



Looker Bootcamp:

Analyzing and Visualizing

Data with Looker

Dr. Ernesto Lee, CIO

September 9, 2024

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About Me

- **Dr. Ernesto Lee**, Chief Innovation Officer, Trivera Technologies; Professor Data Analytics at Miami Dade College
- Dr.Lee@triveratech.com or LearnAI@triveratech.com

What We'll Touch On Today

- Discover the power of data analytics and visualization with our hands-on, two-day introductory course Looker Bootcamp:
- Analyzing and Visualizing Data with Looker.Q&A, or please send questions to LearnAI@triveratech.com
- Hand-Out / Tip Guide: **AI for All: Ensuring Safe Use in Your Workplace**



LEARNING SERVICES





Our Focus

At Trivera, **Experience is Everything.**

Our mission is to provide our students with hands-on, practical experiences that truly make a difference. We partner closely with our clients and students to ensure they gain the job-ready skills needed to thrive by the end of our classes. Our courses are guided by highly-experienced, enthusiastic experts who focus on teaching valuable skills and practical problem-solving techniques, coaching students to success every step of the way. We want every student to exit our classes feeling confident, skilled, and excited about the next steps in their project, role or career.

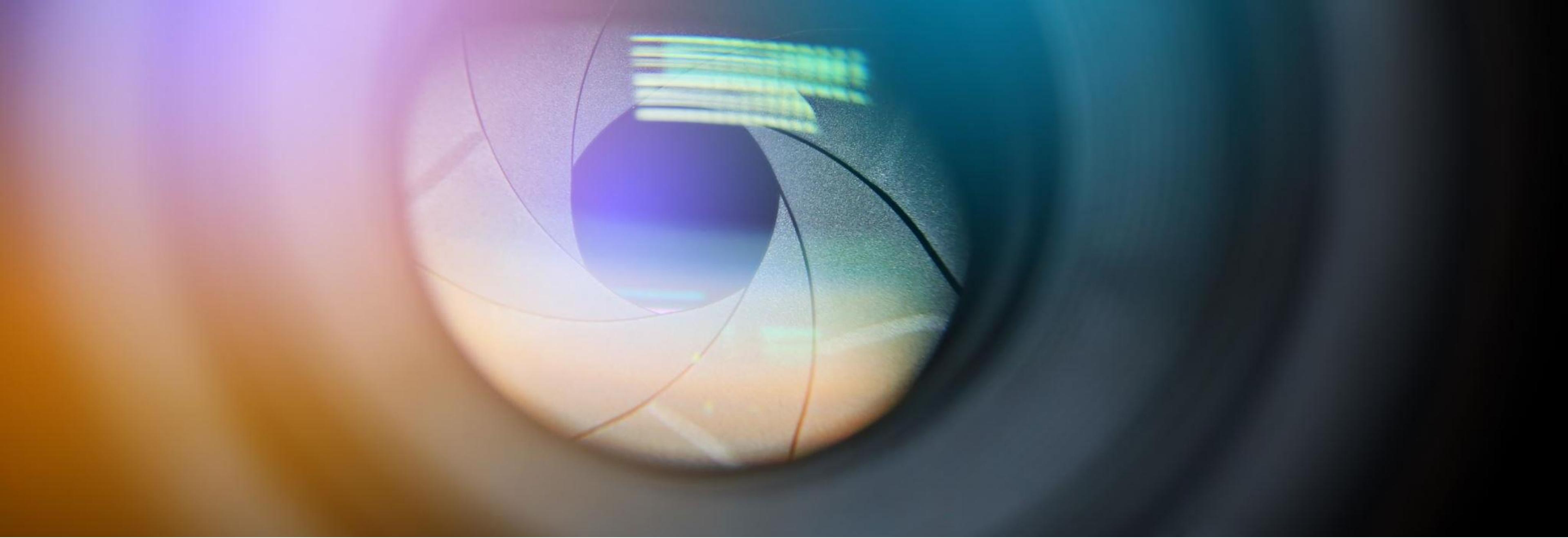
3

Kim Morello
CEO, Trivera Technologies

<https://github.com/fenago/looker-bootcamp>

Location of all Lab Guides and Lab Files





Filter Looks

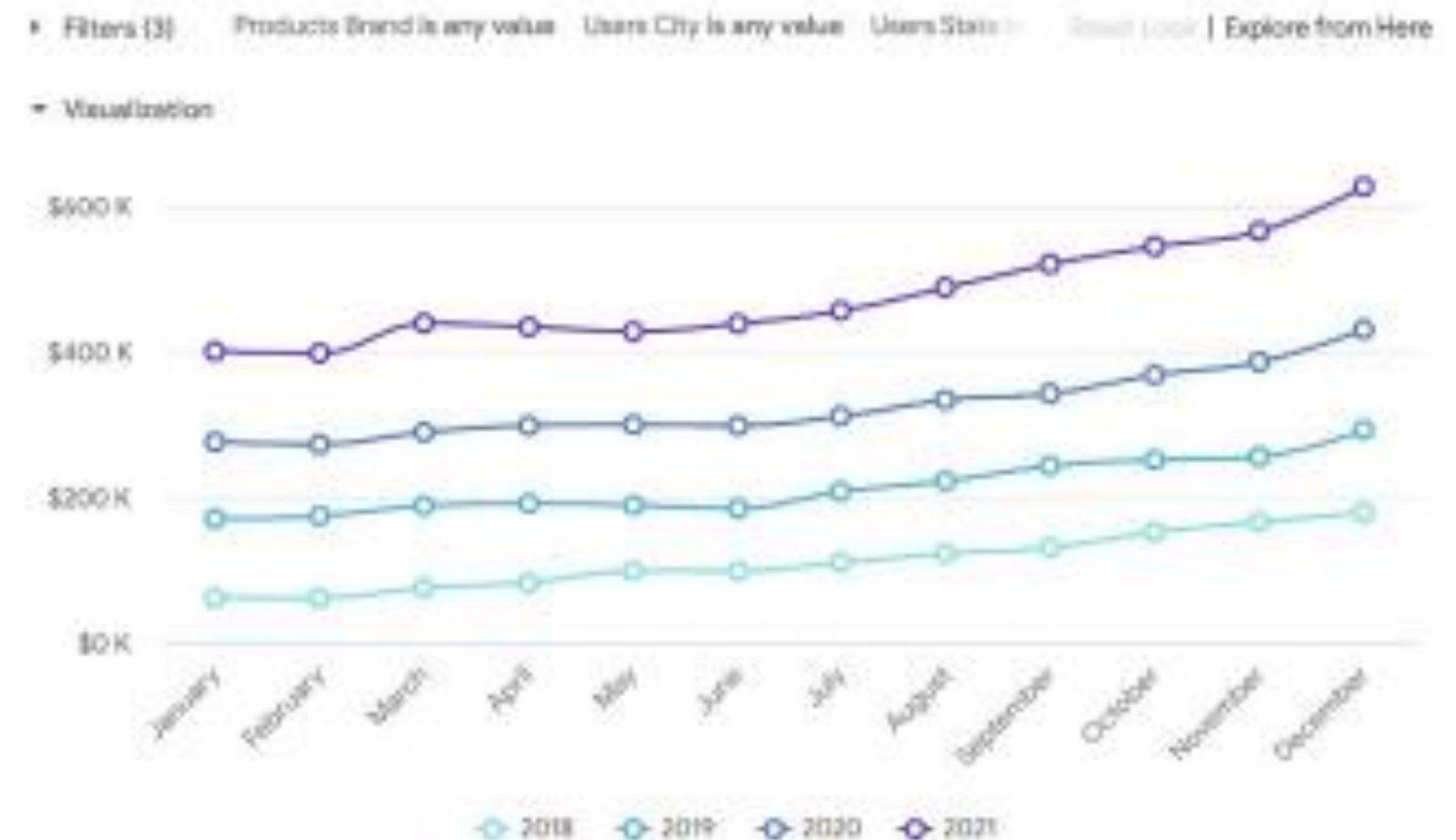
Shared ✓

Yearly Revenue

12 rows · 1s · just now

Run

Edit



Details

Description
NoneScheduled
NoOn Dashboards
No

Edit

Create Schedules

Add To Dashboard

Explore

Develop

Admin

Shared folders

Recently Viewed

Favorites

Boards

Lab exercises

Folders

Blocks

Applications

Development Mode

Data



Edit Look

Explore from Here Cancel

Save

Yearly Revenue

12 rows · 1s · 13m ago

Run



Order Items



Find a Field

Start typing to search

All Fields

In Use

Order Items



Products



DIMENSIONS

Brand



Category

Cost

Department

Distribution Center ID

ID

Name

Retail Price

SKU

93 fields

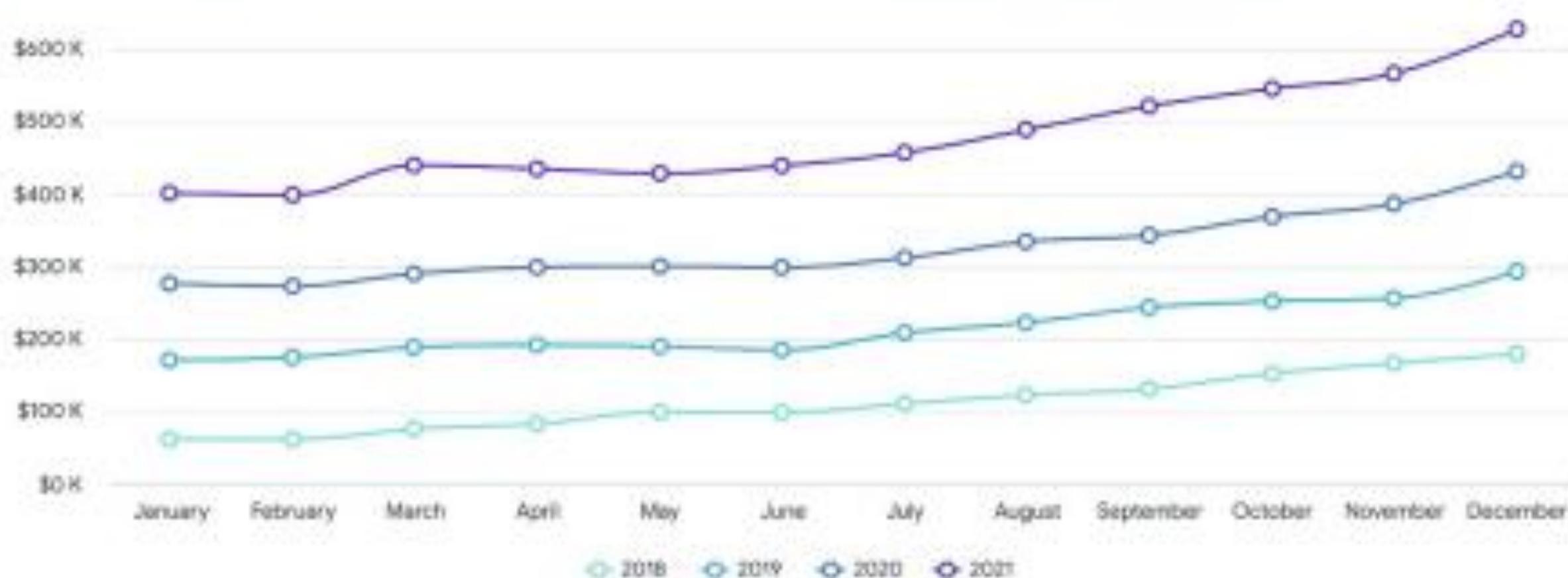
Go to LookML

▶ Filters (0) Products Brand is any value · Users City is any value · Users State is any value

▶ Visualization



▶ Forecast



▶ Data

Edit Look

Explore from Home

Cancel

Save

Yearly Revenue

12 rows · 1s · 19m ago

Run



Order Items

Find a Field

Start typing to search

All Fields

In Use

Order Items

Products

DIMENSIONS

Brand

Category

Cost

Department

Distribution Center ID

ID

Name

Retail Price

SKU

93 fields

Go to LookML

* Filters (0)

Custom Filter

Products Brand

is equal to

X

+

Users City

is equal to

X

+

Visualization



Forecast

Edit

\$500 K

\$250 K

\$0 K

January February March April May June July August September October November December

● 2018 ● 2019 ● 2020 ● 2021

* Data

Edit Look

Explore from Here Cancel Save

Yearly Revenue

Will process 15.23 MB from cache Run ⚙

Order Items

Find a Field: Start typing to search

All Fields In Use

Order Items

- Products

DIMENSIONS

- Brand
- Category
- Cost
- Department
- Distribution Center ID
- ID
- Name
- Retail Price
- SKU

98 fields Go to LookML

Filters (2)

Custom Filter

- Products Brand Is equal to Example Brand 1
- Users City Is equal to

Visualization Forecast Edit

\$500 K
\$250 K
\$0 K

January February March April May June July August September October November December

2016 2019 2020 2021

+ Data

Edit Look

Explore from Here

Cancel

Save

Yearly Revenue

12 rows · 1s · just now

Run



Order Items

Find a Field:

Start typing to search

All Fields

In Use

CROSS-TABLES

Products

DIMENSIONS

Brand

Category

Cost

Department

Distribution Center ID

ID

Name

Retail Price

SKU

98 fields

Go to LookML

Filters (0)

Custom Filter

Products Brand

Is equal to

Example Brand 1 selected

X +

Users City

Is equal to

X +

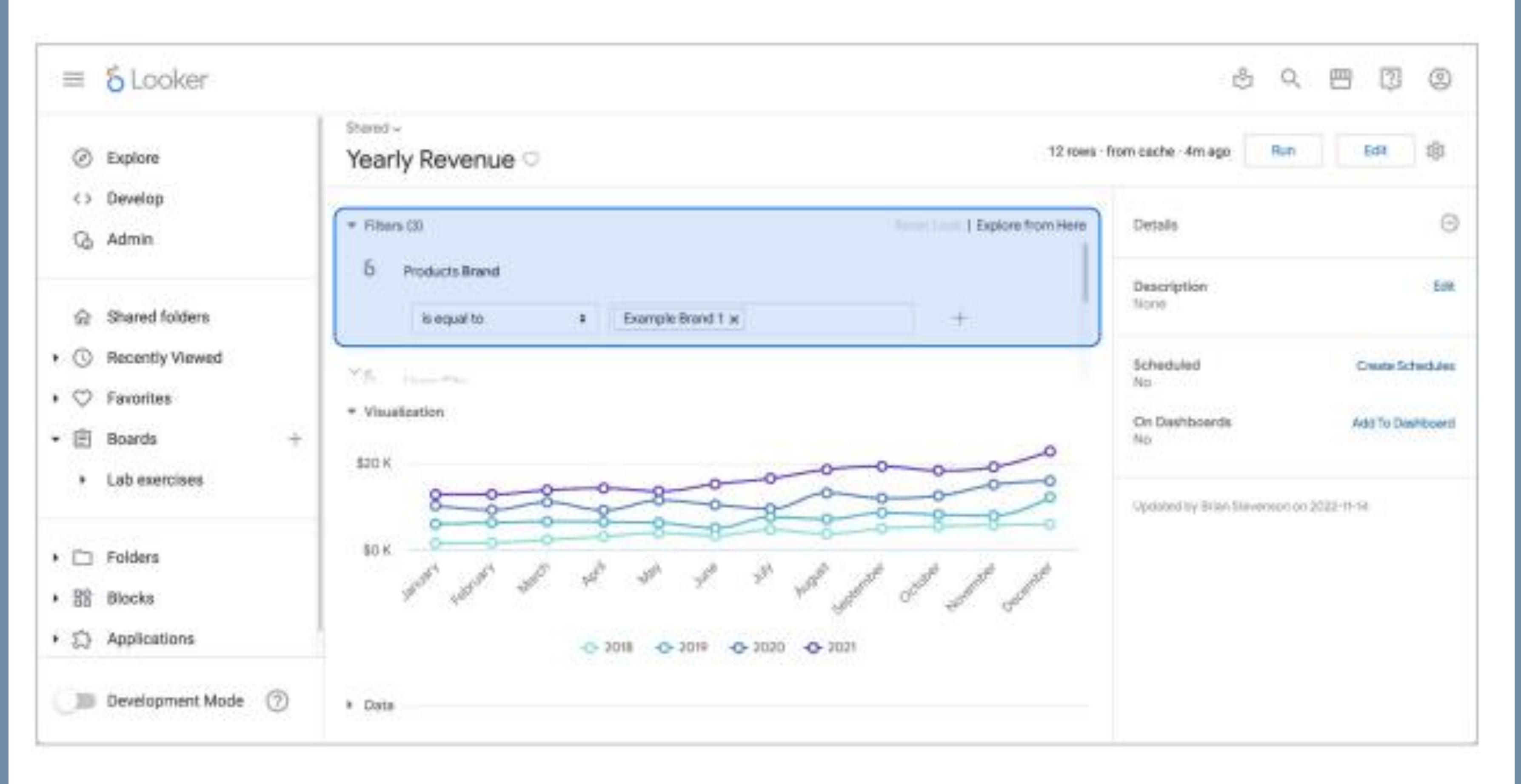
Visualization



Forecast Edit



» Data



Dashboards

The Looker dashboard

- Can contain multiple visualizations.
- Designed to answer more than one data-related question at a time.
- Anyone can view dashboards, but only data explorers can create their own dashboards.



Explore
 Develop
 Admin

Shared folders
+ Recently Viewed
+ Favorites
+ Boards
+ Lab exercises

+ Folders
+ Blocks
+ Applications

Development Mode

Shared:
New York Taxi

2022-11-14

Today

21,658,614

Total Revenue



Total Rides on Map



Total C

70
60
50
40

40m ago

Clear cache and refresh 0:36

Edit dashboard 0:36E

Show dashboard details

Copy dashboard

Get LookML

Download 0:36D

Schedule delivery 7:05S

Add to a board

Get link

Move to trash

Add Filters Settings

Cancel

Save

Shared

New York Taxi

1h ago

2022-11-14

Today

21,658,614

Total Revenue

2,440,711

Total Passenger

6,278

Total Rides



Total Rides on Map



Total Counts per Minute



[Add](#) [Filters](#) [Settings](#)

[Visualization](#)

[Text](#)

[Button](#)

11-14

Today

21,658,614

Total Revenue

A photograph of a yellow NYC taxi cab with "NYC TAXI" printed on the side. The cab is in motion, blurred slightly.

