Google Data Studio

1

Most Common Workflow

- Connect to Data
- Visualize within Report
- Share Report

2

Reports

- View all reports you have access to
- Filter by ownership
- Search by name
- Sort by name, ownership, or date

3

Data Sources

- View all data sources you have access to
- Filter by ownership
- Search by name
- Sort by name, ownership, or date

4

Explorer

- In Beta mode
- Designed for quickly editing, viewing, and filtering
- Acts as a scratchpad
- Private only to you; may not be shared directly

5

Data Source Tab

- view all data sources you can access
- open a data source
- edit the data source
- control which data can be visualized in reports
- Control how data appears
- Control who has access to view or download the data

6

Clicking on a Data Source

- see and edit the data source fields and settings
- edit the connection
- create reports from the data source

7

What the Data Source shows

- the schema of your data set, with information about each of the fields.
- A field contains the information -- the metric or dimension -- that appear in reports
- It is common for each field to have attributes assigned to it
- The “Field” column lists metrics and dimensions by name. By default, the field name will come from the connected data set, and you can change these names if you wish. (Remember that changes made to the data source will affect all affiliated reports.)

8

Working within Data Source

- Can create new data source fields by clicking three dots
  - Count
  - Count Distinct
  - Duplicate field
  - Disable field (can’t use in reports referencing this data source)
  - Remove – permanently deleted
    - Data TypeSelecting appropriate type ensures data flows into reports properly

9

Aggregation

Refers to how the data is structured, i.e., if it groups values together at all.
In Data Studio, fields can have the following aggregation methods:

- Average
- Count
- Count Distinct
- Max
- Min
- Sum
- Auto
- None

Description provides you with details about what is captured in the specific field.

- This input is optional, used for your reference.
- “Add a field” allows you to create a new metric or dimension derived from your existing data. For example, you could create a new metric that represents the average of a metric, the sum of the values of a dimension, or the ratio of two different metrics.

10

Editing fields in data source

Fields edited within the data source only affect Data Studio's representation of the data and don't affect the underlying data set.

11

Refresh Fields

- updates from the underlying data
- New fields appear
- Any changes are reflected.

12

Data credentials

- Controls who has access to view data in reports. Options include owner's credentials, which allows anyone who is invited to view or edit a report representing this data source can see this data in charts. This is because the owner can allow viewers to use their own credentials for the purpose.
- Other option is Viewers credentials
- Owner decides which to apply for others who are viewing the data in reports

13

Community Visualizations Access

Setting determines whether custom visualizations by third-party developers can include information from your data source.

14

Field Editing in Reports

- Toggle lets you enable or disable field editing at the report level. This determines whether field changes can be done at the report level. New data sources have this option turned on by default.
- Field editing in reports" setting allows report editors to make changes to metrics and dimensions, such as renaming fields, changing data type, changing date output format, comparing metrics to totals, applying running calculations, and more.

15

Data Source Changes

- Changes made to the data source apply to all reports referencing that data source. This is why it's important to be cautious when inviting others to edit a data source, and also why having a data source is useful!
- Your underlying data set may contain data you don't need or want in your reports, may use field names you'd want to change for readability, or may be missing critical information you'd want to include in your data visualizations.

16

Common Edits to Data Source

- Disable a field
  - A data source may have a lot of excess information that you won't need or want to reference in your reports. If there are metrics or dimensions you want to keep out of Data Studio reports, you can disable that field, and it won't fill any charts in your reports.
- Rename a field
  - The names of your metrics and dimensions may not be as user-friendly as you want your reports to be. In the data source, re-name such fields for clarity and consistency.

17

Common Edits to Data Source

- Create a new metric or dimension that is derived from your data.
  - You'll input a formula instructing this new calculated field to perform arithmetic, manipulate text, date, and geographic information, and use logic to output a new field that can be displayed in your report's charts.
- Disabling a field
  - Keeps proprietary or PII information from showing in any reports based on the data

18

Report Viewing

Pages selected along left side

19

Report actions

Found in top right

- Download the report
- View it full-screen
- Refresh the data
- Make a copy of the report
- Share it with others

20

Toggle between Edit and View modes

- Report Canvas May include
  - Charts
  - Tables
  - Text
  - Shapes
  - Images
  - Scorecards
- Date report was last refreshed is shown in bottom left

American Graphics Institute

21

View mode vs. Edit mode

22

Controlling Report Structure

- Layout Controls
- Report Controls
- Page Level Controls

23

Theme and Layout Controls

24

Header visibility

The header visibility options control the behavior of the report header in view mode. The header contains things like the report title, the share button, and edit button.

