
02 Prepare square, transparent icons →

Prepare your images: PNG or SVG files, ideally square-format, transparent background, consistent dimensions

03 Copy an icon to the clipboard

04 Select one bar and paste the fill

05 Switch to Stack and Scale units



01 Build a standard column chart

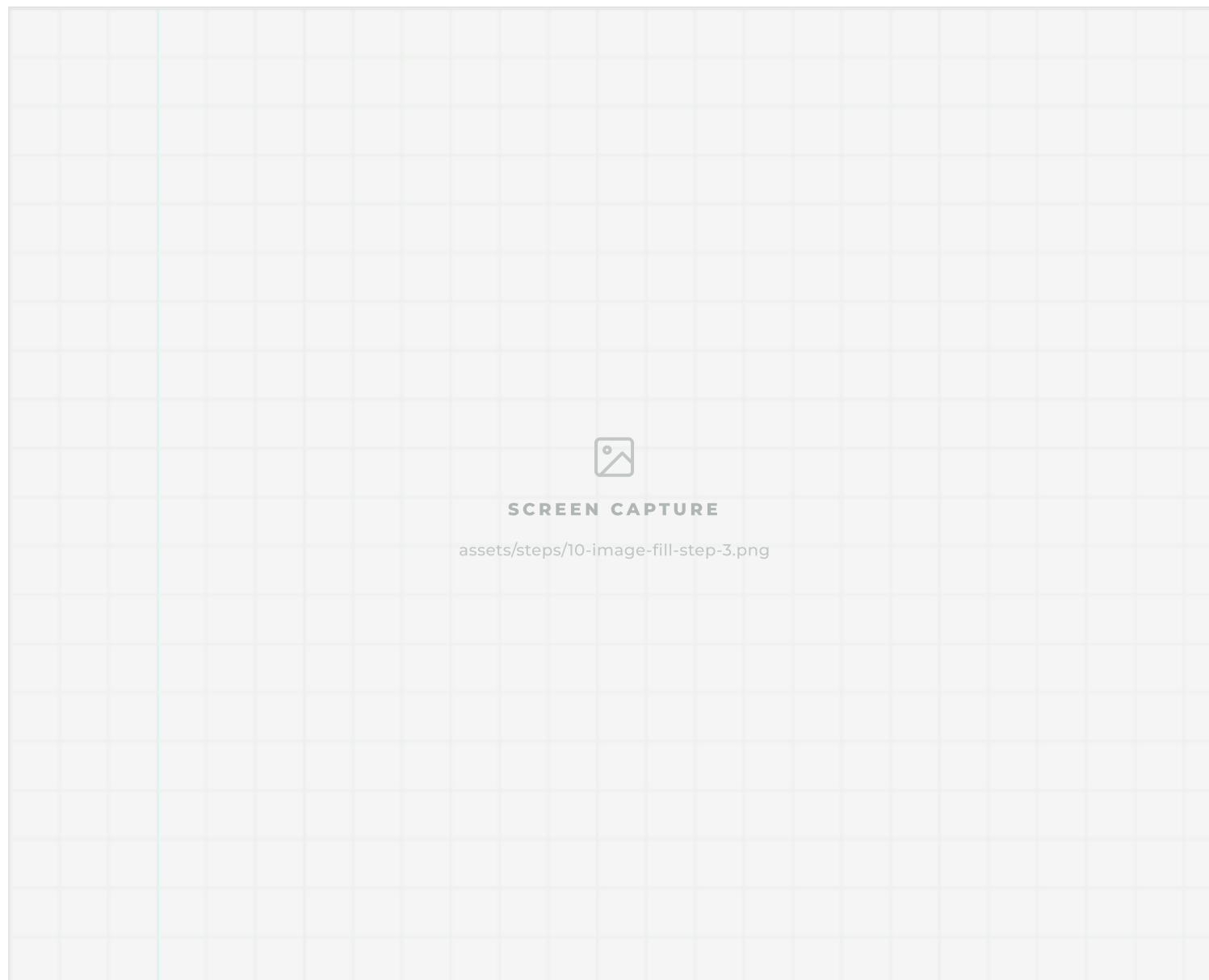
02 Prepare square, transparent icons

03 **Copy an icon to the clipboard** →

Copy the image to clipboard  
(Ctrl+C on the image file or image in a cell)