2,440,711

Total Passenger

6,278

Total Rides

Total Rides on Map

A map of New York City showing the density of taxi rides. The map includes labels for Fort Lee, North Bergen, Union City, Manhattan, Bronx, and Grand Neck. A color gradient indicates ride density, with darker shades representing higher concentrations.

Total Counts per Minute

A bar chart showing the total counts per minute. The x-axis represents time intervals, and the y-axis represents the count, ranging from 40 to 70. The bars show significant fluctuations, with several peaks reaching up to 70 counts per minute.

Add Filters Settings

Cancel Save

Choose an Explore

Find an Explore

Bigquery Datasets

Citibike Stations

Citibike Trips

Current Conditions

Customer 360

Nyc Taxid

Cloud Fruit Basket

Fruit Basket

E-Commerce

Inventory Items

Order Items

Products

Users

E-Commerce Training

Events

Events



Select an Explore to get started.

Add Filters Settings

Cancel Save

Shared

New York Taxi

2022-11-14

Today

21,658,614

Total Revenue

Total Rides



Add Text

Title

Subtitle

Body

[Learn more about Markdown](#)

Cancel Save

2,440,711

Total Passenger

6,278

Total Rides

Rides per Minute

Add Filters Settings

Cancel

Save

Shared

New York Taxi

1h ago

2022-11-14

Today

21,658,614

Total Revenue



Total Rides on Map



50

100

150

200

250

300

350

400

450

500

550

600

650

700

750

800

850

900

950

1000

1050

1100

1150

1200

1250

1300

1350

1400

1450

1500

1550

1600

1650

1700

1750

1800

1850

1900

1950

2000

2050

2100

2150

2200

2250

2300

2350

2400

2450

2500

2550

2600

2650

2700

2750

2800

2850

2900

2950

3000

3050

3100

3150

3200

3250

3300

3350

3400

3450

3500

3550

3600

3650

3700

3750

3800

3850

3900

3950

4000

4050

4100

4150

4200

4250

4300

4350

4400

4450

4500

4550

4600

4650

4700

4750

4800

4850

4900

4950

5000

5050

5100

5150

5200

5250

5300

5350

5400

5450

5500

5550

5600

5650

5700

5750

5800

5850

5900

5950

6000

6050

6100

6150

6200

6250

6300

6350

6400

6450

6500

6550

6600

6650

6700

6750

6800

6850

6900

6950

7000

7050

7100

7150

7200

7250

7300

7350

7400

7450

7500

7550

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7750

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7850

7900

7950

8000

8050

8100

8150

8200

8250

8300

8350

8400

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8700

8750

8800

8850

8900

8950

9000

9050

9100

9150

9200

9250

9300

9350

9400

9450

9500

9550

9600

9650

9700

9750

9800

9850

9900

9950

10000

10050

10100

10150

10200

10250

10300

10350

104

Add Filters Settings

Cancel Save

Shared

New York Taxi

1h ago

Dashboard actions



2022-11-14

Today



21,658,614

Total Revenue



2,440,711

Total Passenger

6,278

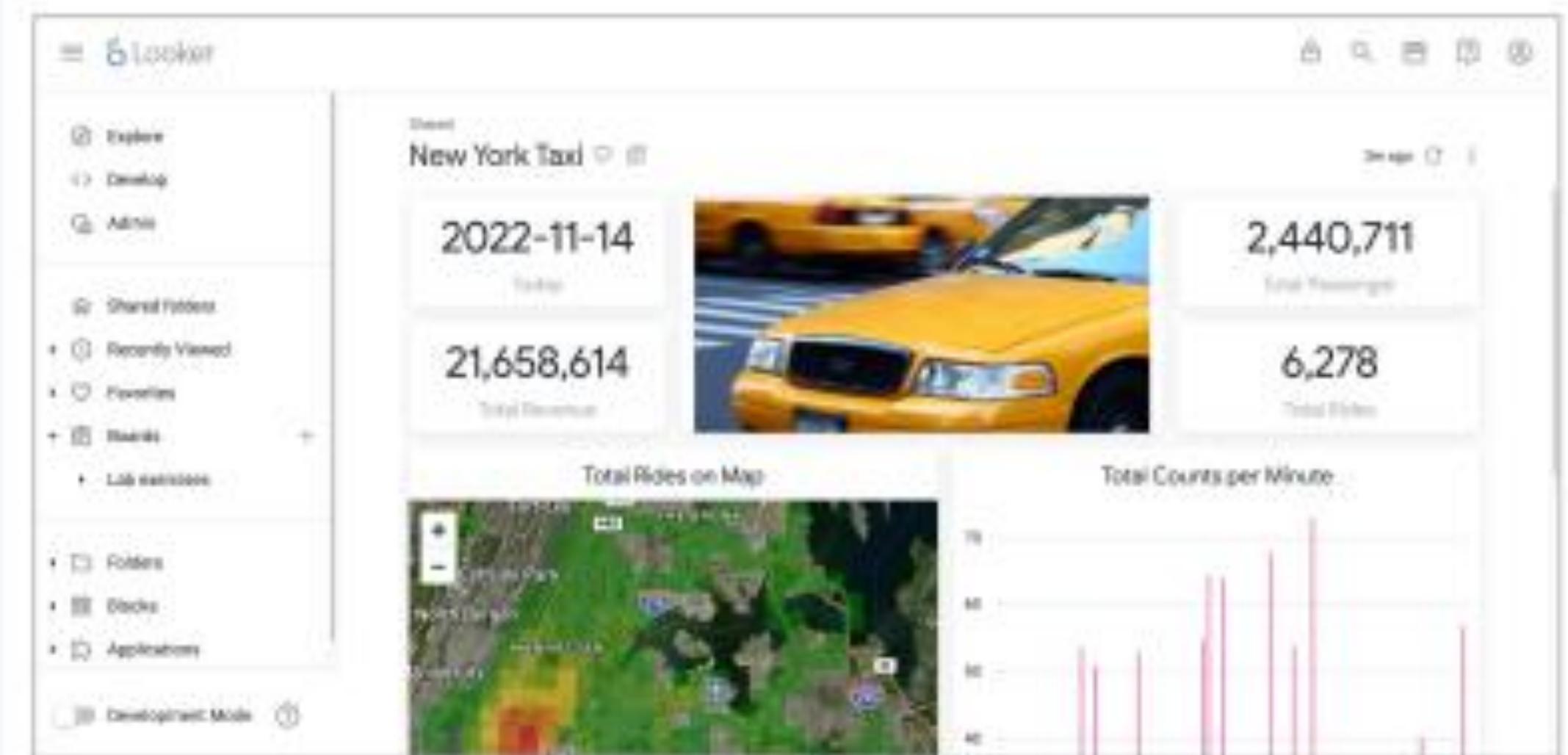
Total Rides



Dashboard Filters

Filtering a dashboard

- Sometimes called **global** dashboard filters.
- Dashboard filters behave similarly to working with **dimensions** and **measures** in an Explore.



Explore

Develop

Admin

Shared folders

Recently Viewed

Favorites

Boards

Lab exercises

Folders

Blocks

Applications

Development Mode

Shared:
New York Taxi

2022-11-14

Today

21,658,614

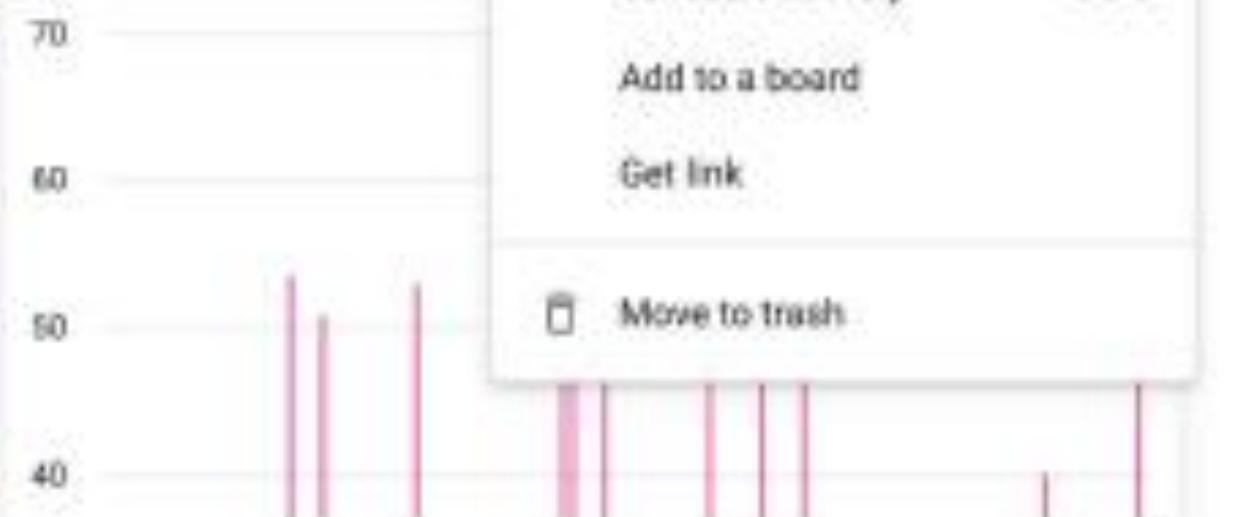
Total Revenue



Total Rides on Map



Total C



40m ago

Clear cache and refresh

Edit dashboard

Show dashboard details

Copy dashboard

Get LookML

Download

Schedule delivery

Add to a board

Get link

 Move to trash

[Add](#)[Filters](#)[Settings](#)[Cancel](#)[Save](#)

Shared

New York

[Add Filter](#)[Cross-filtering](#)[Apply filter edits to alerts](#)

2022-11-14

Today

21,658,614

Total Revenue



2,440,711

Total Passenger

6,278

Total Rides



Total Rides on Map



Total Counts per Minute



Add Filters Settings

New York Taxi

2022-11-01 Today

21,658,6 Total Revenue

Passenger Count

0,711 passenger

278 Rides

Map: North Bergen, Jersey City

Add Filter

Filter by

Advanced

Bigquery Datasets

- Nyc Taxi
 - Nyc Taxi
 - Go Back
 - Latitude
 - Location
 - Longitude
 - Meter Increment
 - Meter Reading
 - Passenger Count**
 - Point Idx

Cancel **Add**

Shared
New York Taxi
2022-11-
Today
21,658,6
Total Revenue
0,711
Passenger
278
Rides

Add Filter: Passenger Count

Filter by

Bigquery Datasets - Nyc Taxi - Passenger Count Advanced

Settings Tiles To Update

Title: Passenger Count Configure Default Value: 0 to 100

Control: Range Slider Additional options

Display: Inline Popover

Min Max

Cancel Add

40

Add Filters Settings

Cancel Save

Add Filter: Passenger Count

Filter by

Bigquery Datasets - Nyc Taxi - Passenger Count

Advanced

Settings Tiles To Update

All None

- Today
- NYC Taxi
- Total Passenger
- Total Revenue
- Total Rides
- Total Distance in Miles

Field to Filter

- Nyc Taxi - Passenger Count

Cancel

Add

Add Filters Settings

Shared New York Taxi 2022-11-01 21,658,600 Total Revenue 278 Total Rides

Map showing locations like Cliffside Park, North Bergen, and Union City.

Add Filter: Passenger Count

Filter by: Bigquery Datasets - Nyc Taxi - Passenger Count Advanced

Tiles To Update

All None

Today

NYC Taxi

Total Passenger

Total Revenue

Total Rides

Total Distance (in Miles)

Field to Filter

Passenger Count

Do Not Filter

Passenger Count

Nyc Taxi

Nyc Taxi

Passenger Count

Total Dropoff Passenger Count

Total Enroute Passenger Count

Total Pickup Passenger Count

Cancel Save

0,711 passenger

278

[Add](#) [Filters](#) [Settings](#)

[Cancel](#)

[Save](#)

Shared

New York Taxi

[Update](#)



Passenger Count:

2022-11-14

Today

21,658,614

Total Revenue

2,440,711

Total Passenger

6,278

Total Rides



Total Rides on Map



Total Counts per Minute



Content Curation

Looker

Explore Develop Admin

Shared folders

Recently Viewed

Favorites

- Business Pulse '21
- New York Taxi
- Yearly Revenue
- Order data by product categ...
- Current product count by ca...
- Ecommerce

Development Mode

Your organization's folders

New

Sort by Name

Customer Metrics Example Folder Human Resources

Dashboards

Sort by Name

Name	Views	Created by	Favorites	...
Business Pulse	62	Created by	0	...
Business Pulse '21	25	Created by	1	...
Citi bike stations with more than thirty bikes	13	Created by	1	...

Looker

Explore Develop Admin

Shared folders

- Recently Viewed
- Favorites
- Boards
 - Lab exercise
- Create a new board
- Browse all boards

Folders

Customer Metrics Example Folder Human Resources

Dashboards

Sort by Name

Name	Views	Created by	Favorite	...
Business Pulse	65	Created by		
Business Pulse '21	85	Created by		
Citi bike stations with more than thirty bikes	13	1 Favorite, Created by		

Sort by Name

Development Mode

Looker

Explore Develop Admin

Shared folders Recently Viewed Favorites Boards Lab exercises Folders Blocks Applications Development Mode

Your organization's folders

Folders contain Dashboards and Looks for specific groups of people. You can copy, move, or save Dashboards and Looks to a folder. [Learn more](#)

New

Create board

Name: New board

Create board

Sort by Name

San Resources

Sort by Name

Favorites

Business Pulse 21

Citi bike stations with more than thirty bikes

Looker

Explore Develop Admin

Shared folders Recently Viewed Favorites Boards Lab exercises Folders Blocks Applications Development Mode

Your organization's folders

Folders contain Dashboards and Looks for specific groups of people. You can copy, move, or save Dashboards and Looks to a folder. [Learn more](#)

New

Create board

Name: New board

Create board

Sort by Name

San Resources

Sort by Name

Favorites

Business Pulse 21

Citi bike stations with more than thirty bikes

33

Looker

Explore Develop Admin Shared folders Recently Viewed Favorites Boards Business Analysis Lab exercises Folders Blocks Development Mode

Business Analysis

Untitled section Add description...

Add content

Saved content URL Link

New section

About this board

1 person added this board

Description

Add a description

Created

Created by you on November 14, 2022

Contributors (1)

ss

≡ ⚙️ Looker

Develop

Admin

Shared folders

Recently Viewed

Favorites

Boards

- Business Analysis

Lab exercises

Folders

Blocks

Applications

Development Mode

☰

Business Analysis

Add saved content to Business Analysis

Shared

Filter by title...

My folder

Customer Metrics

Example Folder

Users

Human Resources

LookML dashboards

- Business Pulse
- Business Pulse '21
- Citi bike stations with more than thirty bikes
- Current Conditions
- Looker Connect learning
- My Dashboard
- New York Taxi
- New York Taxi Details

About this board

1 person added this board

Description

Add a description

Created

Created by you on November 14, 2022

Contributors (0)

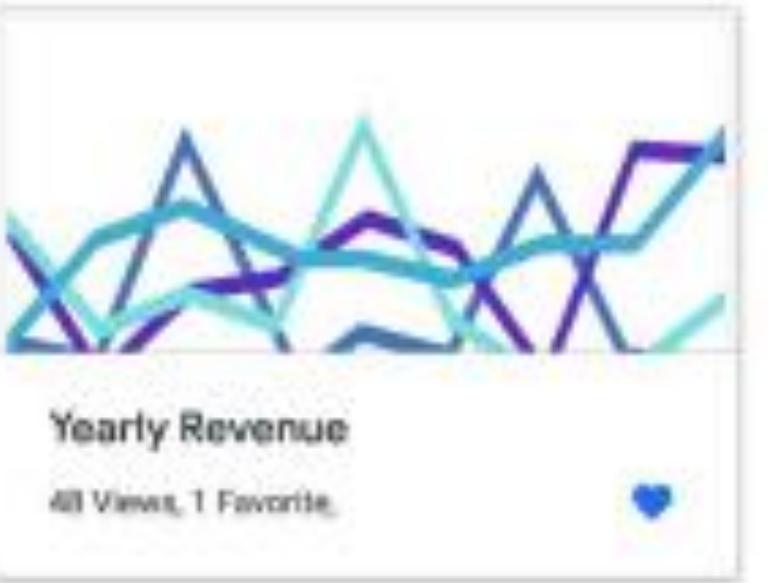
00

☰ Looker

Develop Admin Shared folders Recently Viewed Favorites Boards Business Analysis Lab exercises Folders Blocks Applications Development Mode

Business Analysis

Business Analysis Looks Add description...



Yearly Revenue
All Views, 1 Favorite.

Business Analysis dashboards Add description...

About this board

1 person added this board

Description Add a description

Created Created by you on November 14, 2022

Contributors (1)

BB

Shared

Example Sankey

10 rows · 1s · just now

Run

Edit



Shared folders

Recently Viewed

Favorites

Business Pulse '21

New York Taxi

Yearly Revenue

Order data by product category

Current product count by category

Ecommerce

Looker Connect learning

Most popular brands by month

Citi bike stations with more than 1000 bikes

Visualization

Recent | Explore from Here



Detail

Deact.

Sched.

On Da.

Save...