- Always show report header
- Auto hide report header
- Initially hidden report header

25

Navigation position

Control where pagination navigation option appears in a report. Options are Left or Top.

26

Display mode

- Sets how report fits within browser window.
  - Fit to width scales the components in the report in proportion to the width of the window.
  - Actual size displays the report components at the same size they were created.
  - Has margin shows or hides the margin area surrounding the report. Hiding the margin makes the report appear to occupy the entire window.

27

Canvas Size

- Select a preset size or enter custom dimensions. Preset sizes include:
  - US Letter (4:3) - Portrait
  - US Letter (4:3) - Landscape
  - Screen (16:9) - Portrait
  - Screen (16:9) - Landscape

28

Snap To

- Snap controls how components in a report are positioned.
- Smart guides display colored lines to help you align, resize, and space the selected components:
  - Align components: while moving a component, a red line appears to show when it is aligned with other components on the canvas.
  - Resize components: while resizing a component, blue lines appear to show when that component is the same length or width as other components on the canvas, and the current size in pixels is also shown.

29

Snap To

  - Space components: while moving one or more components, blue lines appear when those components are spaced equally with other components on the canvas.
- Grid aligns the selected components to the visible grid on the report canvas.

30

Grid

Make the grid visible within the report canvas using the View menu.

31

Grid Settings

The minimum canvas grid size is 10 px. You can adjust this with the Grid Settings options. Increasing the grid size makes it easier to layout your charts, controls, and other components.

- Size sets the height and width of the grid squares.
- Padding adds space within the grid squares. Use this to separate components in adjacent squares.
- Horizontal offset sets left and right margins on the edges of your report. Use a positive number for left offset. Use a negative number for the right offset.

32

Grid Settings

Vertical offset sets top and bottom margins on the edges of your report. Use a positive number for top offset. Use a negative number for the bottom offset. Use this to provide space for headers and footers.

- Changing grid settings has no effect on components already on the page. It only applies to new components you add, or to components that you move.
- When you place a new component on the canvas that can fit into one or more grid squares, the component "snaps" in position and fills the grid, making it easy to size and line up new components in rows and columns. ("Fill the square" behavior begins with a grid size of 15 px or greater.)

33

Report-level component positioning

- Specifies how report-level components are positioned relative to other components.
  - Top positions report-level components in front of all other components (similar to using Bring to front).
  - Bottom positions report-level components behind all other components (similar to using the Send to back).

34

Arrange, group, and distribute components

- Use the Arrange menu to control the layout of the components in your report. To use these options, select one or more components, then select the desired alignment option from the menu.
- You can access all of these options by right-clicking (or control-clicking) a component or group of components.

35

Order options

The order options control how objects appear in front of or behind other object.

- Bring forward—causes the selected component(s) to "take one step forward" in the display order.
- Send backward—causes the selected component(s) to "take one step backward" in the display order.
- Bring to front—causes the selected component(s) to appear in front of all the other components on the page.
- Send to back—causes the selected component(s) to appear behind all the other components on the page.

36

Align and Distribute

- Alignment helps arrange components so they line up, either vertically or horizontally. Select 2 or more components, then choose the horizontal or vertical alignment axis (top, bottom, right, left, center, etc).
- Use the distribution options to adjust the amount of space vertically and horizontally between 3 or more components. This option uses the positions of the leftmost and rightmost components (for horizontal distribution), and the topmost and bottommost components (for vertical distribution) as "anchor points." It then moves the selected components so they are evenly spaced in the specified direction.

37

Make Report-Level / Make Page-Level

- Components only exist on the page where they are created. For a component to appear on every page, make it a report-level component.
- Use Arrange > Make Report-Level.