04 Select one bar and paste the fill

05 Switch to Stack and Scale units



01 Build a standard column chart

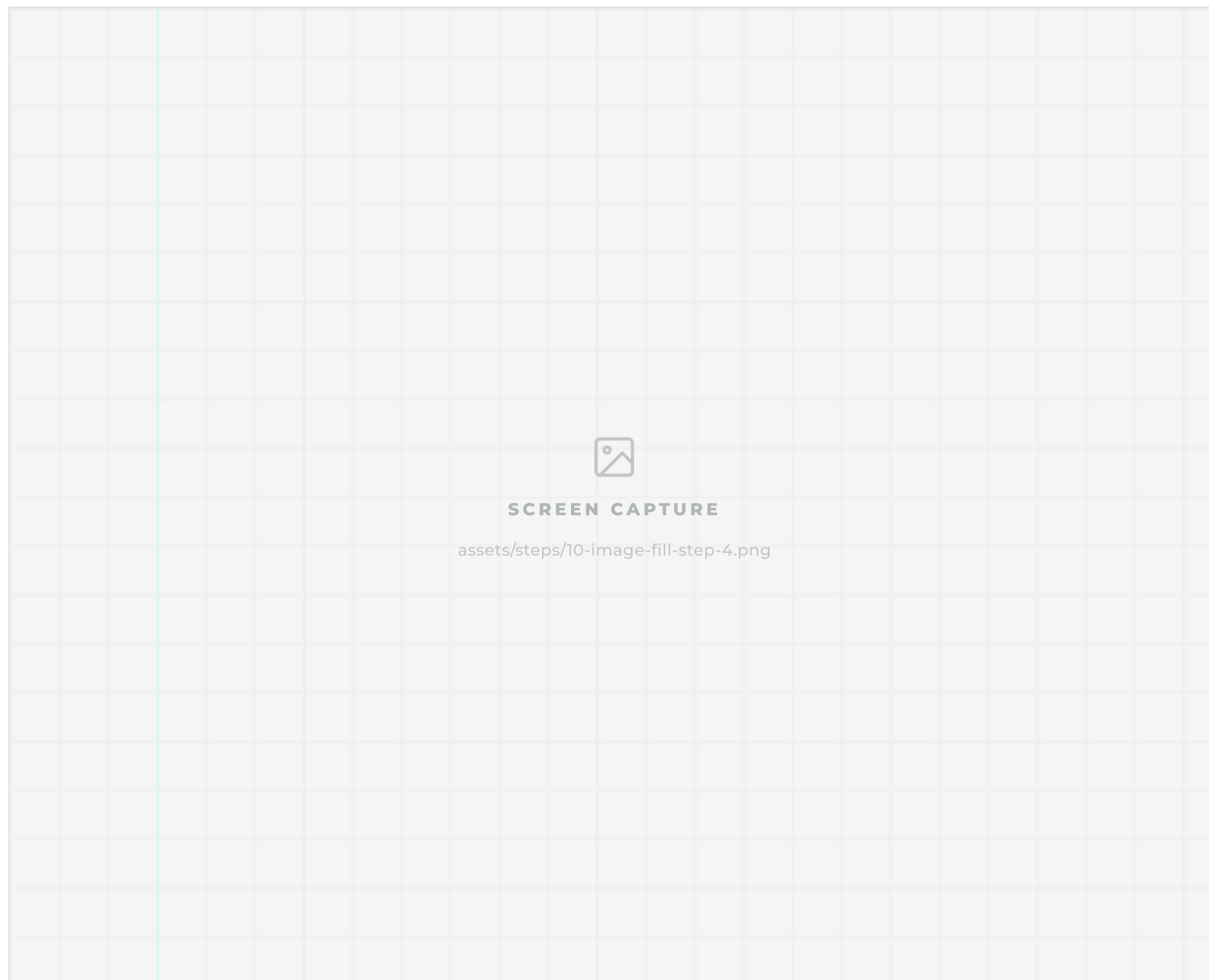
02 Prepare square, transparent icons

03 Copy an icon to the clipboard

04 **Select one bar and paste the fill** →

Click once to select the chart series, then click again to select a single bar; paste with Ctrl+V – the image fills the bar

05 Switch to Stack and Scale units



01 Build a standard column chart

02 Prepare square, transparent icons

03 Copy an icon to the clipboard

04 Select one bar and paste the fill

05 **Switch to Stack and Scale units** →

Right-click the filled bar → Format Data Series → Fill → "Stack and Scale with" → set units-per-picture to a meaningful value (e.g. 1 icon = 10,000 units); repeat for each bar if different images are needed per category

[↗ Full walkthrough](#)

[↓ Download template](#)