Download

Open in Data Studio

Add to a board

Send

Schedule

Share

Get LookML

Edit settings

Merge results

Clear cache and refresh

Looker

Shared - Examples

Shared folders

Recently Viewed

Favorites

Business Pulse '21

New York Taxi

Yearly Revenue

Order data by product category

Current product count by category

Ecommerce

Looker Connect learning

Most popular brands by month

Citi bike stations with more than 1000 bikes

Development Mode

Data

Add Example Sankey to a board

Select a board
Business Analysis

Select a section in the board
Business Analysis Looks

Cancel Add

10 rows · 1s · 8m ago Run Edit

Details

Description: None Edit

Scheduled: No Create Schedule

On Dashboards: No Add to Dashboard

[Shared folders](#)[Recently Viewed](#)[Favorites](#)[Business Pulse '21](#)[New York Taxi](#)[Yearly Revenue](#)[Order data by product category](#)[Current product count by category](#)[Ecommerce](#)[Looker Connect learning](#)[Most popular brands by month](#)[Citi bike stations with more than 100 bikes](#)[Development Mode](#) Shared
New York Taxi

2022-11-14

Today

21,658,614

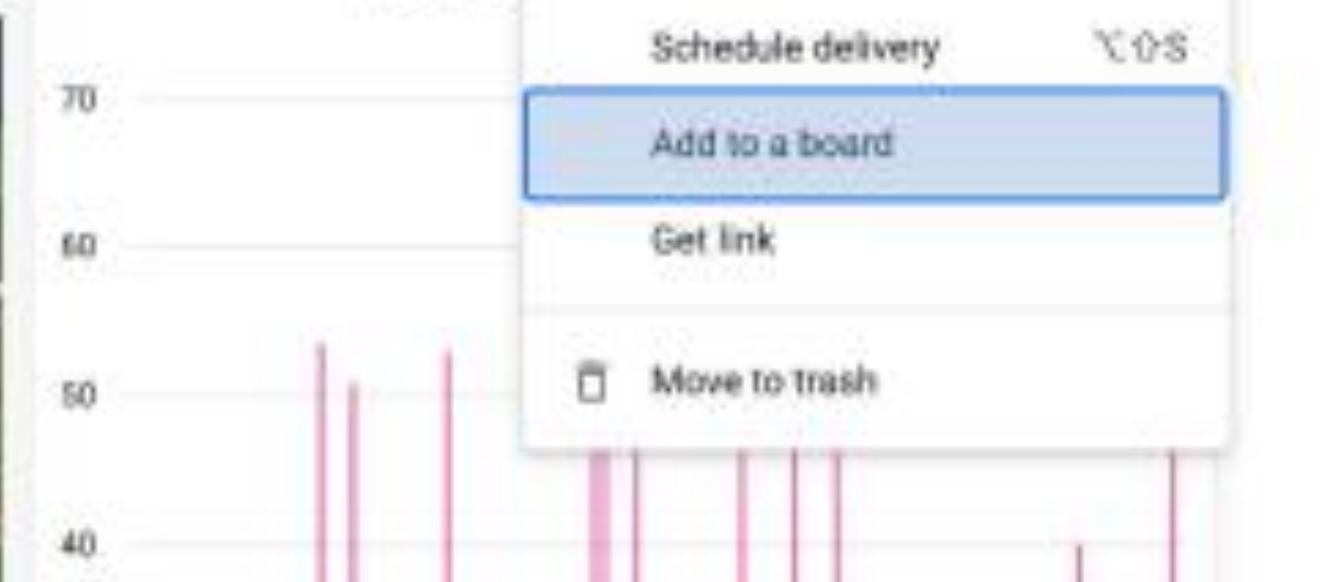
Total Revenue



Total Rides on Map



Total C



Clear cache and refresh

Edit dashboard

[Show dashboard details](#)[Copy dashboard](#)[Get LookML](#)

Download

Schedule delivery

[Add to a board](#)[Get link](#) Move to trash

Shared folders

Recently Viewed

Favorites

Business Pulse '21

New York Taxi

Yearly Revenue

Order data by product category

Current product count by category

Ecommerce

Looker Connect learning

Most popular brands by month

Citi bike stations with more than 1000 bikes

Development Mode

Shared
New York Taxi

2022-11-14

Today

21,658,614

Total Revenue

Total



Add to Boards

Search all boards

Selected

Clear all

 Business Analysis

You

 Business Analysis Looks Business Analysis dashboard Business Analysis dashboards Lab exercises

You

 Business Analysis

You

 E-commerce Marketing

You

Include custom filter values

Cancel

Add

40,711

Passenger

,278

Total Rides

Rate



Develop

Admin

Shared folders

Recently Viewed

Favorites

Boards

Business Analysis

Lab exercises

Folders

Blocks

Applications

Development Mode

Manage access to this board

Share this board with someone:

https://

looker.com/boards/14

[Copy URL](#)

Who can access this board?

Admins

[Manage Access, Edit](#)



(You)

[Manage Access, Edit](#)

All Users

62 users

[View](#)

Add group or user...

[View](#)

[Add](#)

Email the people you have just added

[Cancel](#)

[Save](#)

About this board

1 person added this board

Description

[Add a description](#)

Created

Created by you on November 14, 2022

Contributors (0)



☰ Looker

Develop Admin

Shared folders Recently Viewed Favorites Boards + Business A Lab exercises Create a new board Browse all boards Folders Blocks Applications Development Mode ⓘ

Business Analysis

Business Analysis Looks Add description...



Yearly Revenue
All Views, 1 Favorite. ❤

Business Analysis dashboards

Add description...

About this board ×

1 person added this board

Description Add a description

Created Created by you on November 14, 2022

Contributors (1)

BB

☰ Looker

↔ Develop

Admin

Shared folders

Recently Viewed

Favorites

Boards

Business Analysis

Lab exercises

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Blocks

Applications

Development Mode

Find boards at your organization

Show all boards Sort by name

Business Analysis
Created by you on November 14, 2022

E-commerce Marketing
Created by [redacted] on February 16, 2021

First Board
Go to board Add

Lab exercises
Created by you on October 20, 2021

New board

+ Create a new board

about this board

1 person added this board

description

add a description

rated

rated by you on November 14, 2022

contributors (1)

Looker

Develop Admin Shared folders Recently Viewed Favorites Boards Business Analysis Business Analysis Looks Business Analysis dash... Lab exercises Folders Blanks Development Mode

Your organization's folders

Folders

Customer Metrics Example Folder Human Resources

Sort by Name

Dashboards

Business Pulse Business Pulse '21 Citi bike stations with more than thirty bikes

Sort by Name

Business Pulse 65 Views, Created by Business Pulse '21 35 Views, 1 Favorite, Created by Citi bike stations with more than thirty bikes 13 Views, 1 Favorite, Created by

New

⋮

⋮

⋮

⋮

⋮

Board Creation Example

~~Secant lines~~

~~Tangent lines~~

~~$f(x) = \lim_{h \rightarrow 0} \frac{f(x+h) - f(x)}{h}$~~

$f(x) = \lim_{h \rightarrow 0} \frac{f(x+h) - f(x)}{h}$

$f(x) = \lim_{h \rightarrow 0} \frac{(x+h)^2 - x^2}{h}$

$= \lim_{h \rightarrow 0} \frac{x^2 + 2xh + h^2 - x^2}{h}$

$= \lim_{h \rightarrow 0} \frac{2xh + h^2}{h}$

$f(x) = \lim_{h \rightarrow 0} 2x + h$

$f(x) = 2x$

Looker

Explore Develop Admin

Shared folders

- Recently Viewed
- Favorites
- Boards
 - Lab exercise
- Create a new board
- Browse all boards

Folders

Customer Metrics Example Folder Human Resources

Dashboards

Name	Views	Created by	Favorite	...
Business Pulse	65	Created by		
Business Pulse '21	55	Created by		
Citi bike stations with more than thirty bikes	13	1 Favorite, Created by		

Development Mode

≡ ⚙ Looker

⟳ Develop

👤 Admin

↳ Shared folders

- ⌚ Recently Viewed
- ❤ Favorites
- ↳ Boards
 - Business Analysis
 - Business Analysis Looks
 - Business Analysis dash...
 - Lab exercises
- ↳ Folders
- ↳ Blocks

Development Mode ⓘ

Your organization's folders

Folders contain dashboards and looks for specific groups of people. You can copy, move, or save dashboards and looks to a folder. ⓘ

New

Sort by Name ↑ ↓

an Resources

Sort by Name ↑ ↓

Favorite

Create board

Name: Ecommerce Marketing

Create board

Business Pulse '23

63 views, 0 favorites, Created by

Citi bike stations with more than thirty bikes

23 views, 7 favorites, Created by

The screenshot shows the Looker web application interface. On the left, there's a sidebar with navigation links like 'Shared folders', 'Recently Viewed', 'Favorites', 'Boards' (which is expanded to show 'Business Analysis' and 'Lab exercises'), 'Folders', 'Blocks', and 'Development Mode'. The main area is titled 'Your organization's folders' and contains a modal window for creating a new board. The modal has a title 'Create board', a text input field with the value 'Ecommerce Marketing', and a blue 'Create board' button. Below the modal, there are two dashboard cards: 'Business Pulse '23' and 'Citi bike stations with more than thirty bikes'. Each card has a small preview image, a title, a view count, a favorite count, and a 'Created by' link.

☰ Looker

Develop Admin Shared folders Recently Viewed Favorites Boards Business Analysis Business Analysis Looks Business Analysis dash... Ecommerce Marketing Lab exercises Folders Development Mode ?

Ecommerce Marketing

Overall business Add description...

Add content.

New section

About this board X

1 person added this board

Description

Add a description

Created

Created by you on November 14, 2022

Contributors (1)

ss

☰ Looker

Develop Admin

Shared folders Recently Viewed Favorites Boards Business Analysis Ecommerce Marketing Lab exercises

_folders Development Mode ?

Ecommerce Marketing

Overall business Add description...

Business Pulse

65 Views, By

New section

About this board X

1 person added this board

Description

Add a description

Created

Created by you on November 14, 2022

Contributors (1)

88



Developer

Admin

Shared folders

Recently Viewed

Favorites

Boards

Business Analysis

Business Analysis Looks

Business Analysis dash..

Ecommerce Marketing

Lab exercises

Printers

Development Mode

Manage access to this board

Share this board with someone:

https://

looker.com/boards/16

[Copy URL](#)

Who can access this board?

Admins

[Manage Access, Edit](#)



(You)

[Manage Access, Edit](#)



All Users

62 users

[View](#)



Add group or user...

[View](#)



Email the people you have just added

[Cancel](#)

[Save](#)

About this board

1 person added this board

Description

[Add a description](#)

Created

Created by you on November 14, 2022

Contributors (0)





Customizing Explores

Displaying dimensions horizontally

Looker

Fruit Basket Count | Fruit Basket Is Round | Fruit Basket Count

yellow	no	5
orange	yes	2
red	yes	2
green	no	2
green	yes	1

Fruit Basket

Find a Field

Start typing to search

All Fields In Use

+ Add

- Custom Fields
- Fruit Basket 1
 - DIMENSIONS
 - Color
 - Fruit Type
 - Is Round
 - Price
 - Price per Pound
 - Weight

Displaying dimensions horizontally

Looker

[Fruit Basket Count](#) | [Fruit Basket Is Round](#) | [Fruit Basket Count](#)

Fruit Basket Is Round	yes	no
Fruit Basket Color	Fruit Basket Count	Fruit Basket Count
orange	2	0
red	2	0
green	1	2
yellow	0	5

Dimension results become
new column headers



Looker

Fruit Basket Count | Fruit Basket Is Round | Fruit Basket Count

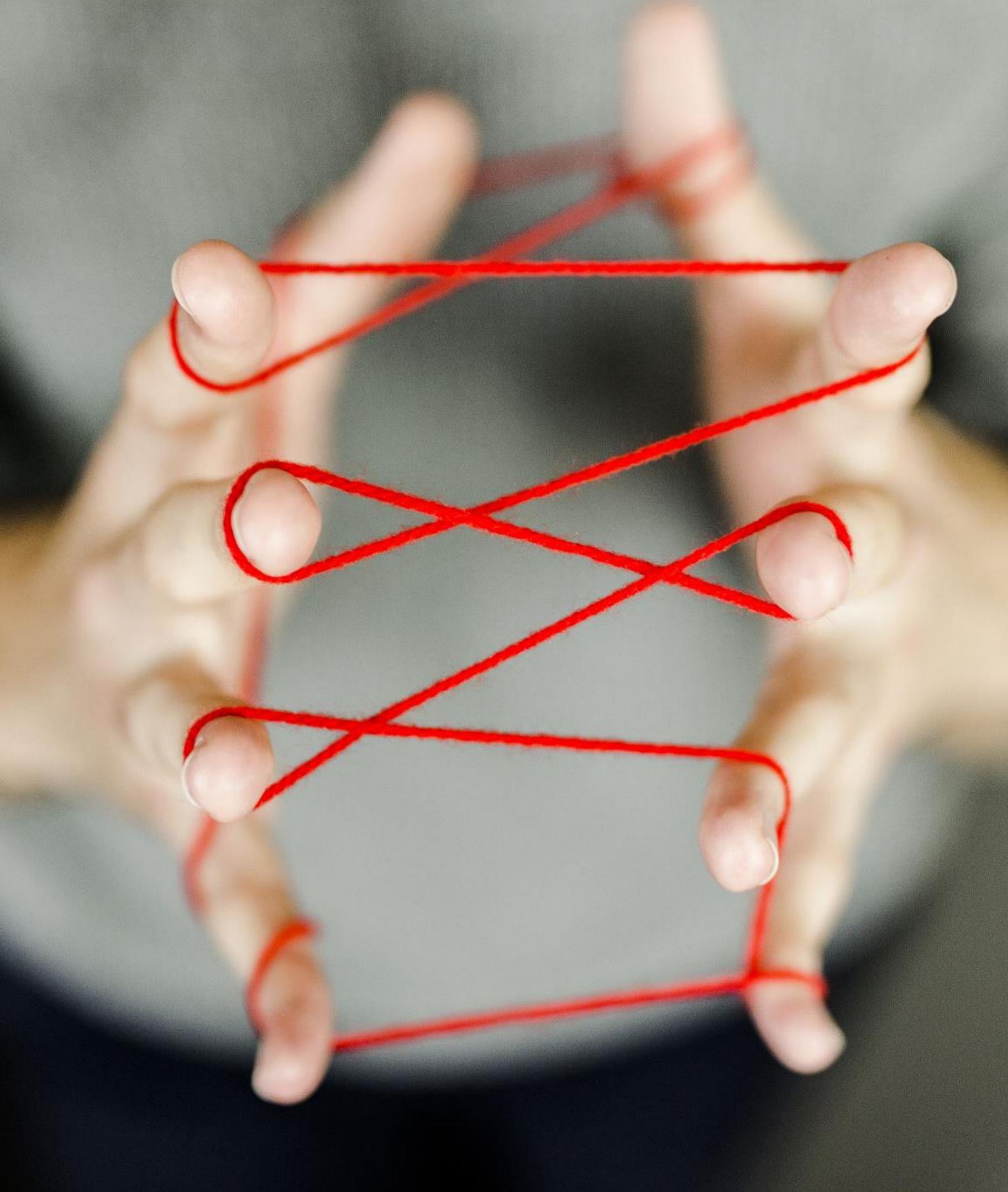
Fruit Basket Is Round	yes	no
Fruit Basket Color	Fruit Basket Count	Fruit Basket Count
orange	2	0
red	2	0
green	1	2
yellow	0	5

Pivoting empower the creation of a data matrix

Looker

[Fruit Basket Count](#) | [Fruit Basket Is Round](#) | [Fruit Basket Count](#)

Fruit Basket Is Round	yes	no
Fruit Basket Color	Fruit Basket Count	Fruit Basket Count
orange	2	0
red	2	0
green	1	2
yellow	0	5



Pivots Example

≡  Looker

Explore

Find an Explore

- Bigquery Datasets
- Cls Fruit Basket
- E-Commerce
 - Inventory Items
 - Order Items
 - Products
 - Users
- E-Commerce Training
 - E-commerce Training Advanced
 - E-commerce Analytics
- Development Mode 

Your organization's folders

Folders contain Dashboards and Looks for specific groups of people. You can copy, move, or save Dashboards and Looks to a folder. 

New  

Sort by Name  

Customer Metrics Example Folder Human Resources

Dashboards

Sort by Name   88

Name  Favorite 

Icon	Name	Views	Created by	Favorite	More
	Business Pulse	65	Created by		
	Business Pulse '21	35	1 Favorite, Created by		
	Citi bike stations with more than thirty bikes	13	1 Favorite, Created by		

Looker

Explore

Will process 2.24 MB Run

Order Items

Find a Field

All Fields In Use

Order Number, Sale Price, Shipped Date, Status, User ID

Average Sale Price, Average Spend per User, Order Count, Order Item Count, Total Revenue

Press "Run" to explore this data.

96 fields Go to LookML

Filters Visualization Data Results SQL Add calculation Row Limit: 500 Totals

This screenshot shows the Looker Explore interface. On the left, a sidebar titled 'Order Items' displays a search bar and a list of fields categorized into 'All Fields' and 'In Use'. Under 'In Use', fields like Order Number, Sale Price, Shipped Date, Status, and User ID are listed. Below these, under 'MEASURES', are Average Sale Price, Average Spend per User, Order Count, Order Item Count, and Total Revenue. The 'Total Revenue' field is highlighted with a blue border. On the right, the main workspace shows a single result row for 'Order Items Total Revenue'. At the top right, there are various navigation icons. A status bar at the bottom indicates 'Will process 2.24 MB' and includes a 'Run' button, a row limit selector set to 500, and a 'Totals' checkbox. A message at the bottom center says 'Press "Run" to explore this data.'