38

Group / Ungroup

- Grouping components has several benefits:
  - It makes it easer to move them as a unit and to preserve their arrangement.
  - You can edit the DATA tab options of grouped components as a unit.
  - Report controls, like a date range controls, can be applied only to charts in a group that includes them.
    - You can't group page-level components with report-level components.

39

Data Source

40

Credentials

Owner's vs. Viewer's Credentials

- Determine if report can be viewed by all, as if they had owner's access to the data, or only viewed by specific people who have received access.

41

Date Range Controls

- Data source must include dates to use date controls
- GA Defaults to showing past 28 days
- Date Range for entire report set as Page Property
- Can allow viewer to customize date range by placing Date Range Controls within report
- Dates apply to entire report by default
- Date Range controls can be limited to single object by grouping
- Date ranges can be absolute or relative
- Individual charts can have separate date ranges
  - With chart selected, specify Date Range Property

42

Date Ranges

- Auto date ranges are set as the default based on the data source for the selected chart. For example, Google Analytics defaults to the last 28 days from yesterday.
- Fixed date ranges specify exact beginning and ending dates. For example, January 1, 2019 to January 31, 2019. Charts with this fixed range will always show data for those dates only.
- Preset date ranges give you options such as "Today," "Last week (starts Monday)," and "This year to date." Preset date ranges are relative to "today" and adjust as time passes.
- Advanced date ranges let you create flexible custom rolling dates.

43

Comparison date range

Some charts can compare the current date range to another range in the past. For example, in a time series, the comparison data appears as a line of a different color from the current data. In a table, the comparison data is shown as the delta from the current data, with an increase or decrease indicator.

- Set up a comparison date range
  - Select a time series, table, area chart, or scorecard.
  - On the right, in the DATA tab of the properties panel, scroll down to the Default Date Range section.
- Under Comparison date range, choose the comparison period.
- Click APPLY.
- Dates within tables can also display as quarter, year and quarter by changing the Show As option.

44

Drill-down charts & graphs

- Turn on drill-down for a chart
  - Edit your report.
  - Select a chart.
  - On the right, in the DATA properties panel under Dimension, turn on Drill down.
  - Add dimensions to the chart. Each dimension you add becomes another level of detail you can drill into.
  - Select the Default drill down level.

45

Filter Controls

- Allow User to filter what appears in report
  - Add a filter control then choose a Dimension which users can select

46

Filter controls are dimension-only

- Filters are report-level by default
- Filters can apply to individual components via grouping
- Can be check-box, expandable list, single select, or search box

47

Add a filter control to a report

- Switch to Edit mode
- In the toolbar, select Filter control
- Draw the filter control on the page
- On the right, use the Filter Control Properties to configure the filter control options.

48

Charts as interaction Filters

- Charts can filter data across a report or in other charts
  - Eg: selecting a pie chart item can control another chart

49

Adding chart interactions

- Switch to Edit mode
- Select a chart.
- On the right, view the DATA properties panel.
- In the Interactions section, select Apply filter.
- Repeat these steps for each chart you want to use as a filter.
  - Filters can be applied to other filters

50

Data Control allows viewers to select different data source

51

Add hyperlinks within reports

- Links to external web pages
- Links to specific pages within report
- Links to relative pages within report

52

Download data from Charts and Tables

- Use the menu in the upper corner of each table or chart
- Disable this option via Sharing options under Manage Access

American Graphics Institute

53

Filters

- Filters can be applied at:
  - report
  - page
  - chart / table

54

Organizing filters

- Filters can be modified for each item within Data section of control panel
- All existing filters can be managed under Resources menu

55

Embed External Content

Embed URL option allows video, full websites, Google Sheets, any other web-accessible content to be embedded in Data Studio report

56

Optional metrics

You can make your charts and tables more flexible by adding optional metrics. This lets your viewers select which columns or fields to display in the chart.

57

Adding optional metrics

- Edit your report.
- Select a chart or add a new one
- On the right, in the properties panel under Metric, turn on Optional metrics.
- Click +Add metric or drag the metric from the Available fields panel.