Workbook tab **10\_Image**

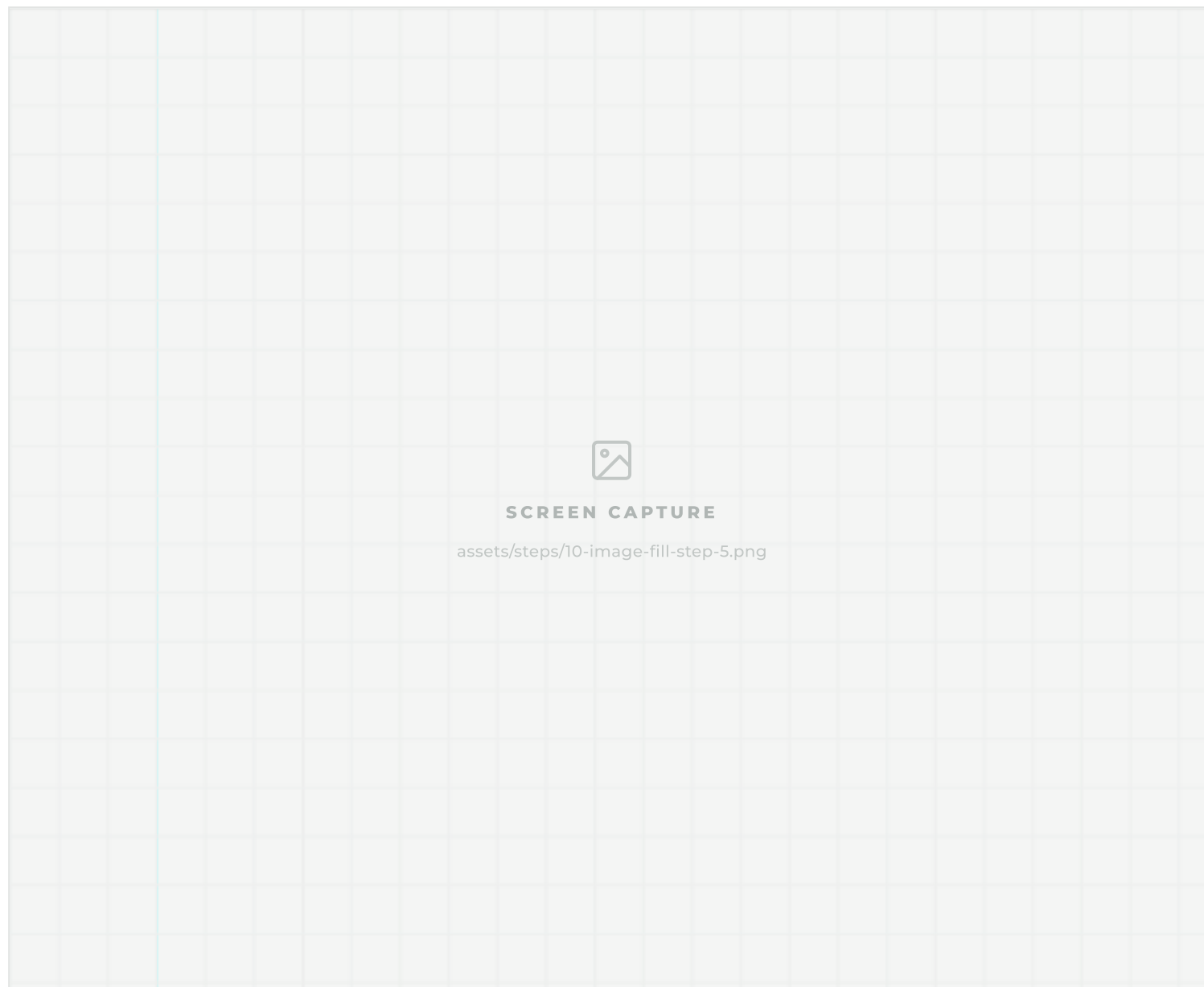
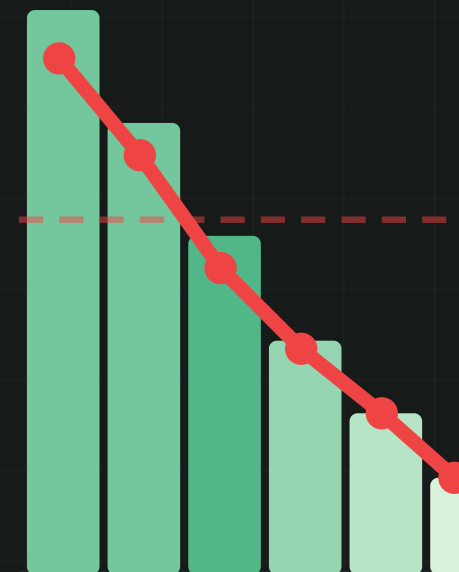


CHART 11 OF 11

# Pareto Chart

Find the vital few

INTERMEDIATE



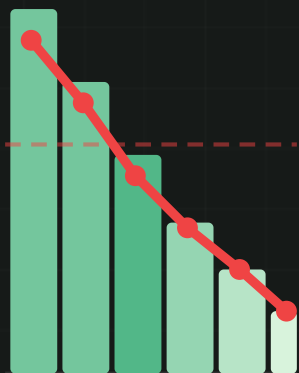


CHART 11 OF 11

## Pareto Chart

Find the vital few

### — WHAT IT IS

A Pareto chart combines a descending bar chart with a cumulative percentage line, built on the principle that roughly 80% of effects come from 20% of causes. Bars are sorted largest to smallest (left to right); the cumulative line rises from 0% to 100% across the bars. A reference line at 80% allows instant identification of the "vital few" categories driving the majority of the outcome. Excel 2016+ includes a native Pareto chart type.

### — ENTERPRISE USE CASES

**Defect and quality analysis** – identify the small number of defect types causing the majority of product failures, for Six Sigma and quality management reporting

**Customer complaint analysis** – which complaint categories account for 80% of all complaints, to focus service improvement effort

**Revenue concentration analysis** – which 20% of customers, products or SKUs generate 80% of revenue, for portfolio prioritisation

**Cost driver analysis** – which cost categories account for the bulk of total expenditure, for cost reduction targeting

**IT incident management** – which incident types account for most system downtime, to prioritise infrastructure investment

### — BEST PAIRED WITH

Quality analysis

Complaint triage

Cost drivers

Incident review

## — COMPLEXITY SCORECARD

★★ INTERMEDIATE

|                   |     |
|-------------------|-----|
| Features needed   | ★★☆ |
| Formatting effort | ★★☆ |
| Formulas needed   | ★★☆ |
| Form controls     | ★☆☆ |
| Time to develop   | ★★☆ |

✓ **No VBA required**

No.

### 📌 PRO TIP

Excel defaults the cumulative axis to 0-120%. Lock the maximum to 1 or the 80% line lands in the wrong place and the chart lies.

## — COMPATIBILITY

| PLATFORM                     | SUPPORT   | NOTE                                                                |
|------------------------------|-----------|---------------------------------------------------------------------|
| Excel Desktop 2016+          | ✓ Full    | Insert → Charts → Histogram → Pareto                                |
| Excel Desktop 2013 and below | ⚠ Partial | Must build manually using sorted bar chart + cumulative line series |
| Excel Mobile                 | ⚠ Partial | View only                                                           |
| Excel Web                    | ✓ Full    | Full support                                                        |
| Google Sheets import         | ⚠ Partial | reverts to bar chart; rebuild manually                              |

## — CONSTRAINTS & LIMITATIONS

- ⚠ **Native Pareto sorts automatically** – if your data is already sorted differently, the chart may override your intended order
- ⚠ **The 80% reference line is not built in** – it must be added manually as a constant-value series or a drawn line shape
- ⚠ The secondary y-axis (for the cumulative %) defaults to 0–120%; lock it to 0–100% for accurate visual reading
- ⚠ In the manual build (Excel 2013), the cumulative percentage must be calculated in a helper column: `=SUM($B$2:B2)/SUM($B$2:$B$12)` formatted as percentage