≡  Looker

Explore

Will process 2.24 MB [Run](#)

Order Items

Find a Field [X](#)

All Fields In Use

- Inventory Items
 - DIMENSIONS
 - Product Category
- Products
 - DIMENSIONS
 - Category

98 fields [Go to LookML](#)

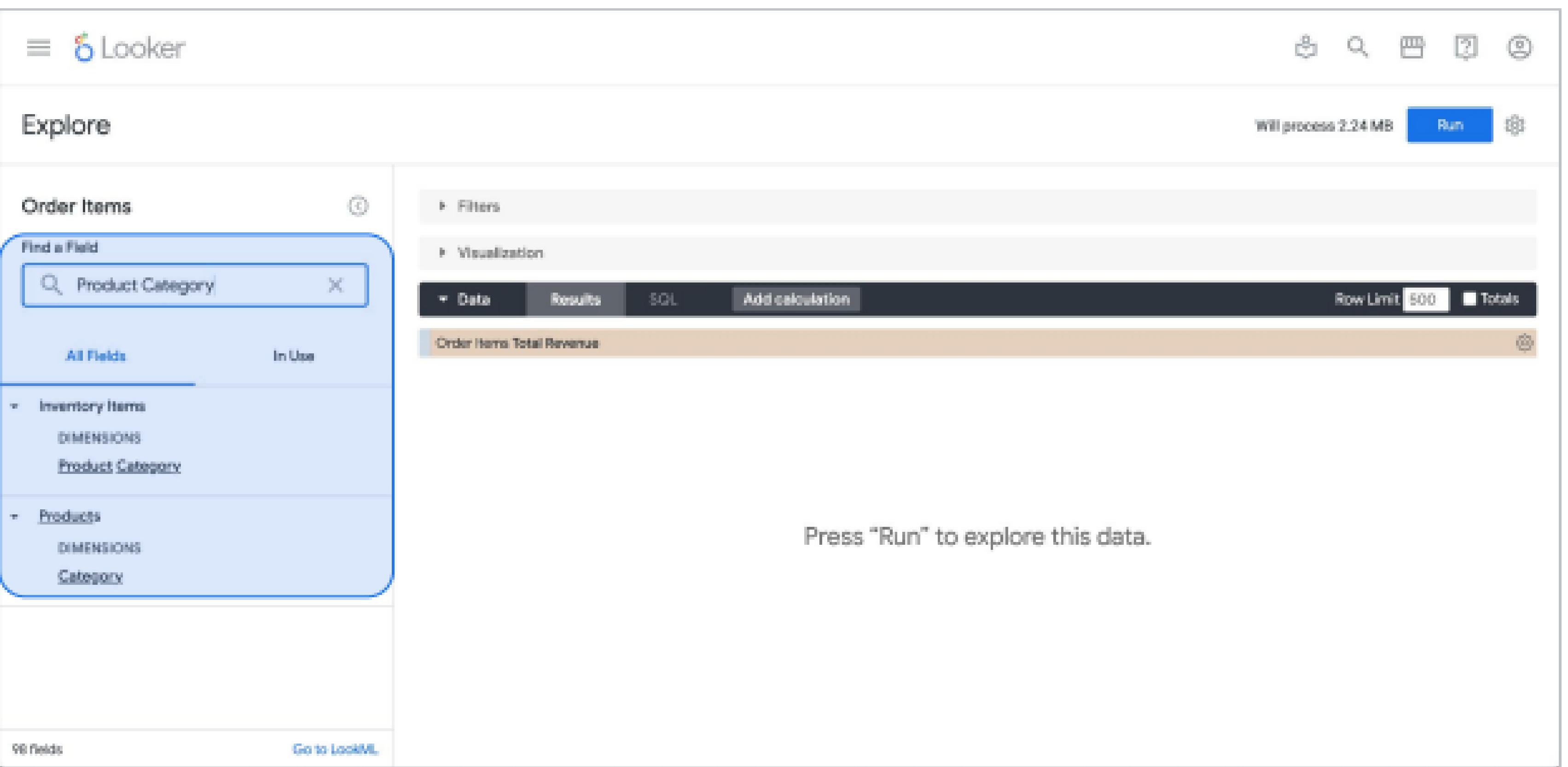
Filters

Visualization

Date Results SQL Add calculation Row Limit 500 Totals

Order Items Total Revenue

Press "Run" to explore this data.



≡  Looker

Explore

Will process 14.15 MB Run

Order Items (1)

Find a Field

All Fields In Use

Inventory Items (1)

DIMENSIONS Product Department Pivot (1) (1)

Products Pivot data

DIMENSIONS Department

96 fields [Go to LookML](#)

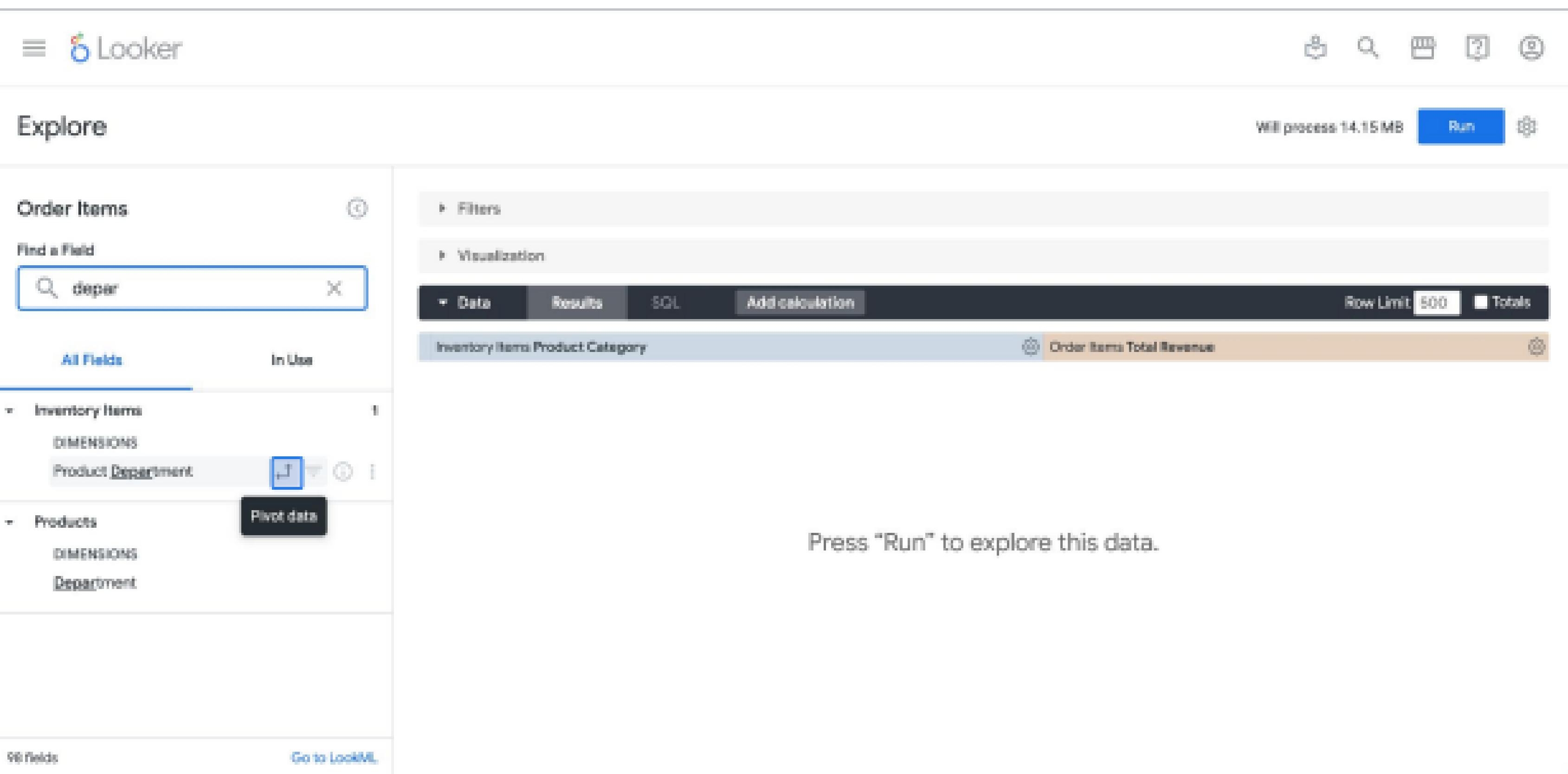
Filters

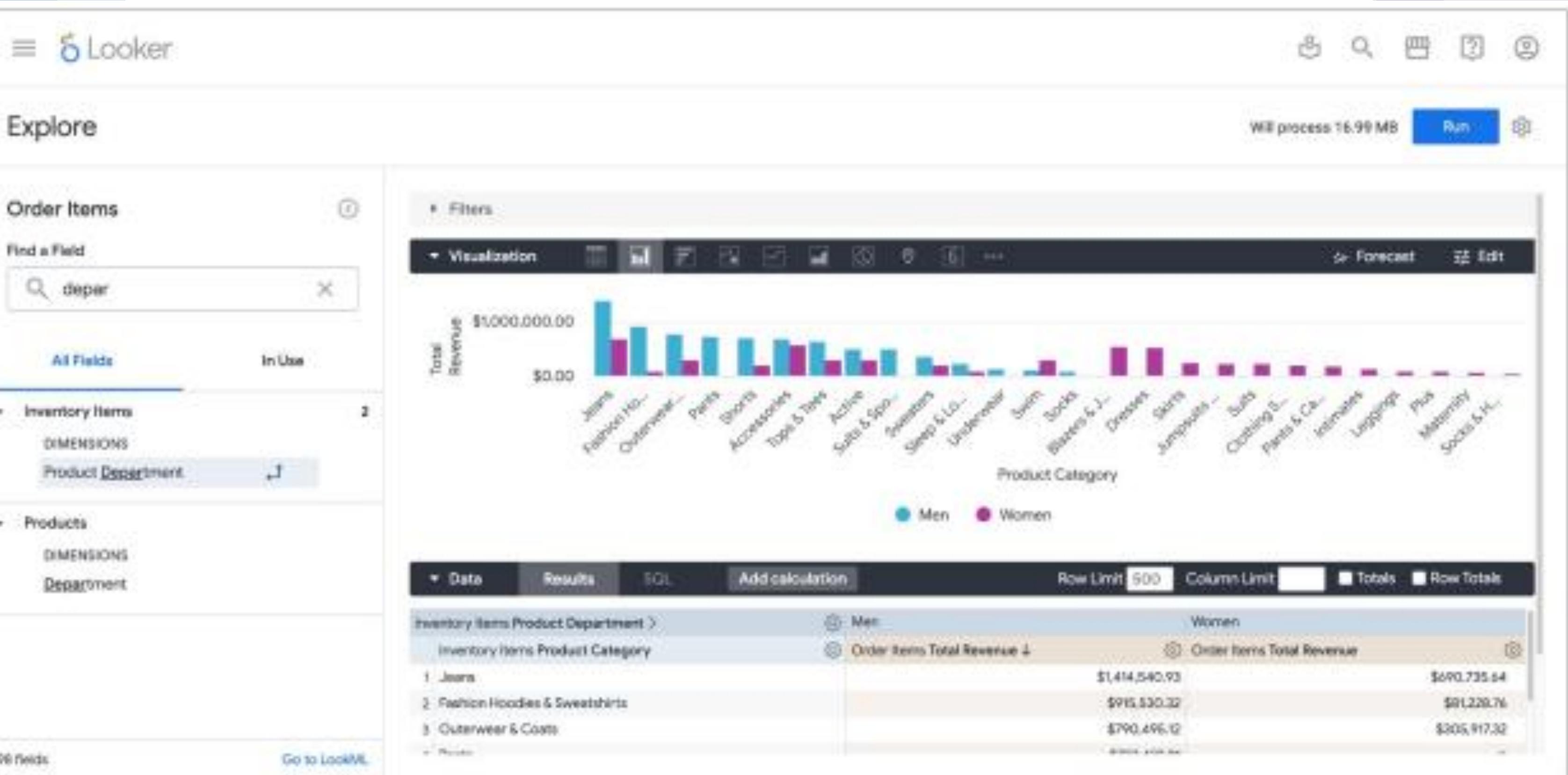
Visualization

Data Results SQL Add calculation Row Limit 500 Totals

Inventory Items Product Category Order Items Total Revenue

Press "Run" to explore this data.





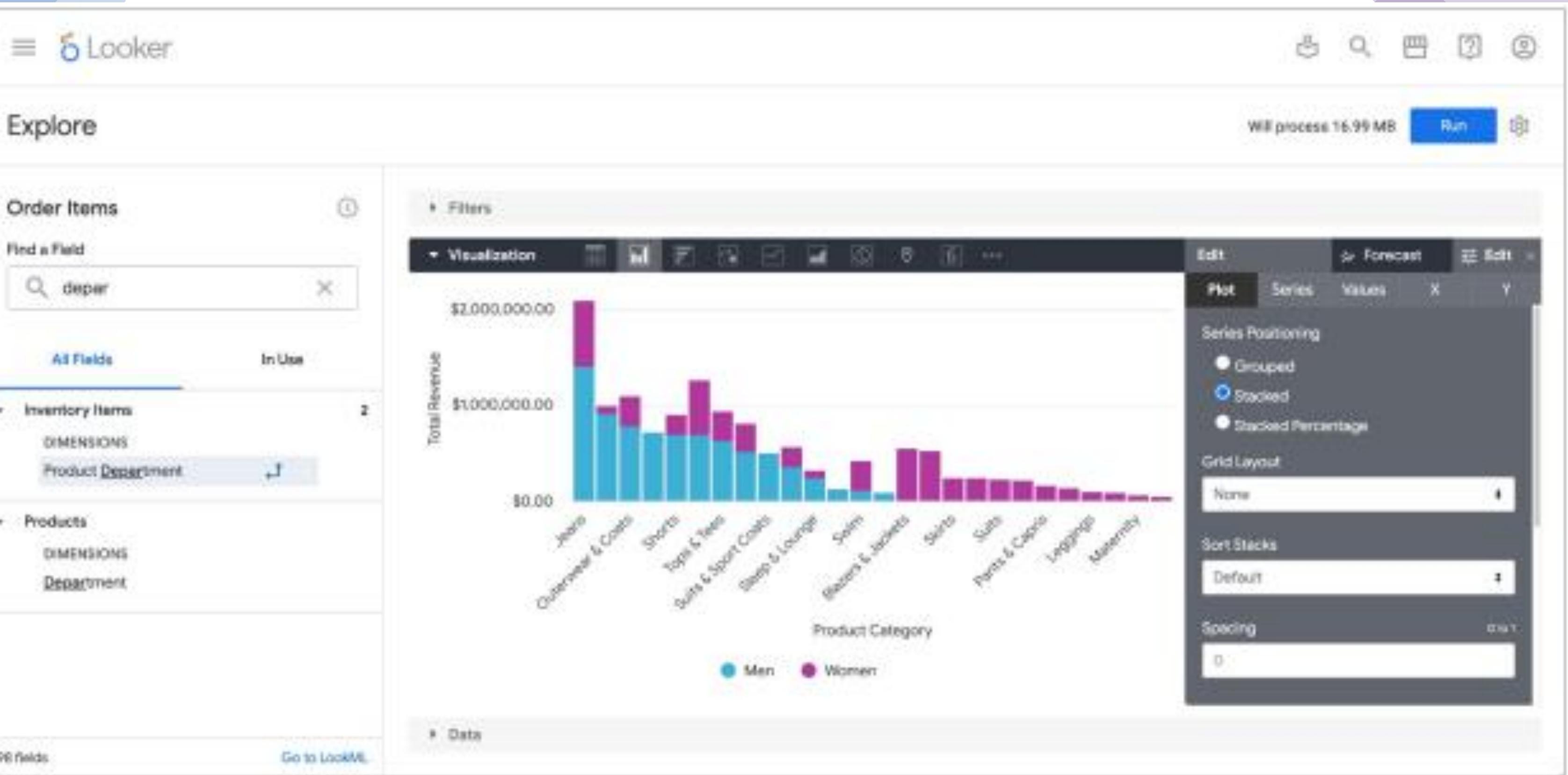


Table Calculations



A way to create on-the-fly metrics using formulas

The screenshot shows a user interface for managing data fields. At the top, there's a header for 'Flights' with a help icon and a refresh icon. Below it is a search bar with the placeholder 'Start typing to search'. There are two tabs: 'All Fields' (which is selected) and 'In Use'. Under 'Custom Fields', there is one entry: 'Percent of Flights Cancelled' (highlighted with a grey background). A '+ Add' button is shown next to the count '1'. Below this section is a heading 'TABLE CALCULATIONS'. The list of fields includes: Aircraft, Aircraft Destination, Aircraft Models, Aircraft Origin, Carriers, and Flights (with a count of 2). At the bottom, it says '111 fields' and has a link 'Go to LookML'.

Category	Field Name	Count
Custom Fields	Percent of Flights Cancelled	1
	Aircraft	
	Aircraft Destination	
	Aircraft Models	
	Aircraft Origin	
	Carriers	
	Flights	2
Total fields		111