58

Segments

- GA Segments can be applied within Data Studio
- Segments are System, Custom, or Shared
- Custom and Shared segments must first be added to GDS

59

About Segment types

- System: predefined segments available to all users in any view. You don't need to do anything special to use these in your Data Studio reports.
- Custom: user defined segments. These can include custom metrics and dimensions.
- Shared: segments that have been shared with you by other Analytics users.

60

Segment can be applied to

- Report
- Page
- Components

61

Adding Charts, Tables, Scorecards & Maps

62

Adding Fields in Charts & Tables

63

Styling Charts

64

Changing Chart types

65

Chart types

66

Area charts

Area charts let you visualize a single dimension (the breakdown dimension) and a single metric, plotted over time. An area chart is a variation on the line or time series chart. It uses shaded areas under the plotted lines on the graph to indicate the volume of data represented by the lines. Like a time series, area charts are useful for seeing how your data trends over time.

67

Bar charts

- You can use a bar chart in Data Studio to look at your data in 2 distinct ways, depending on the number of dimensions in the chart. When your chart includes a single dimension, the data series come from your metrics.
- You can show up to 5 metrics in a single dimensional bar chart.
- When a bar charts includes 2 dimensions, the data series come from the second dimension. Two dimensional charts can show any number of data series but only 1 metric.

68

Bullet charts

Bullet charts in Data Studio visualize a single metric. You can optionally display a target value and set up to 3 ranges.

69

Combo chart

- A combo chart lets you use either lines, bars, or both to visualize your data. Combo charts can plot both time-based and non-time-based data on the X-axis.
- Combo charts can plot a single dimension with up to 5 metrics, or 2 dimensions with a single metric.

70

Geo maps

- A Data Studio geo map requires you to provide 3 pieces of information:
  - a geographic dimension, such as Country, City, Region, etc.
  - a metric, such as Sessions, Units Sold, Population, etc.
  - the map's zoom area.
  - Use filters to focus zoom area on a specific country

71

Pie charts & Donut Charts

- Pie charts display your data in a circular visualization, with sections (slices of the pie) representing your data series. The sizes of the slices are proportional to the quantity or relative value of the metric you are plotting. In general, pie charts are most useful when comparing a few data points with relatively large differences in proportion between the values. Pie charts that display large numbers of series with minor variations in the data can be confusing to viewers of the chart.
  - Support 1 dimension & 1 metric

72

Pivot tables in Data Studio

Pivot tables in Data Studio take the rows in a standard table and pivot them so they become columns. This lets you group and summarize the data in ways a standard table can't provide.

- Options:
- Show totals
- Expand-collapse

Limited to:
- 2 column dimensions.
- 10 metrics.
- 3 pivot tables per report page
- 50,000 rows of data

73

Tables

Tables display data in a grid of rows and columns. Each column represents a dimension or metric, while each row is one record of your data.

- Header Settings
- Color for header, border, rows (even and odd)
- Typeface options
- Row numbers
- sPagination (1 of X)
- No data options (Null vs. 0)
- Alignment
- Background & border

74

Chart headers

- Display options for downloading, sorting, and exporting
- Can be disabled for each chart

75

Scorecards

Scorecards display a summary of a single metric. Scorecards are commonly used to visualize key performance indicators: some variable that measures the relative health or performance of your business or area of activity. For example, a scorecard can summarize total sales or average bounce rate.

76

Time series chart

A time series chart shows how your data changes over a period of time. For example, you can display the count of website sessions daily over the course of a week

77

Treemaps

- Data in a treemap is displayed in "branches" (also called "nodes").
- Each branch can have sub-branches, and one parent branch (except for the root, which has no parents).
- Each branch is displayed as a rectangle, sized and colored according to the values in your data. Sizes and colors are valued relative to all other branches in the graph.

78

Customizing Reports

- Text
- Lines & Shapes
- Images

79

Sharing

- Get link
- Email – schedule delivery
- Share
- Download
- Export
- Embed a report in another site
  - Set sharing options "Public on the web" or "Anyone with the link can view"
  - Select File > Embed report, or in the upper right, click Embed.
  - Click Enable embedding.

80

Create Thumbnail

- Must have view permissions to see
- Share as src for <img> tag
- Can copy/download then use elsewhere without permissions

81