## 01 Sort categories descending by value →

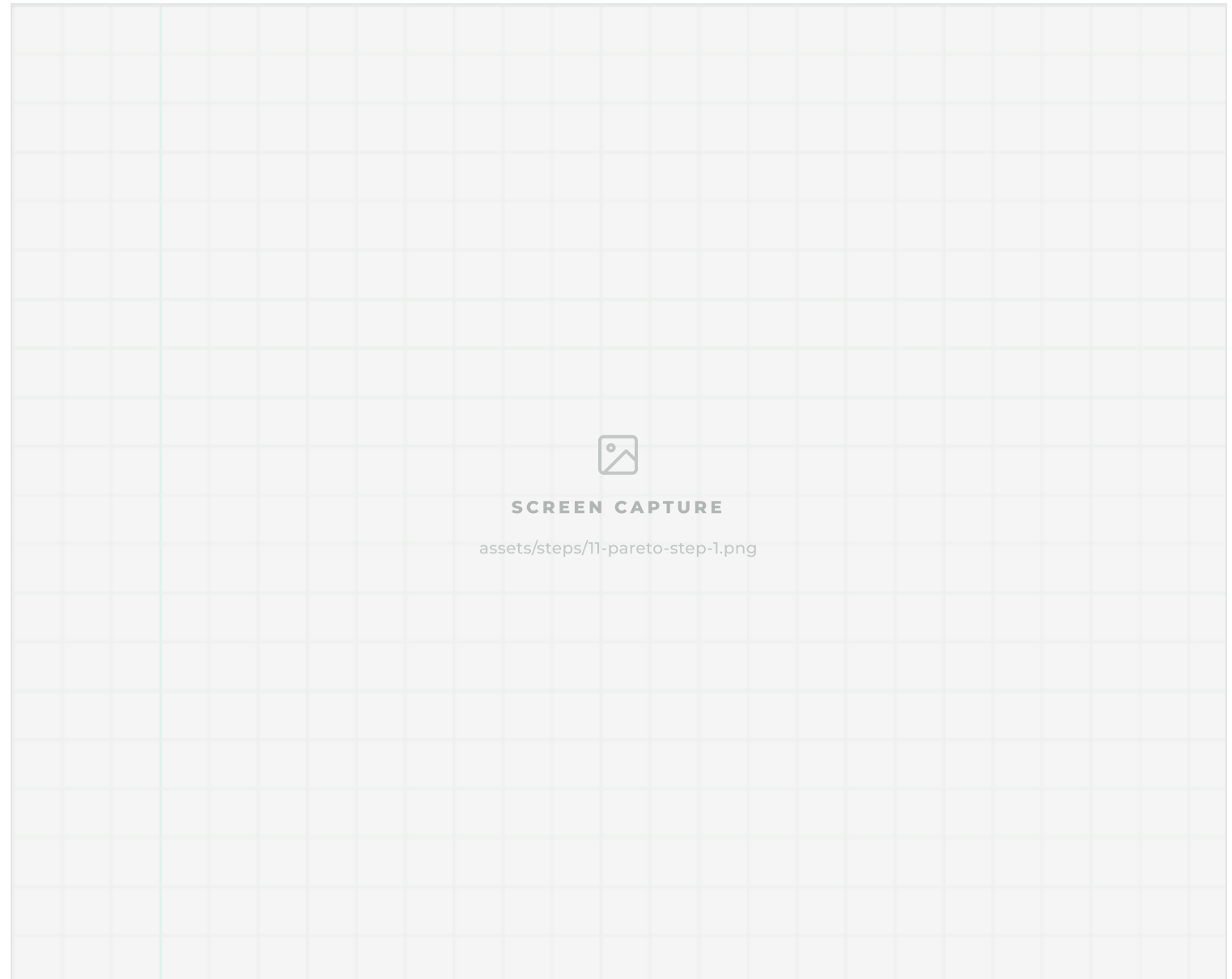
Sort your data descending by value (largest category first)