DIY, so no need to involve a
LookML developer

Flights ⓘ

Find a Field

Start typing to search

All Fields In Use

+ Custom Fields + Add 1

TABLE CALCULATIONS

Percent of Flights Cancelled

Aircraft

Aircraft Destination

Aircraft Models

Aircraft Origin

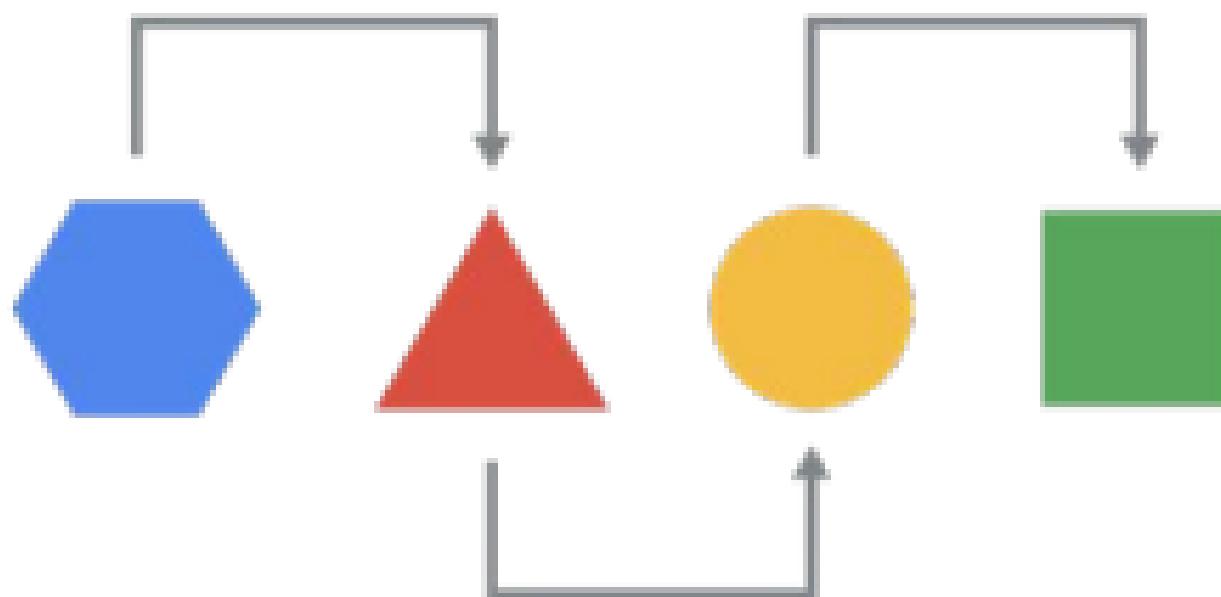
Carriers

Flights 2

111 fields Go to LookML

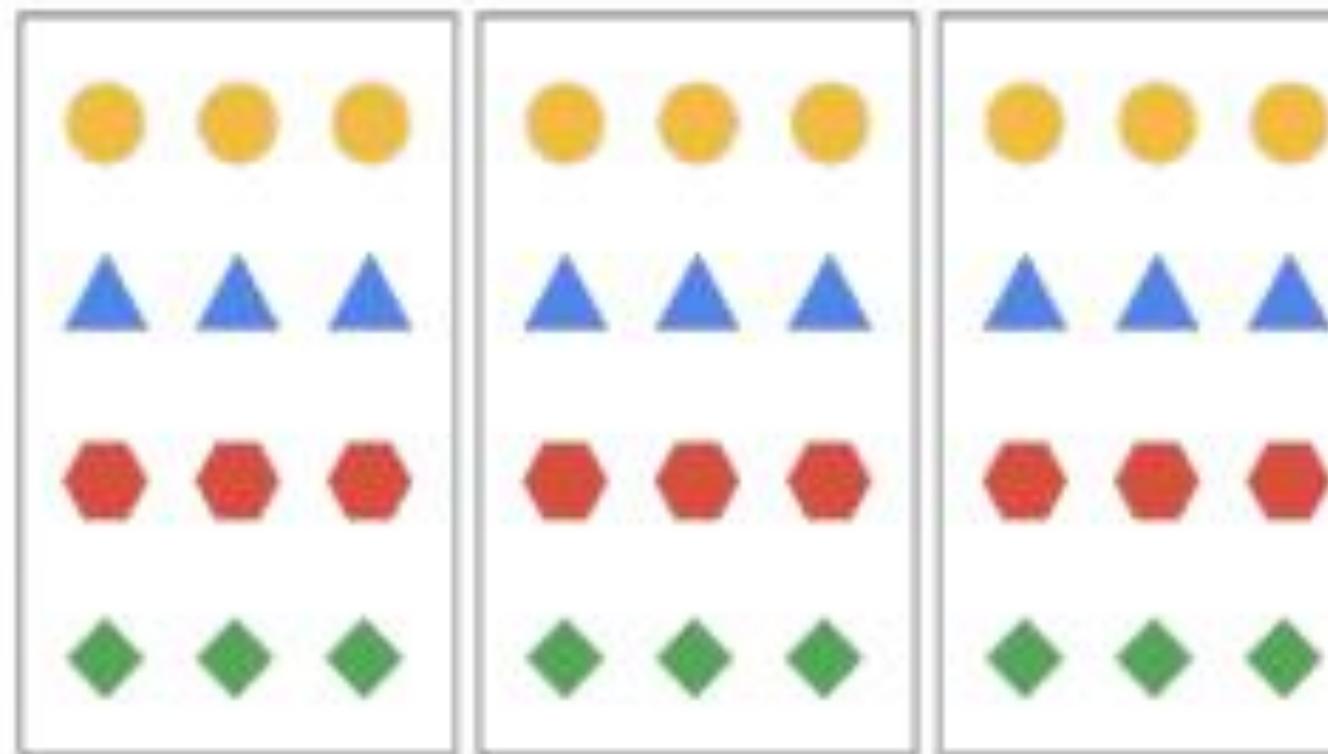
The screenshot shows the Looker interface for the 'Flights' model. At the top, there's a search bar with placeholder text 'Start typing to search'. Below it, two tabs are visible: 'All Fields' (which is selected) and 'In Use'. Under the 'Custom Fields' section, there is one entry: 'Percent of Flights Cancelled'. The main list of fields includes 'Aircraft', 'Aircraft Destination', 'Aircraft Models', 'Aircraft Origin', 'Carriers', and 'Flights'. The 'Flights' entry has a count of '2' next to it. At the bottom left, it says '111 fields', and at the bottom right, there's a link 'Go to LookML'.

Table calculation use cases



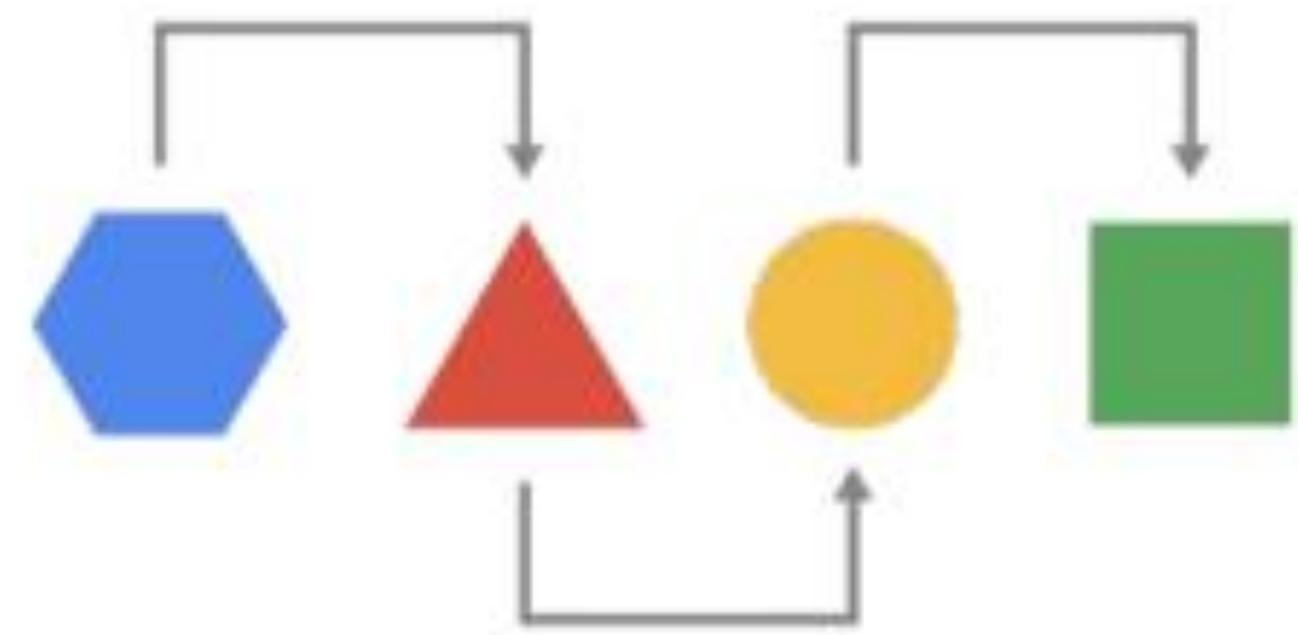
- Validate if a particular display or aggregation of data would be useful now and over time.
- Answers a specific one-off question.

Table calculation use cases



Create a tile or visualization based purely on a query's results

Types of Table Calculations



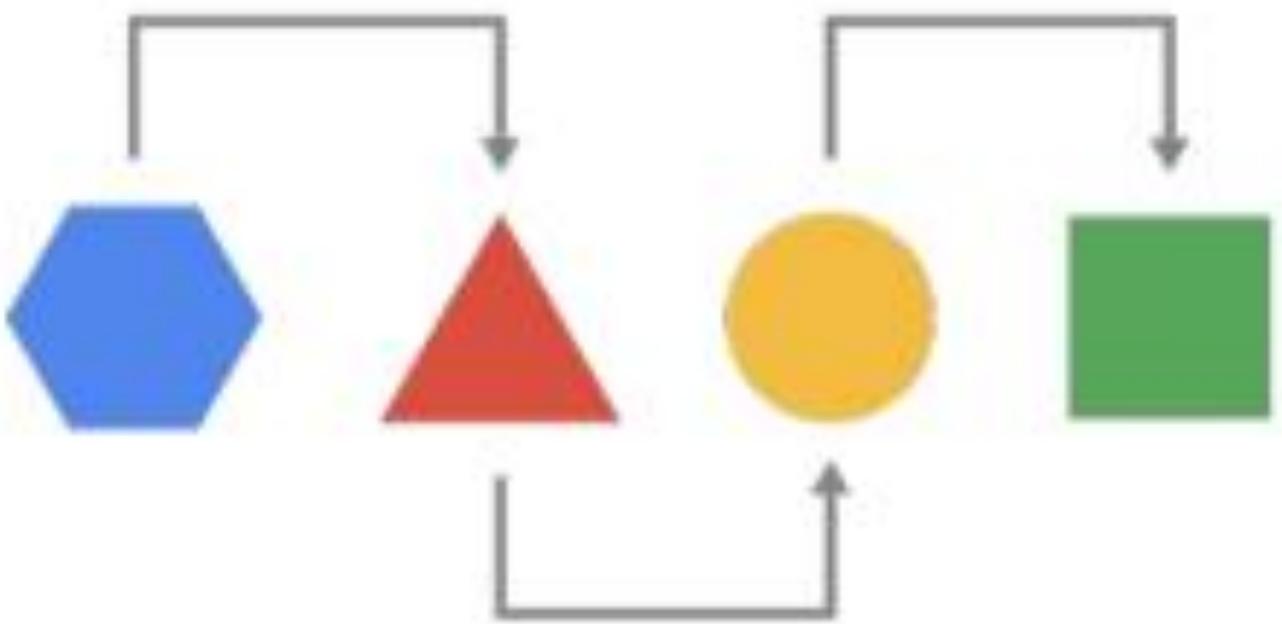
Prototyping new metrics and fields



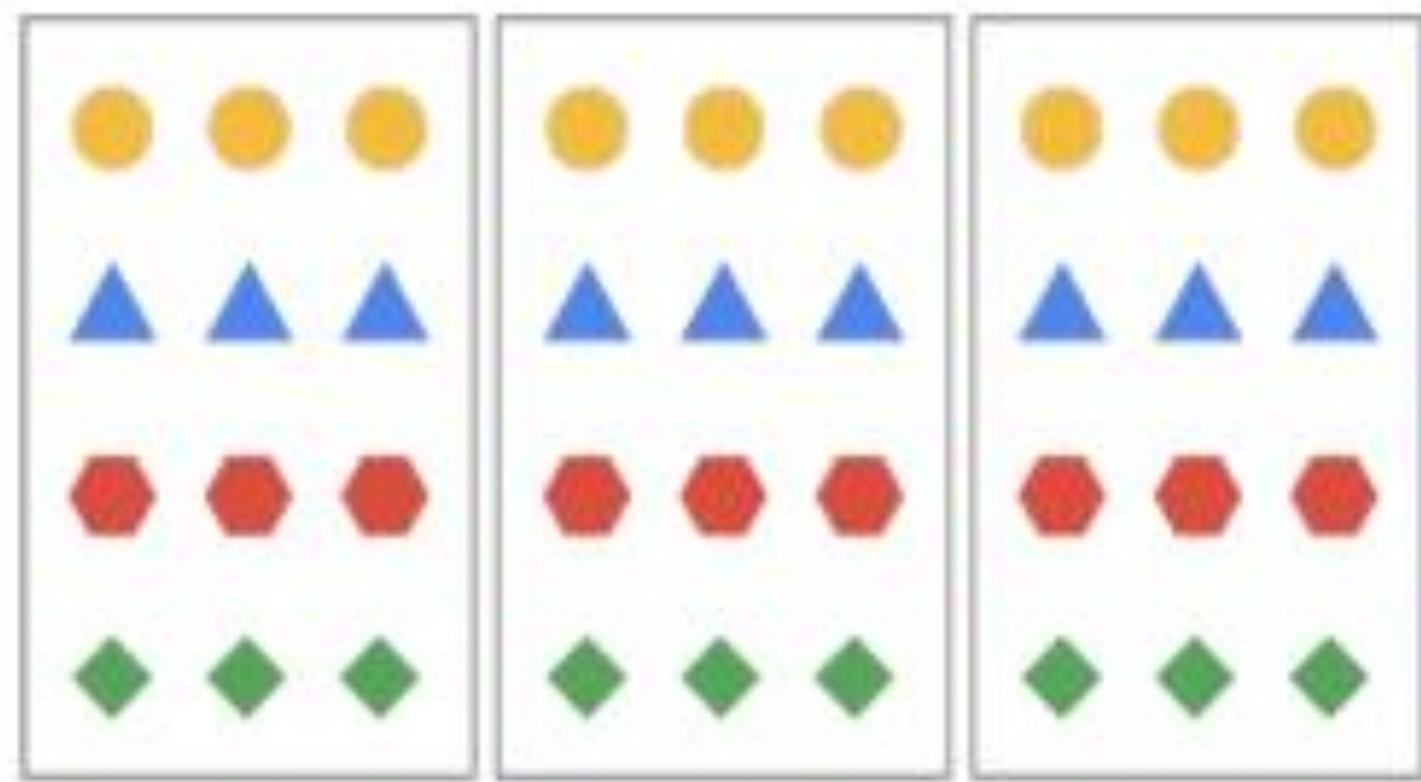
Supporting a results set

Accidents	Accidents	Accidents	Accident
Aircraft Category	Country	Count	report
1 Airplane	US	1,313	1313 Airplane accidents in US
2 Helicopter	US	141	141 Helicopter accidents in US
3 Glider	US	33	33 Glider accidents in US
4 Airplane	Brazil	7	7 Airplane accidents in Brazil
5 Airplane	UK	6	6 Airplane accidents in UK

```
concat(${accidents.count}, " ",
${accidents.aircraft_category}, "accidents in",
${accidents.country})
```

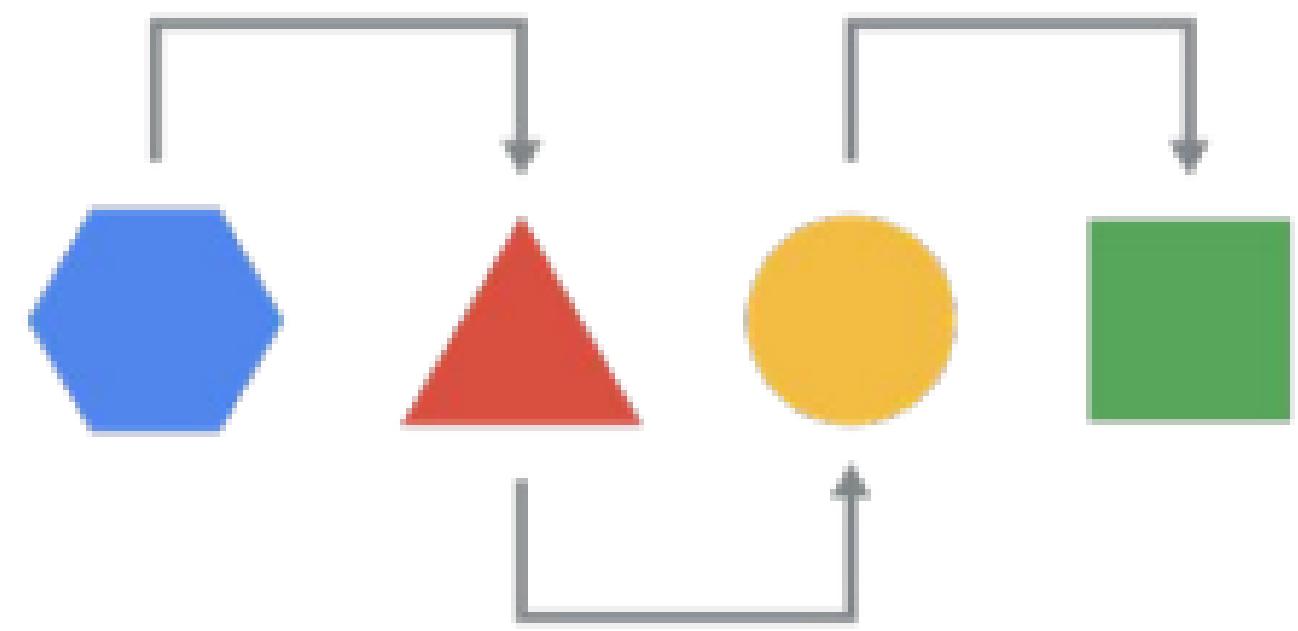


Prototyping new metrics and fields

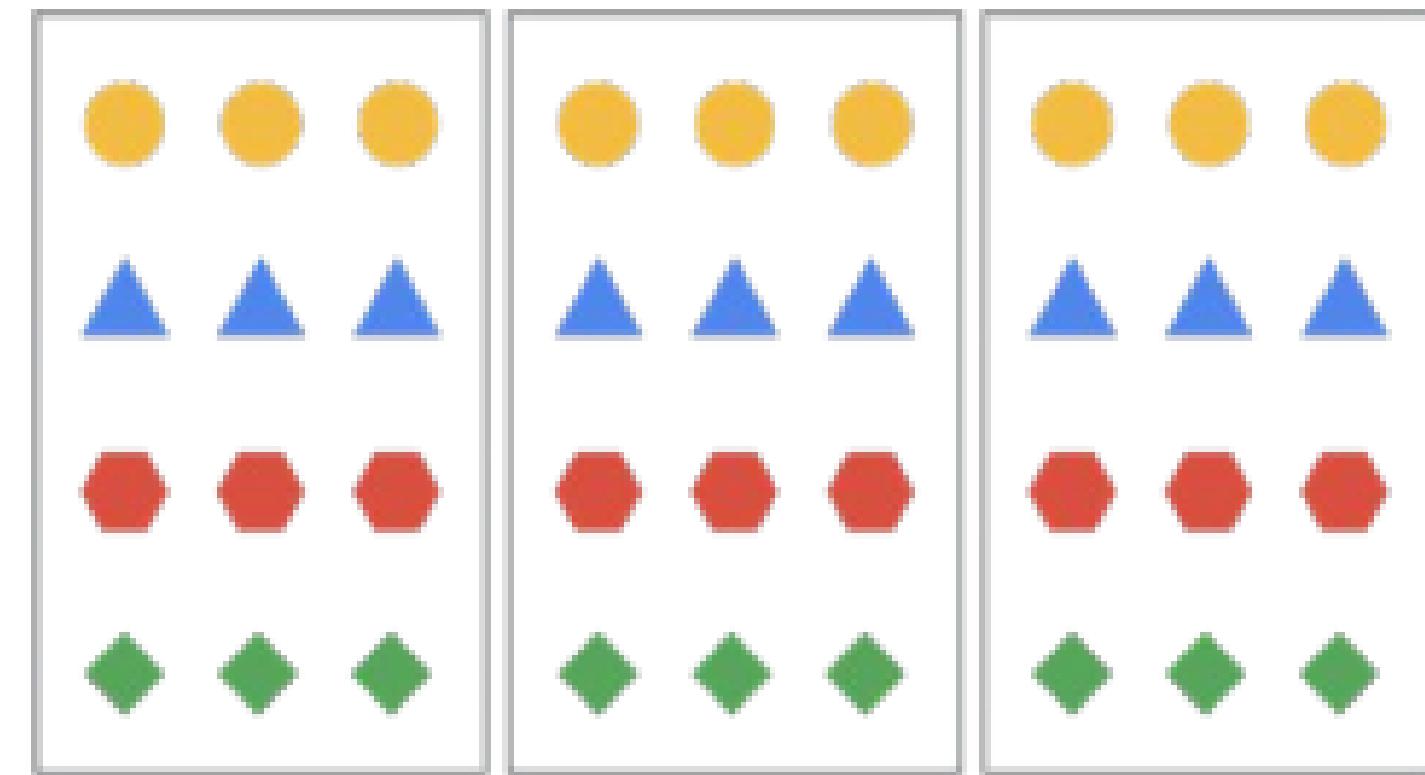


Supporting a results set

Orders	Orders	Order Amount	Average Order
Create date	Amount	Rounded	Amount
1 2015-10-22	10.15	10	106.01
2 2015-10-22	13.95	14	106.01
3 2015-10-22	15.95	16	106.01
4 2015-10-22	17.70	18	106.01
5 2015-10-22	18.38	18	106.01
<code>round(\${orders.amount}, 0)</code>			
<code>mean(\${orders.amount})</code>			

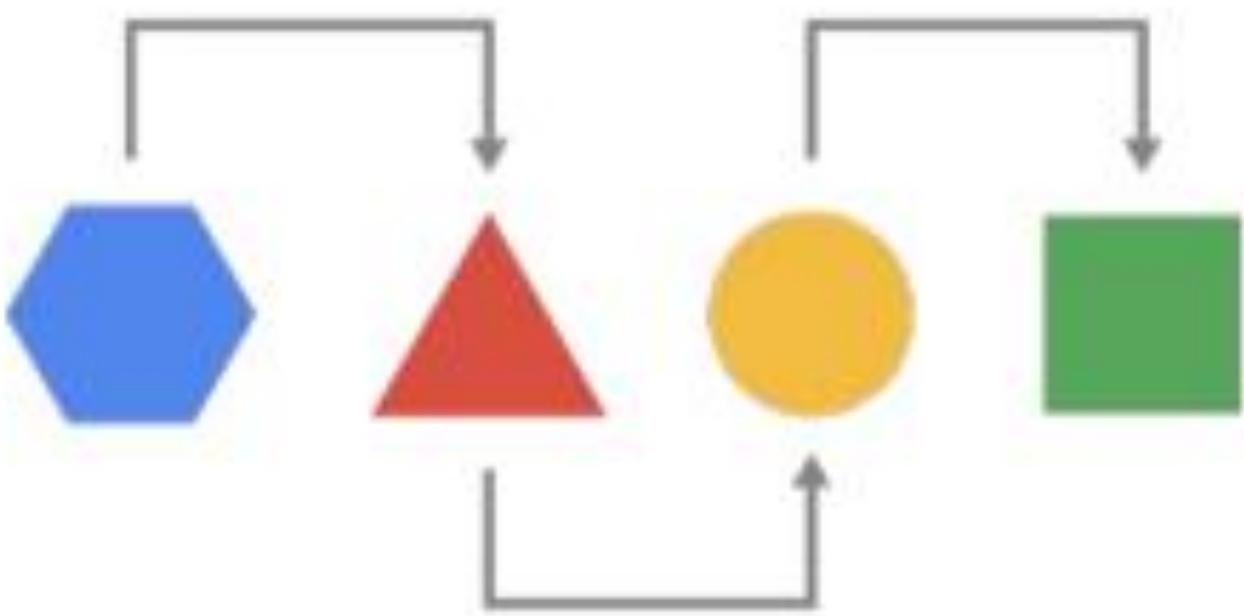


Prototyping new metrics and fields

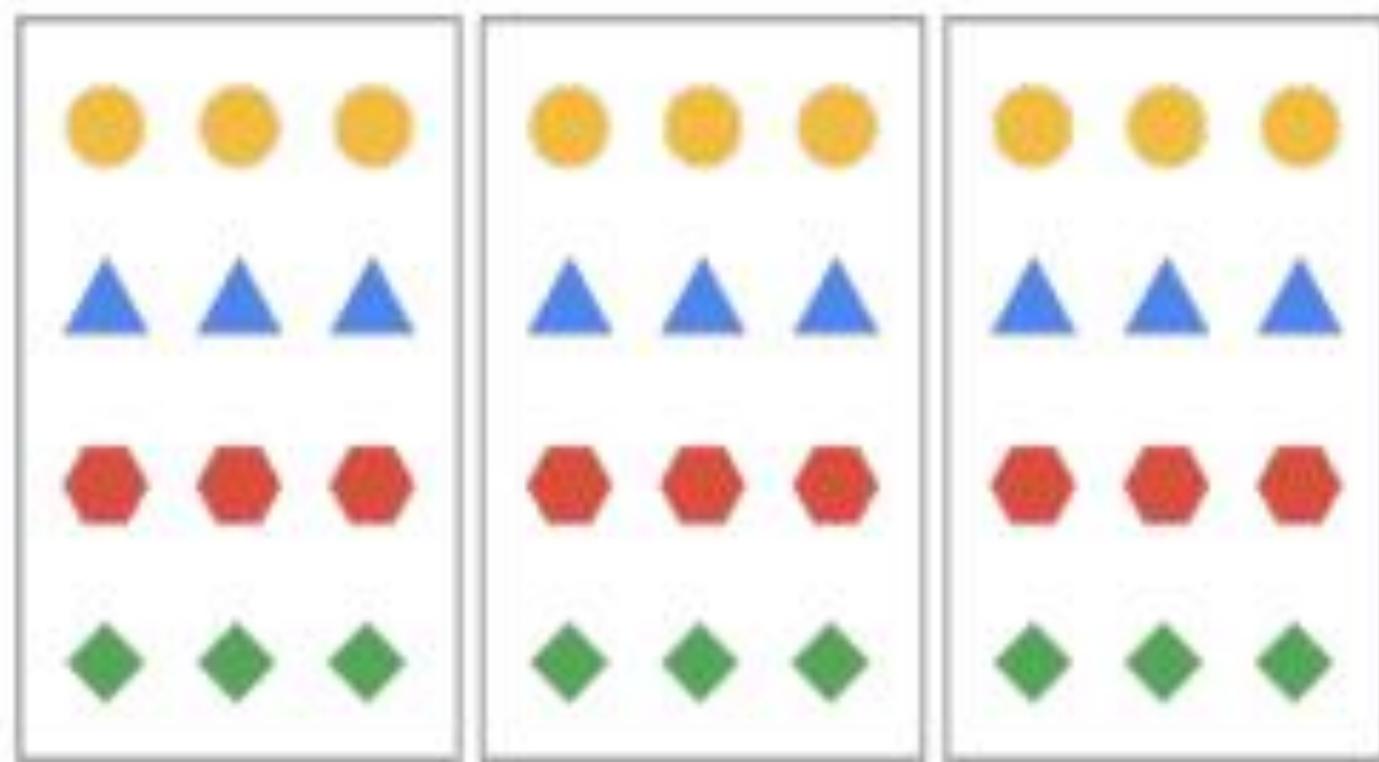


Supporting a results set

Title	Title	Title	Total Revenue	Total Budget	Profit Outcome
1	Example Movie 1		\$301.96M	250.00 M	Profitable
2	Example Movie 2		\$444.74 M	250.00 M	Profitable
3	Example Movie 3		\$255.12 M	250.00 M	Profitable
4	Example Movie 4		\$241.07 M	250.00 M	Lost Money
5	Example Movie 5		\$760.51 M	237.00 M	Profitable
if(\${movie_revenue.total_revenue}>\${movie_budget.total_budget}, "Profitable", "Lost Money")					



Prototyping new metrics and fields



Supporting a results set

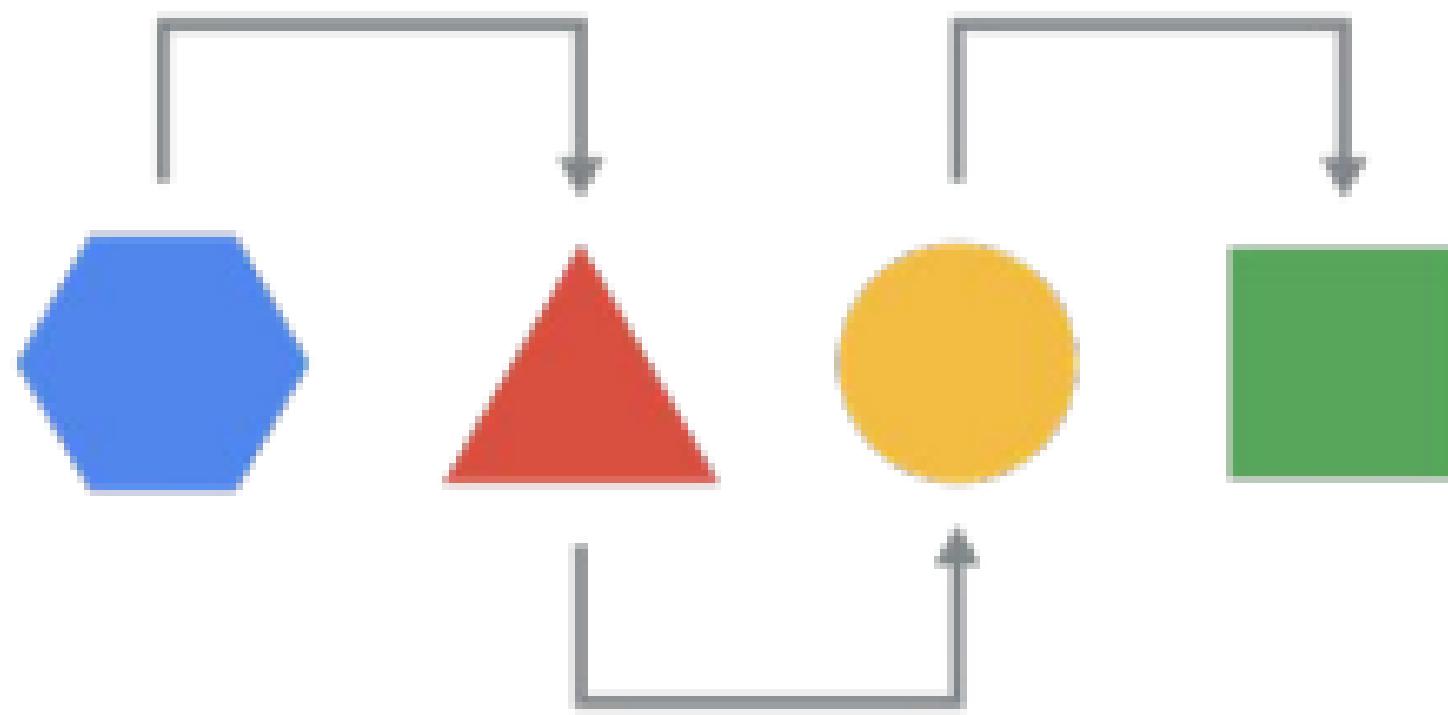
	Users Name	Users Created Date	Months a Customer	Join Month
1	Zoraida Ross	2014-09-11	13	September
2	Zoe Prince	2015-06-05	4	June
3	Zina Hazlewood	2015-07-24	3	July
4	Zelma Horton	2015-10-10	0	October
5	Zelda Alonzo	2013-01-01	33	January

```

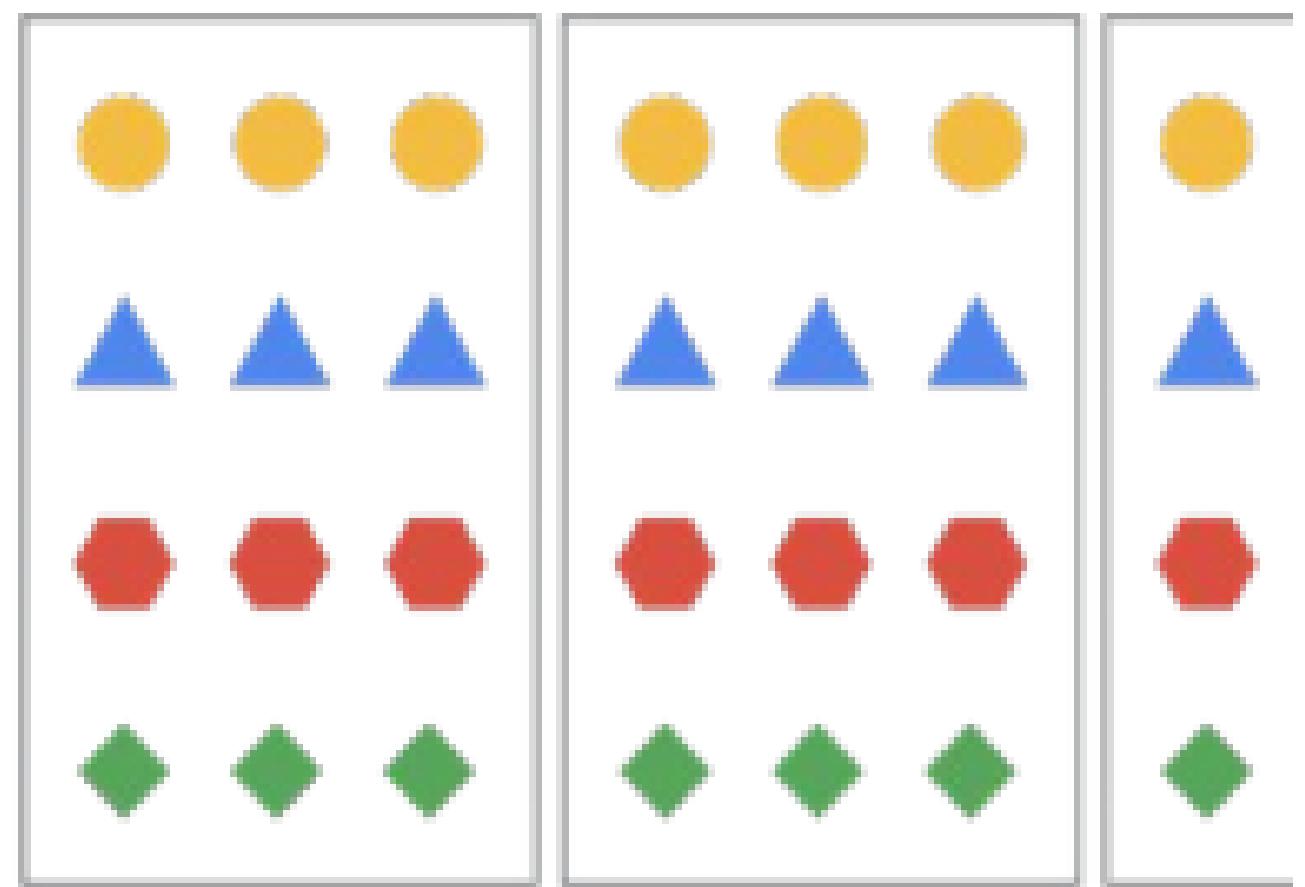
diff_months(${user.created_date},now())

if(extract_months (${user.created_date})=8,"August",
if(extract_months (${user.created_date})=9,"September",
if(extract_months (${user.created_date})=10,"October",
if(extract_months (${user.created_date})=11,"November",
if(extract_months (${user.created_date})=12,"December",
"Other")))))))))

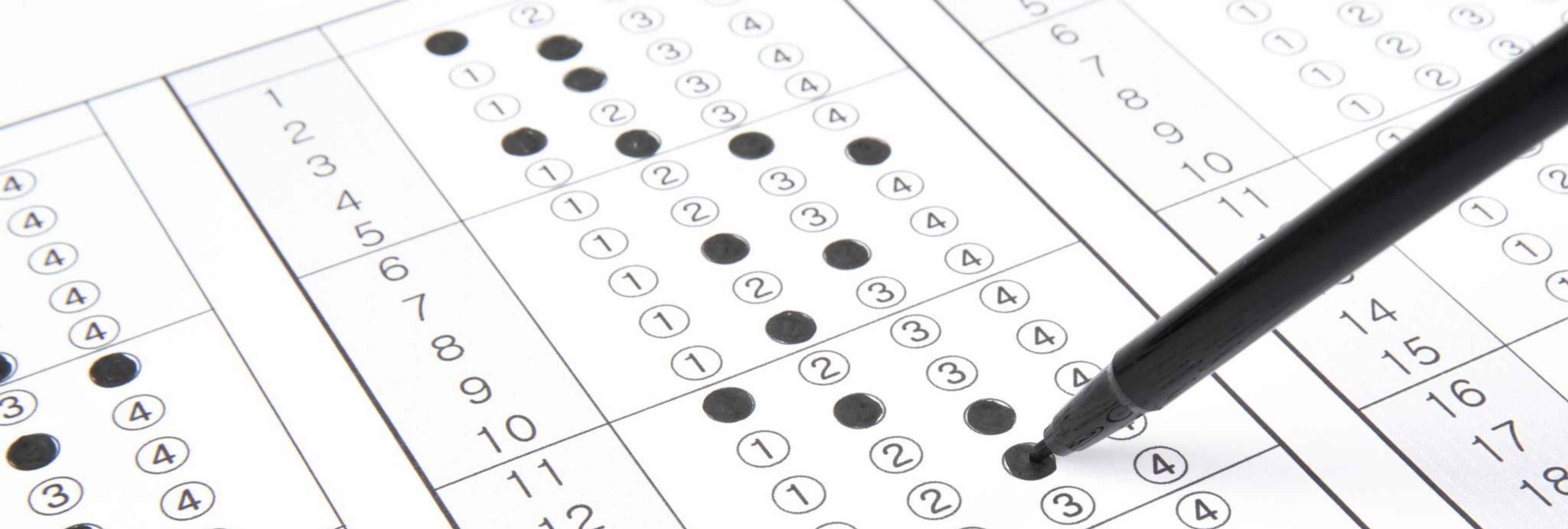
```



Prototyping new metrics and fields



Supporting a results set



Writing Table Calculations

Explore

500 rows · 1s · just now

Run



Flights



Find a Field

Start typing to search

All Fields

In Use

Custom Fields

+ Add

Aircraft

Aircraft Destination

Aircraft Models

Aircraft Origin

Carriers

Flights

3

Flights Details

1

110 fields

Go to LookML

Filters

Visualization



Forecast



Flights Depart Date (G)	Flights Count	Flights Details Cancelled Count
2006-12-31	18,921	212
2006-12-30	19,309	216
2006-12-29	19,286	199
2006-12-28	19,306	184
2006-12-27	19,381	157

Explore

500 rows · 1s · 5h ago

Run



Flights

Find a Field

Start typing to search

All Fields

In Use

Custom Fields

Add

No custom fields

Custom Dimension

Aircraft

Custom Measure

Aircraft Destination

Table Calculation

Aircraft Models

Results

SQL

Add calculation

Row Limit

500



Aircraft Origin

Flights Depart Date (T)