## 02 Add the cumulative percentage column

## 03 Insert the native Pareto chart

## 04 Or build it manually as a combo

## 05 Lock the axis and add the 80% line



01 Sort categories  
descending by value

02 Add the cumulative  
percentage column →

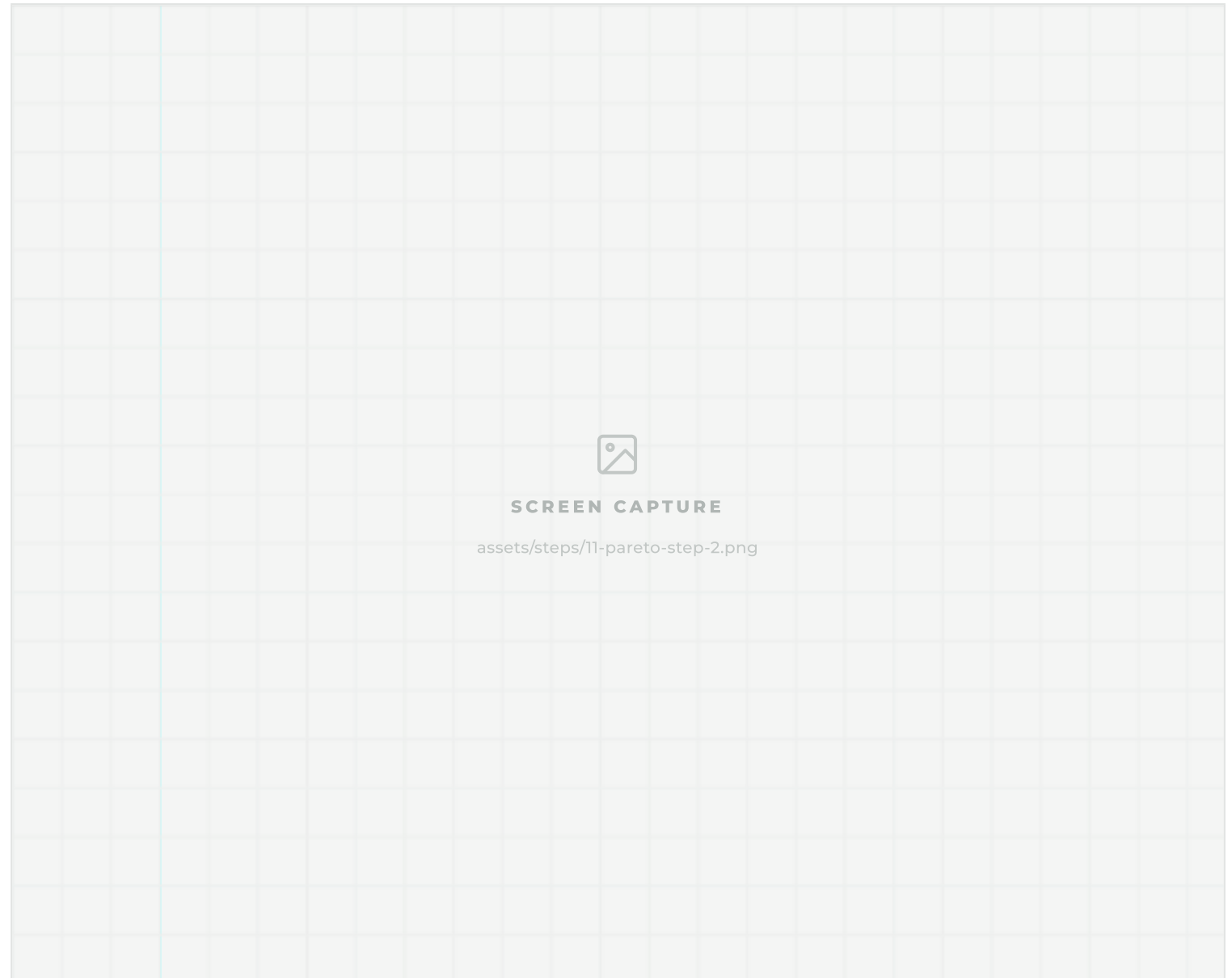
Add a helper column for  
cumulative %:

`=SUM($B$2:B2)/SUM($B$2:$B$[last  
row])` – format as percentage

03 Insert the native Pareto  
chart

04 Or build it manually as  
a combo

05 Lock the axis and add  
the 80% line



01 Sort categories  
descending by value

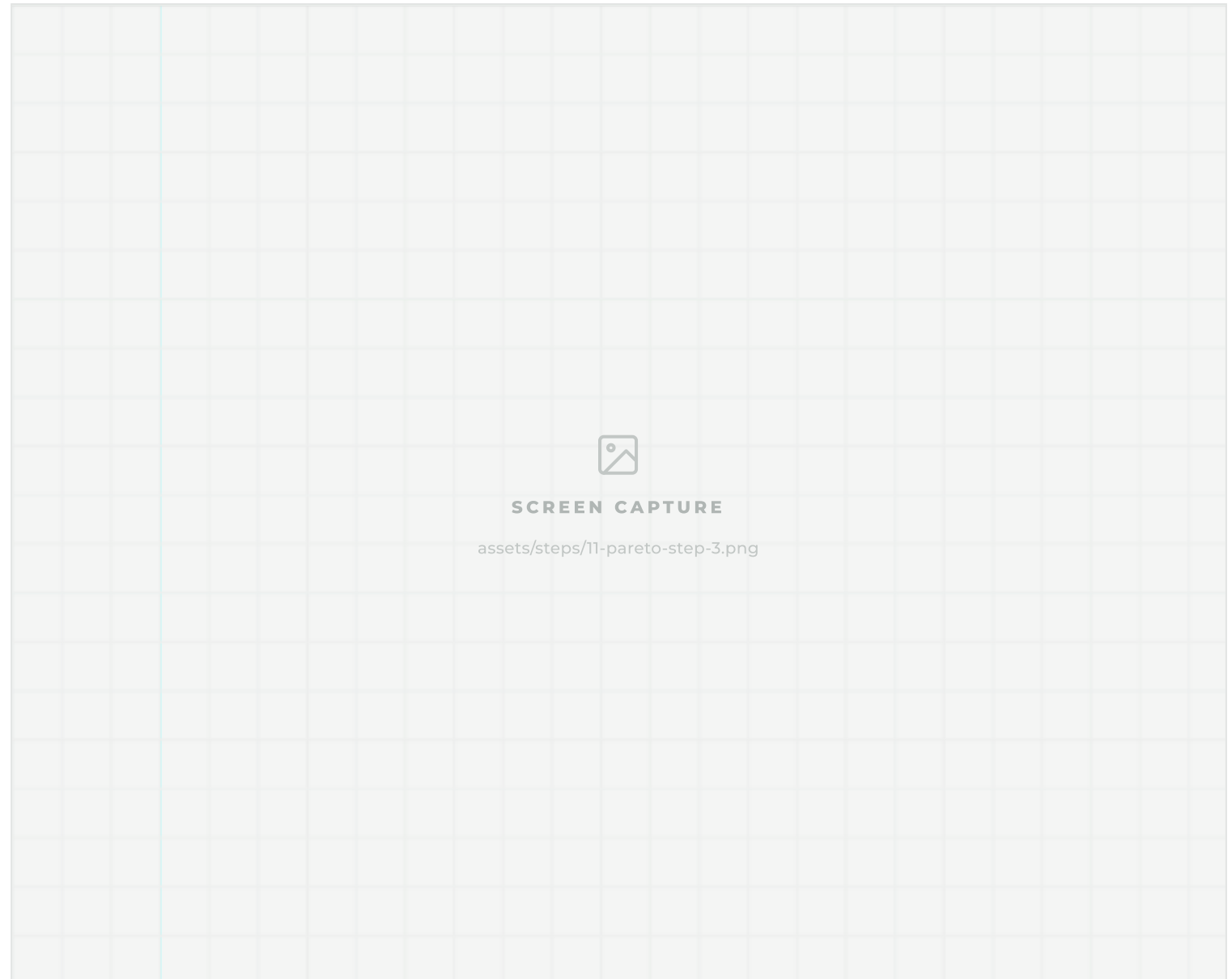
02 Add the cumulative  
percentage column