Carriers

Flights Count

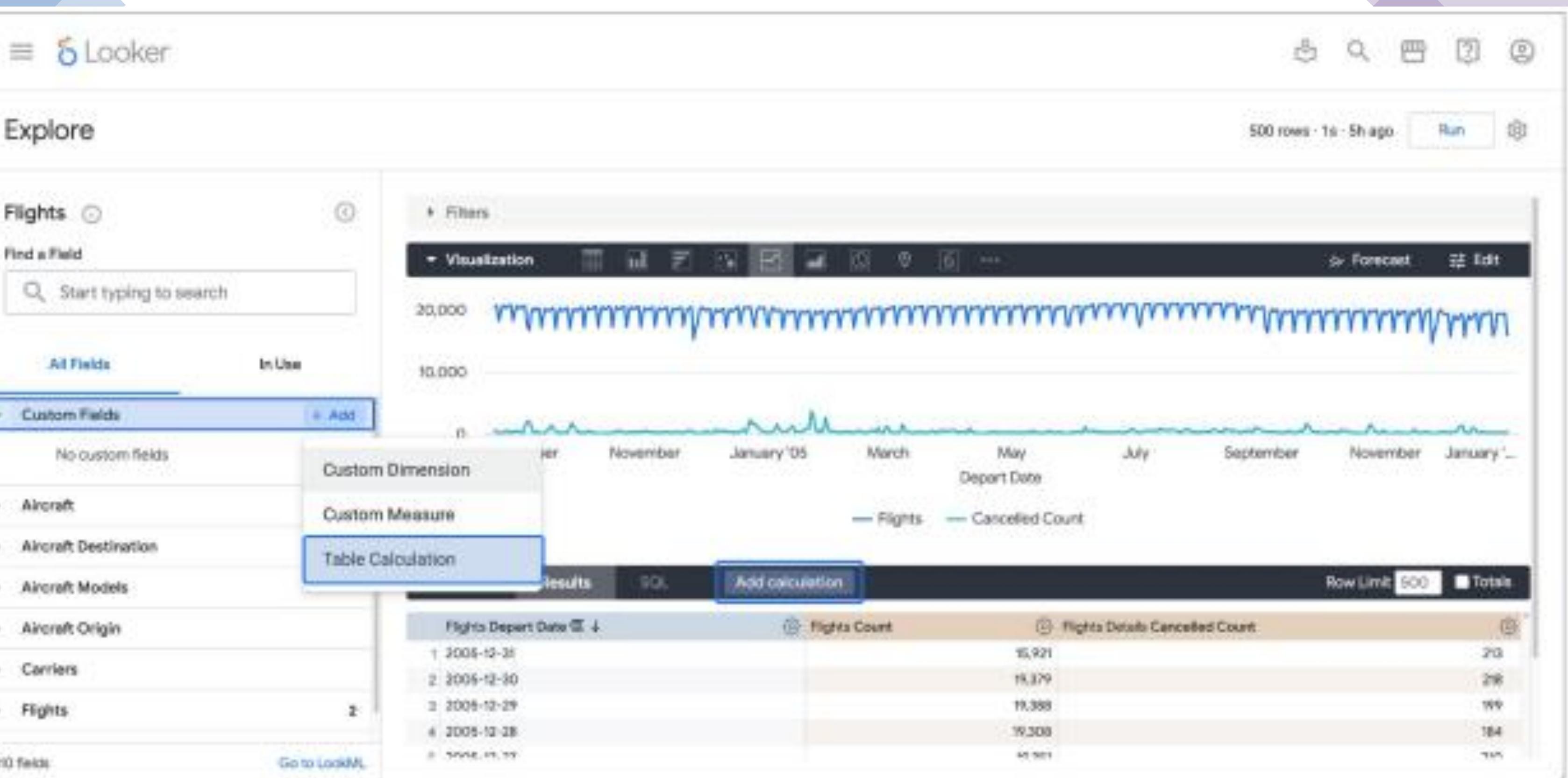
Flights

Flights Details Cancelled Count

10 fields

Go to LookML

Flights Depart Date (T)	Flights Count	Flights Details Cancelled Count
1 2006-12-31	15,921	213
2 2006-12-30	15,379	298
3 2006-12-29	15,388	199
4 2006-12-28	15,303	184
5 2006-12-27	15,301	145



Looker

Explore

Flights

Find a Field

Start typing to search

All Fields

Custom Fields

No custom fields

Aircraft

Aircraft Destination

Aircraft Models

Aircraft Origin

Carriers

Flights

110 fields

Go to LookML

0 rows · 1s · 5h ago Run

Forecast Edit

Number November January

Row Limit: 500 Total: 273 278 299 154 155

Create table calculation

Calculation: Custom expression

Expression: `1 - ${flights.cancelled_count}/${flights.count}`

As you type, assistance for writing correct expressions will appear here. Keyboard only users: Press Shift and Escape to escape text editor.

Format: Percent

Decimals: 0

100.012%

Name: Percent of Flights Cancelled

Cancel Save

This screenshot shows the Looker interface with a modal dialog titled "Create table calculation". The dialog is used to define a custom table calculation. The "Calculation" dropdown is set to "Custom expression", and the expression field contains the formula `1 - ${flights.cancelled_count}/${flights.count}`. The "Format" is set to "Percent" and "Decimals" to 0, resulting in 100.012%. The "Name" field is labeled "Percent of Flights Cancelled". At the bottom right of the dialog are "Cancel" and "Save" buttons, with "Save" being highlighted by a blue box. The background of the dialog is white, while the main Looker interface is in grayscale. To the left of the dialog, there's a sidebar with categories like "Flights", "Aircraft", and "Carriers". On the right, there's a summary card with flight statistics and a chart. The overall look is clean and modern, typical of business intelligence tools.

Looker

Explore

Flights

Find a Field Start typing to search

All Fields

Custom Fields
No custom fields

Aircraft

Aircraft Destination

Aircraft Models

Aircraft Origin

Carriers

Flights

100 fields Go to LookML

Create table calculation

Calculation Custom expression

Expression `1. ${flights.cancelled_count}/ ${flights.count}`

As you type, assistance for writing correct expressions will appear here. Keyboard only users: Press Shift and Escape to escape text editor.

Format Percent Decimals 0 100.012%

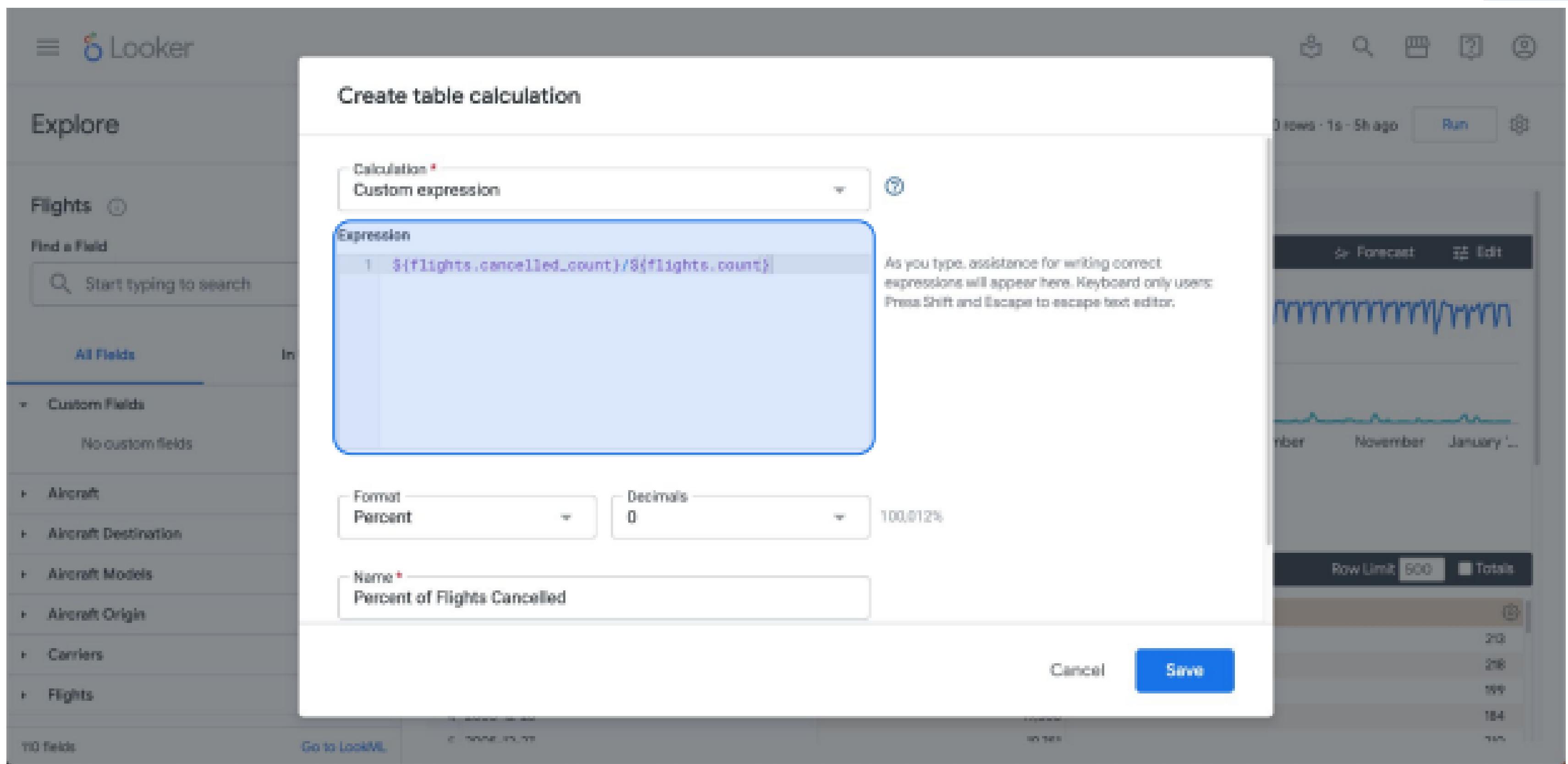
Name Percent of Flights Cancelled

Cancel Save

3 rows · 1s · 5 ago

November January

273 216 199 184 157



Looker

Explore

Flights

Find a Field

Start typing to search

All Fields

Custom Fields

No custom fields

Aircraft

Aircraft Destination

Aircraft Models

Aircraft Origin

Carriers

Flights

0 rows · 1s · 5 ago

Run

Forecast Edit

Number November January

Row Limit 500 Totals

Percent

0 100.012%

Percent of Flights Cancelled

Create table calculation

Calculation: Custom expression

Expression: `1 - ${flights.cancelled_count}/${flights.count}`

As you type, assistance for writing correct expressions will appear here. Keyboard only users: Press Shift and Escape to escape text editor.

Format: Percent

Decimals: 0

Name: Percent of Flights Cancelled

Cancel Save

This screenshot shows the Looker interface for creating a table calculation. The main window displays a modal dialog titled "Create table calculation". Inside the modal, the "Calculation" dropdown is set to "Custom expression". The "Expression" field contains the formula `1 - ${flights.cancelled_count}/${flights.count}`. Below the expression, a note says: "As you type, assistance for writing correct expressions will appear here. Keyboard only users: Press Shift and Escape to escape text editor." The "Format" section is set to "Percent", and the "Decimals" dropdown is set to 0, showing the result as 100.012%. The "Name" field is filled with "Percent of Flights Cancelled". At the bottom of the modal are "Cancel" and "Save" buttons. In the background, the Looker interface shows an "Explore" page for "Flights" with a sidebar containing various data sources like "Aircraft", "Aircraft Destination", and "Carriers". A line chart and some data tables are also visible.

Looker

Create table calculation

Calculation *

Custom expression

Expression

1. `$(flights.cancelled_count)/$(flights.count)`

As you type, assistance for writing correct expressions will appear here. Keyboard only users: Press Shift and Escape to escape text editor.

Format: Percent Decimals: 0 100.012%

Name *

Percent of Flights Cancelled

Cancel Save

0 rows · 1s · 5h ago Run

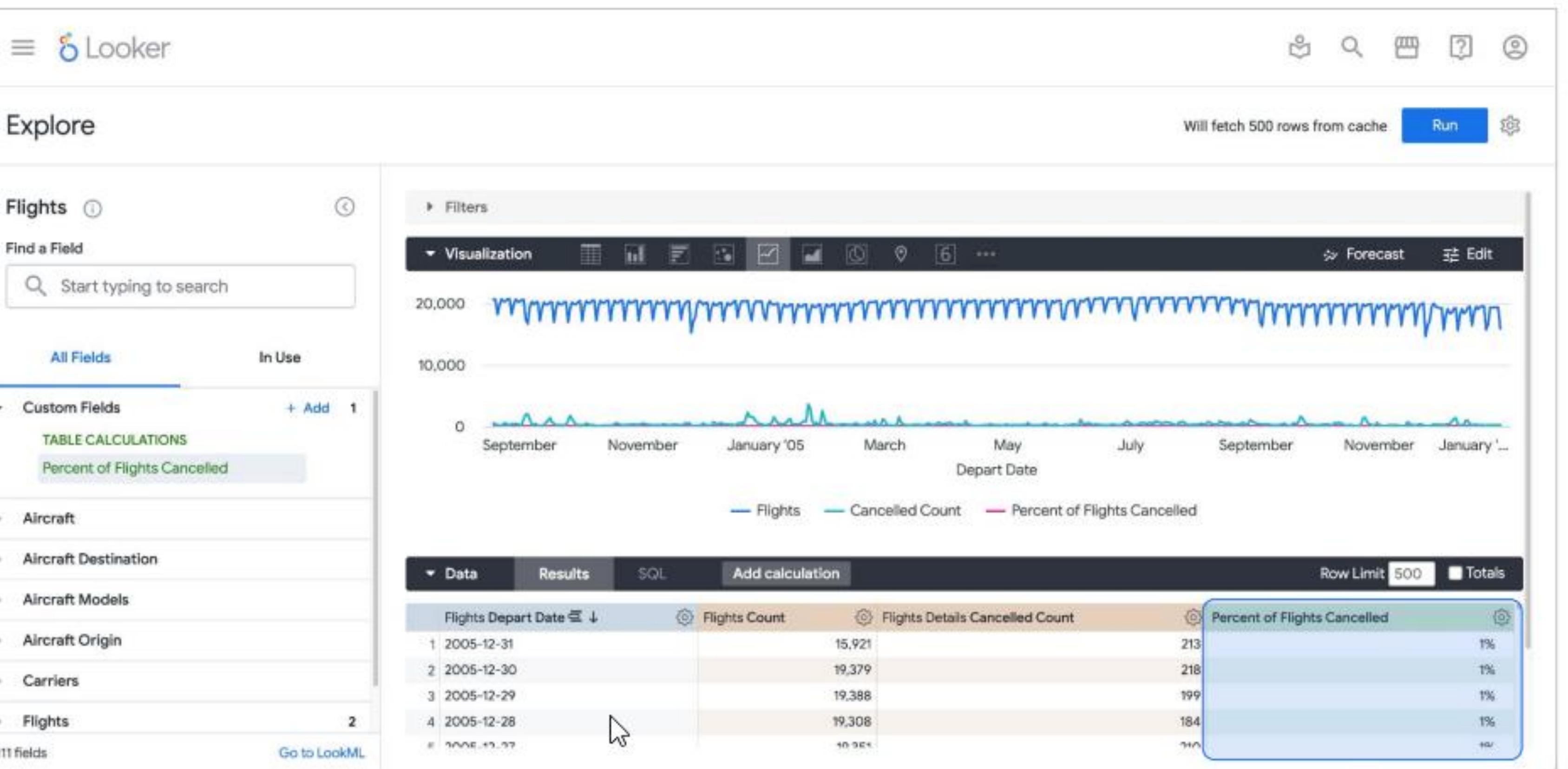
or Forecast Edit

November January

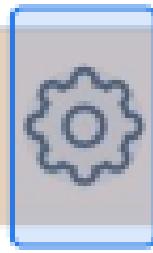
Row Limit: 500 Totals

272
278
299
184
217

10 Fields Go to LookML



Flights Details Cancelled Count



213

218

199

184

210

≡  Looker

Explore

Will fetch 500 rows from cache Run ⚙️

Flights ⓘ

[Find a Field](#)

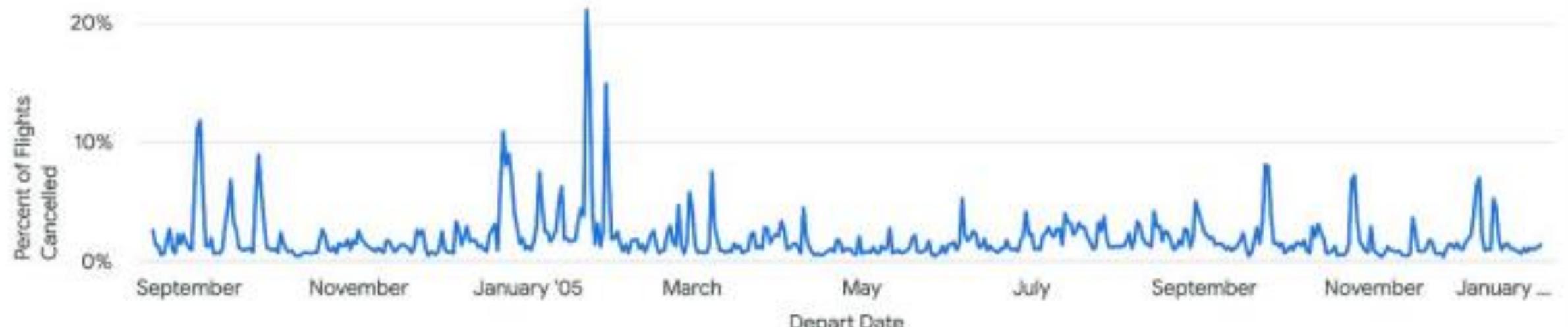
[All Fields](#) [In Use](#)

- Custom Fields + Add 1
- TABLE CALCULATIONS
- Percent of Flights Cancelled
- Aircraft
- Aircraft Destination
- Aircraft Models
- Aircraft Origin
- Carriers
- Flights 2

111 fields [Go to LookML](#)

▶ Filters

▼ Visualization ... Forecast Edit



Percent of Flights Cancelled

Depart Date

September November January '05 March May July September November January

Row Limit Totals

Flights Depart Date	Flights Count	Flights Details Cancelled Count	Percent of Flights Cancelled
1 2005-12-31	15,921	213	1%
2 2005-12-30	19,379	218	1%
3 2005-12-29	19,388	199	1%
4 2005-12-28	19,308	184	1%
5 2005-12-27	19,354	210	1%