03 **Insert the native  
Pareto chart** →

Excel 2016+: Select both value and  
cumulative % columns → Insert →  
Charts → Histogram → Pareto –  
done

04 Or build it manually as  
a combo

05 Lock the axis and add  
the 80% line



01 Sort categories  
descending by value

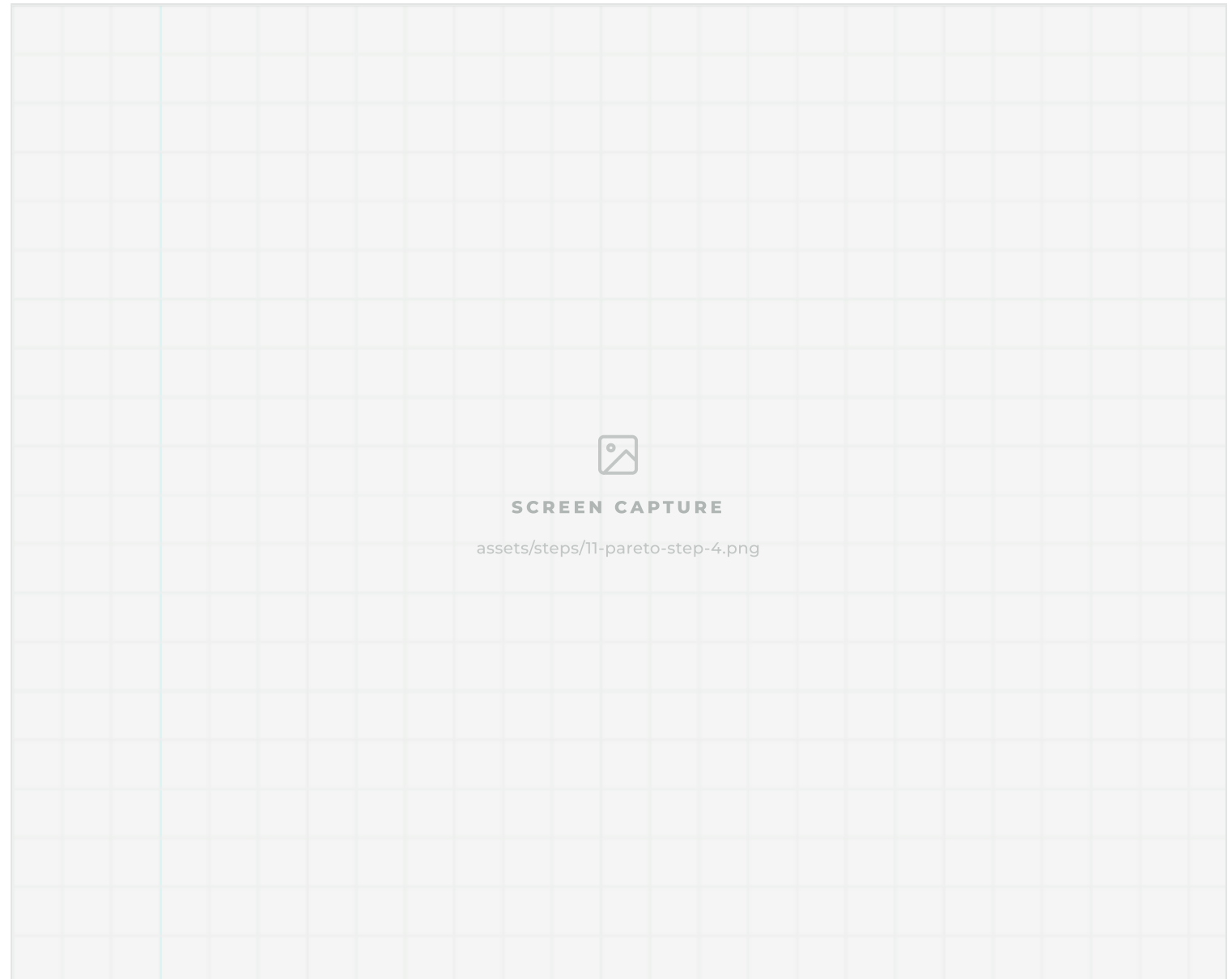
02 Add the cumulative  
percentage column

03 Insert the native Pareto  
chart

04 Or build it manually →  
as a combo

Manual build: Insert column chart with the value series; add cumulative % as a second series; right-click second series → Change Chart Type → Line; move to secondary axis

05 Lock the axis and add  
the 80% line



01 Sort categories  
descending by value

02 Add the cumulative  
percentage column

03 Insert the native Pareto  
chart

04 Or build it manually as  
a combo

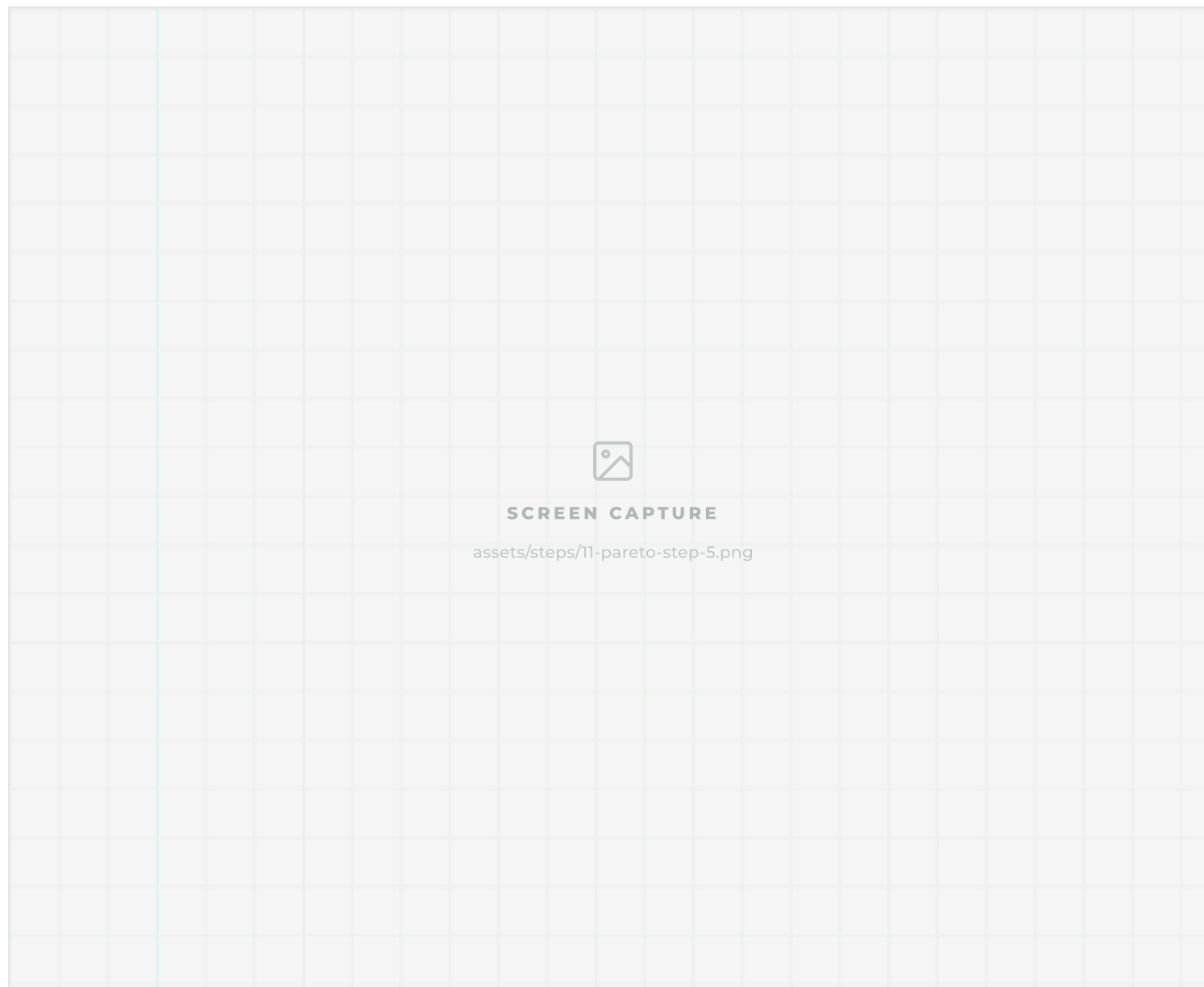
05 Lock the axis and  
add the 80% line →

Format: set secondary y-axis max to 1 (100%); add a constant series at 0.8 as a dashed horizontal reference line; label the 80% line; set bar colours descending dark-to-light green; format line with red

🔗 Full walkthrough

📄 Download template

Workbook tab **11\_Pareto**



# All eleven charts, side by side

|    | CHART                                                                                                                                                 | LEVEL           | COMPLEXITY |        |          |          |       | COMPATIBILITY |         |         |         |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|------------|--------|----------|----------|-------|---------------|---------|---------|---------|
|    |                                                                                                                                                       |                 | FEATURES   | FORMAT | FORMULAS | CONTROLS | TIME  | DESKTOP       | WEB     | MOBILE  | SHEETS  |
| 01 |  <b>Combo Chart</b><br>Two scales, one plot area                     | ★ BEGINNER      | ★☆☆        | ★★★☆☆  | ★☆☆      | ★☆☆      | ★☆☆   | Full          | Full    | Partial | Partial |
| 02 |  <b>Funnel Chart</b><br>Stage-by-stage drop-off                      | ★ BEGINNER      | ★★★☆☆      | ★★★☆☆  | ★☆☆      | ★☆☆      | ★☆☆   | Full          | Full    | Partial | Breaks  |
| 03 |  <b>In-Cell Chart</b><br>Charts that live inside cells               | ★ BEGINNER      | ★★★☆☆      | ★★★☆☆  | ★☆☆      | ★☆☆      | ★★★☆☆ | Full          | Partial | Partial | Breaks  |
| 04 |  <b>Waterfall Chart</b><br>Show cumulative change across categories | ★★ INTERMEDIATE | ★★★☆☆      | ★★★☆☆  | ★★★☆☆    | ★☆☆      | ★★★☆☆ | Full          | Full    | Partial | Breaks  |
| 05 |  <b>Gantt Chart</b><br>Tasks laid out along a timeline             | ★★ INTERMEDIATE | ★★★☆☆      | ★★★★   | ★★★☆☆    | ★☆☆      | ★★★☆☆ | Full          | Full    | Partial | Breaks  |
| 06 |  <b>Waffle Chart</b><br>A 10x10 grid as a percentage               | ★★ INTERMEDIATE | ★★★☆☆      | ★★★★   | ★★★☆☆    | ★☆☆      | ★★★☆☆ | Full          | Full    | Partial | Partial |

# All eleven charts, side by side

|    | CHART                                                                                                                                        | LEVEL           | COMPLEXITY |        |          |          |      | COMPATIBILITY |         |         |         |
|----|----------------------------------------------------------------------------------------------------------------------------------------------|-----------------|------------|--------|----------|----------|------|---------------|---------|---------|---------|
|    |                                                                                                                                              |                 | FEATURES   | FORMAT | FORMULAS | CONTROLS | TIME | DESKTOP       | WEB     | MOBILE  | SHEETS  |
| 07 |  <b>Butterfly Chart</b><br>Two populations, mirrored        | ★★ INTERMEDIATE | ★★☆        | ★★★    | ★★☆      | ★☆☆      | ★★☆  | Full          | Full    | Partial | Partial |
| 08 |  <b>Checkbox Chart</b><br>Reader-controlled series toggles  | ★★ INTERMEDIATE | ★★☆        | ★★☆    | ★★★      | ★★★      | ★★★  | Full          | Partial | Partial | Breaks  |
| 09 |  <b>Speedometer Chart</b><br>A dial for a single metric     | ★★★ ADVANCED    | ★★★        | ★★★    | ★★★      | ★★☆      | ★★★  | Full          | Partial | Partial | Breaks  |
| 10 |  <b>Image Copy-Paste Chart</b><br>Bars filled with pictures | ★★★ ADVANCED    | ★★☆        | ★★★    | ★★☆      | ★★☆      | ★★★  | Full          | Partial | Partial | Breaks  |
| 11 |  <b>Pareto Chart</b><br>Find the vital few                | ★★ INTERMEDIATE | ★★☆        | ★★☆    | ★★☆      | ★☆☆      | ★★☆  | Full          | Full    | Partial | Partial |

**3 beginner, 6 intermediate, 2 advanced.** Every chart here is built with native Excel tools on a supported desktop release. Where a platform column reads Partial or Breaks, the note on that chart's overview page says exactly what changes.

[Download the companion workbook](#)

A PRACTICAL GUIDE TO CREATING VISUALIZATIONS IN MICROSOFT EXCEL

# Beyond the Bar Chart.

11 underused chart types that transform how your dashboards, models and reports communicate.

• 11 Chart Types

• 55 Enterprise Use Cases

• Complexity Scored Per Chart

• Platform Compatibility Per Chart

WRITTEN BY **101 Excel Hacks**

COMBO



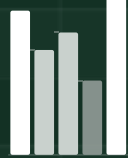
FUNNEL



IN-CELL



WATERFALL



GANTT



WAFFLE



BUTTERFLY



CHECKBOX



SPEEDOMETER

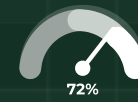
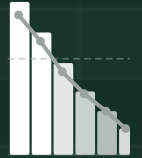


IMAGE COPY-PASTE



PARETO



101

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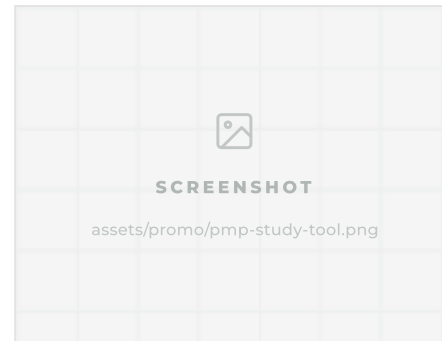
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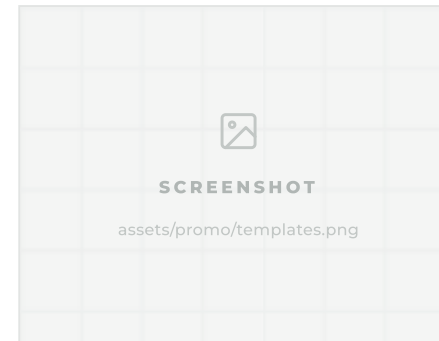
## You just built eleven charts. Here is what to build next.

This guide is one corner of the site. Everything below is already there, free or paid, and all of it is built the same way: native Excel, no add-ins, workbook included.



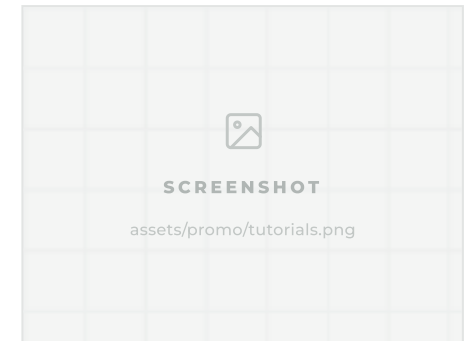
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