☰ Looker

Explore

Flights ①

Find a Field

Start typing to search

All Fields

Custom Fields

TABLE CALCULATIONS

Percent of Flights Cancelled

Aircraft

Aircraft Destination

Aircraft Models

Aircraft Origin

Carriers

Flights

111 fields

Go to LookML

Create table calculation

Calculation * Custom expression

% of column
% of previous row
% change from previous row
Rank of column
Running column total
Custom expression

Format Default formatting

Name *

Cancel Save

0 rows from cache Run

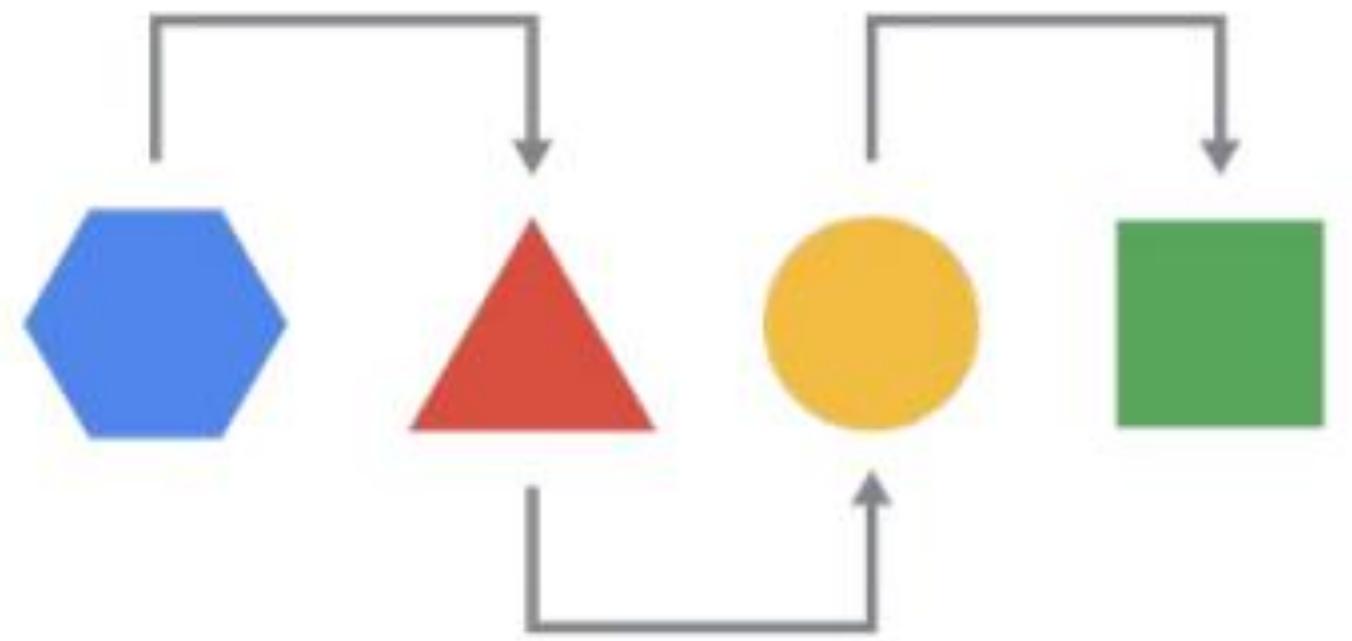
Forecast Edit

ember November January

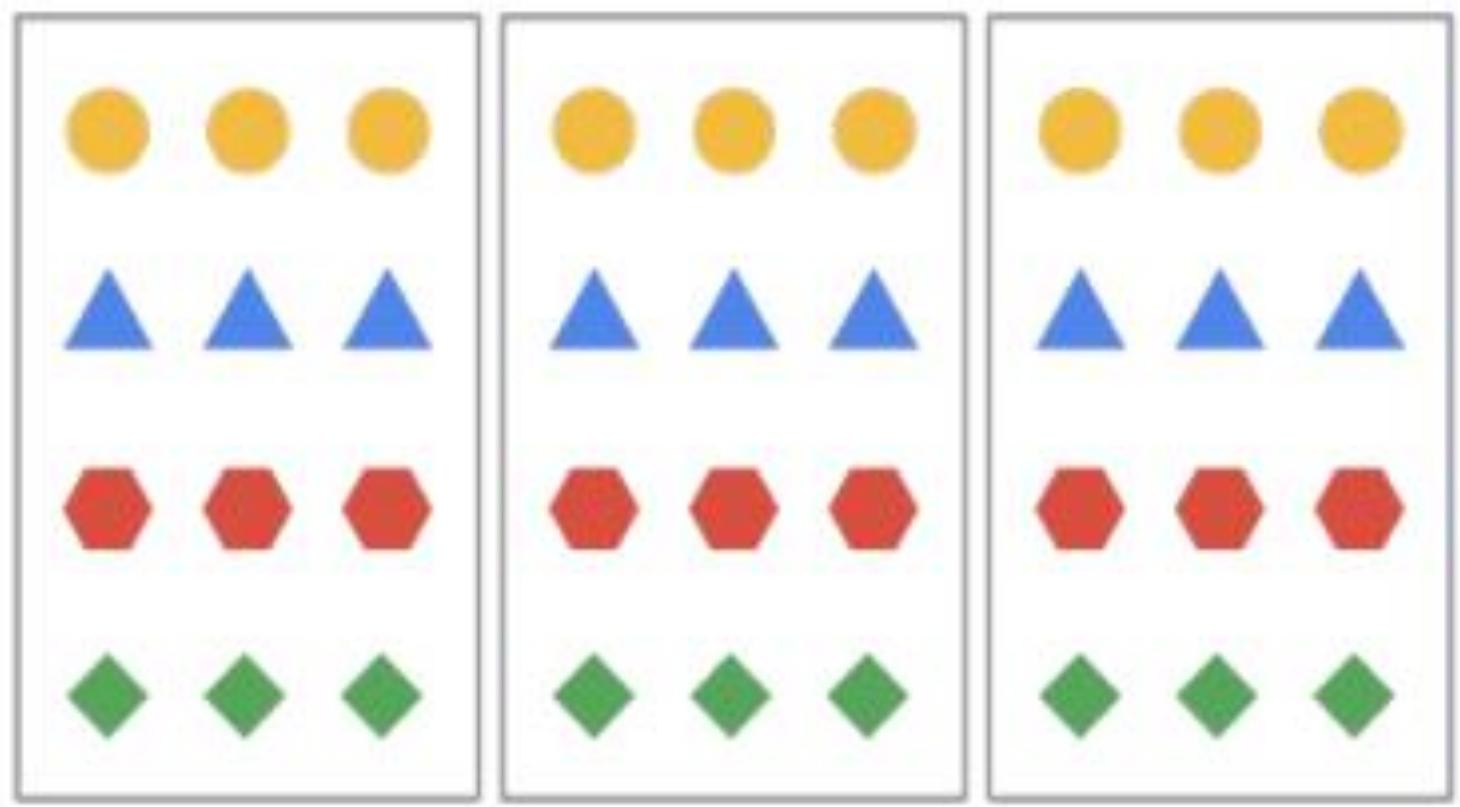
Row Limit 500 Totals

Percent of Flights Cancelled

	1%	1%	1%	1%	1%
ember	November	January			
Row Limit	500	Totals			
Percent of Flights Cancelled	1%	1%	1%	1%	1%



Prototyping new metrics and fields



Supporting a results set

Writing & Visualizing Table Calcs Example



≡  Looker

← Explore

Find an Explore

- Bigquery Datasets
- Cls Fruit Basket
- E-Commerce
 - Inventory Items
 - Order Items
- Products
- Users
- E-Commerce Training
 - E-commerce Training Advanced
- Ecommerce Analytics

Development Mode 

Your organization's folders

New 

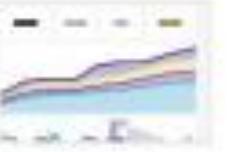
Folders

Customer Metrics Example Folder Human Resources

Sort by Name 

Dashboards

Name  Favorite 

Icon	Name	Views	Favorites	Created By	Actions
	Business Pulse	65 Views	0 Favorites	Created by	 
	Business Pulse '21	35 Views	1 Favorite	Created by	 
	Citi bike stations with more than thirty bikes	13 Views	1 Favorite	Created by	 

Looker

Explore

Will process 5.05 MB **Run**

Order Items

Find a Field

All Fields In Use

User ID

MEASURES

Average Sale Price
Average Spend per User
Order Count
Order Item Count

Total Revenue
Total Revenue from Completed Orders

Products
Users

98 fields Go to LookML

Filters

Visualization

Data Results SQL Add calculation

Row Limit 500 Totals

Order Items Total Revenue Order Items Total Revenue from Completed Orders

Press "Run" to explore this data.



Explore

Will process 7.29 MB

Run



Order Items

Find a Field

Start typing to search

All Fields

In Use

Custom Fields

+ Add

Distribution Centers

Inventory Items

Order Items

3

DIMENSIONS

Created Date

Date



Month

Month Name

Quarter

98 fields

Go to LookML

Filters (1)

Custom Filter

Order Items Created Date

is in the past

:

1

complete years



Visualization

Data

Results

SQL

Add calculation

Row Limit 500

Totals

Order Items Total Revenue

Order Items Total Revenue from Completed Orders



Press "Run" to explore this data.

Explore

Will process 12.79 MB

Run



Order Items

Find a Field

Start typing to search

All Fields

In Use

Email

First Name

Gender

ID

Last Name

Latitude

Longitude

Map Location

State

Traffic Source

Zip

98 fields

Go to LookML

Filters (1)

Custom Filter

Order Items Created Date

is in the past

1

complete years

X +

Visualization

Data

Results

SQL

Add calculation

Row Limit 500

Totals

Users State

Order Items Total Revenue

Order Items Total Revenue from Completed Orders



Press "Run" to explore this data.

Explore

Will process 13.63 MB

Run



Order Items

Find a Field

 Start typing to search

All Fields

In Use

Country

Created Date

Email

First Name

Gender

ID

Last Name

Latitude

Longitude

Map Location

State

98 fields

Go to LookML

Filters (2)

 Custom Filter

Order Items Created Date is in the past 1 complete years

Users Country is equal to USA

Visualization

 Data Results SQL Add calculation

Row Limit 500

 Totals

Users State

Order Items Total Revenue

Order Items Total Revenue from Completed Orders

Press "Run" to explore this data.

≡  Looker

Explore

50 rows · 1s · just now Run ⚙️

Order Items 🕒

Find a Field

All Fields In Use

+ Add

- Custom Fields
- Distribution Centers
- Inventory Items
- Order Items
- Products
- Users
 - DIMENSIONS
 - Age
 - Age Tier
 - 10 fields

Filters (2) Custom Filter

Order Items Created Date: is in the past 1 complete years X +

Users Country: is equal to USA X +

Visualization

Results SQL Add calculation Row Limit 500 Totals

Custom Dimension	Order Items Total Revenue ↓	Order Items Total Revenue from Completed Orders
Custom Measure	\$813,227.93	\$754,143.41
Table Calculation	\$476,703.07	\$443,910.10
	\$324,788.92	\$300,118.67
	\$281,410.22	\$261,448.52
5. Florida	\$190,254.37	\$176,993.80
6. Ohio	\$174,609.30	\$160,009.16
7. Arizona	\$142,971.66	\$132,337.99
8. Pennsylvania	\$129,823.26	\$121,498.45
9. North Carolina	\$129,114.68	\$120,401.21
10. Michigan	\$124,691.70	\$116,327.02

≡  Looker

Explore

Order Items

Find a Field

Start typing to search

All Fields

Custom Fields

Distribution Centers

Inventory Items

Order Items

Products

Users

DIMENSIONS

Age

Age Tier

98 fields

Go to LookML

rows · 1s · 4m ago Run

Custom Filter

Row Limit 500 Totals

× +

Category	Revenue (\$)
Electronics	\$754,143.41
Apparel	\$443,910.10
Home Goods	\$300,118.67
Food & Beverage	\$261,448.52
Books & Media	\$176,993.80
Automotive	\$160,009.16
Leisure	\$132,337.99
Business	\$121,498.45
Healthcare	\$120,401.21
Automotive	\$116,327.02
Total	\$4,620,000.13

Create table calculation

Calculation * Custom expression ?

Expression

```
1 ${order_items.total_revenue_completed}/${order_items.total_revenue}
```

As you type, assistance for writing correct expressions will appear here. Keyboard only users: Press Shift and Escape to escape text editor.

Format Percent Decimals 1 100,012.3%

Name * % Revenue from Completed Orders

Cancel Save

Explore

Will fetch 50 rows from cache

Run



Order Items

Find a Field

Start typing to search

All Fields

In Use

Custom Fields + Add 1

TABLE CALCULATIONS

% Revenue from Completed Orders

Distribution Centers

Inventory Items

Order Items 3

Products

Users 2

DIMENSIONS

99 fields

Go to LookML

Filters (2)

Order Items Created Date

is in the past

1

Users Country

is equal to

USA x

Remove

Filter

Calculations

Create filtered measure

Hide from visualization

Copy values

Go to LookML

Row Limit 500 Totals

Data Results SQL Add calculation

Users State	Order Items Total Revenue	Order Items Total Revenue from Completed Orders	% Revenue from Completed Orders
1 California	\$813,227.93	\$754,143.41	92.7%
2 Texas	\$476,703.07	\$443,910.10	93.1%
3 New York	\$324,788.92	\$300,118.67	92.4%
4 Illinois	\$281,410.22	\$261,448.52	92.9%
5 Florida	\$190,254.37	\$176,993.80	93.0%
6 Ohio	\$174,609.30	\$160,009.16	91.6%
7 Arizona	\$142,971.66	\$132,337.99	92.6%
8 Pennsylvania	\$129,823.26	\$121,498.45	93.6%
9 North Carolina	\$129,114.68	\$120,401.21	93.3%
10 Michigan	\$124,691.70	\$116,327.02	93.3%

Explore

Will fetch 50 rows from cache

Run



Order Items

Find a Field

Start typing to search

All Fields

In Use

Custom Fields

+ Add 1

TABLE CALCULATIONS

% Revenue from Completed Orders

Distribution Centers

Inventory Items

Order Items

3

Products

Users

2

DIMENSIONS

99 fields

Go to LookML

Filters (2) Order Items Created Date is in the past 1 complete years Users Country is "USA"

Visualization



Edit

Forecast

Edit

Plot

Map

Value

Value Colors

#62bdff, #f59b38, blue, etc.

 Quantize Colors Reverse Color Scale

Minimum Value

Maximum Value



Users State	Order Items Total Revenue	Order Items Total Revenue from Completed Orders	% Revenue from Completed Orders
1 California	\$813,227.93	\$754,143.41	92.7%
2 Texas	\$476,703.07	\$443,910.10	93.1%
3 New York	\$324,788.92	\$300,118.67	92.4%
4 Illinois	\$281,410.22	\$261,448.52	92.9%
5 Florida	\$200,358.97	\$174,009.69	92.0%

Explore

Will fetch 50 rows from cache

Run



Order Items



Find a Field

Start typing to search

All Fields

In Use

Custom Fields

+ Add 1

TABLE CALCULATIONS

% Revenue from Completed Orders

Distribution Centers

Inventory Items

Order Items

3

Products

Users

2

DIMENSIONS

99 fields

Go to LookML

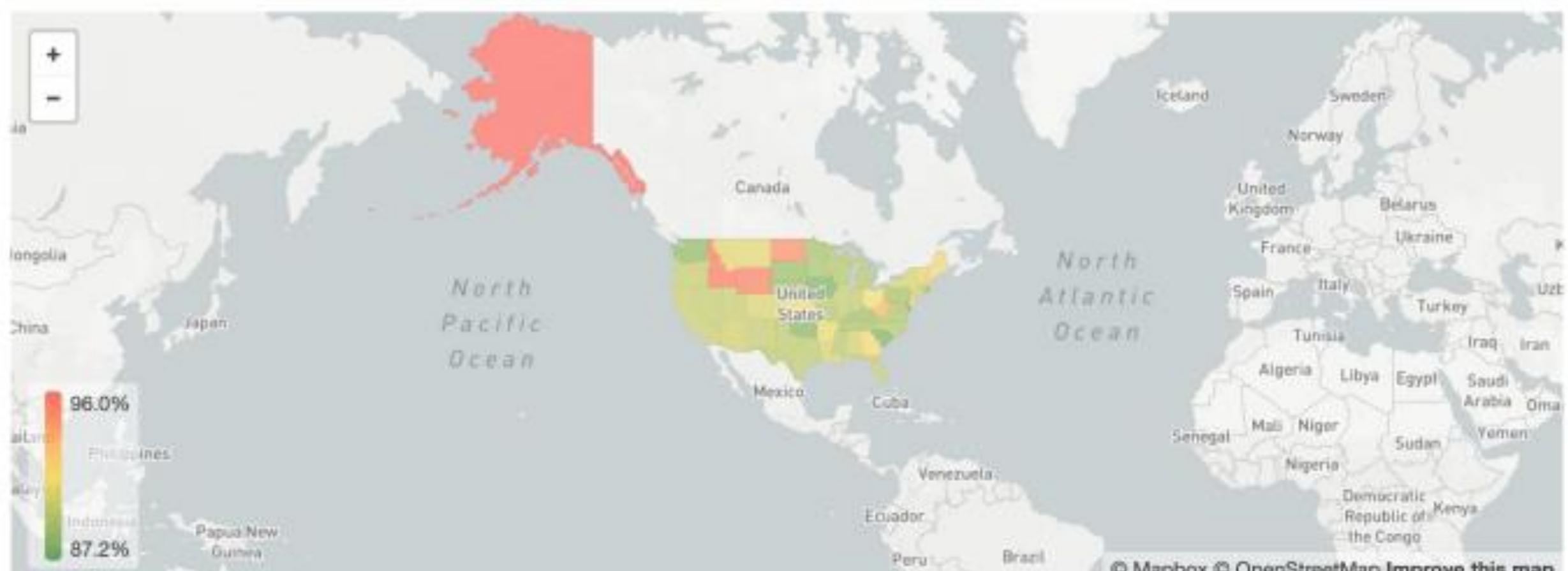
▶ Filters (2) Order Items Created Date is in the past 1 complete years Users Country is "USA"

▼ Visualization



Forecast

Edit



▶ Data

Percent Total Table Calc Example

≡  Looker

← Explore

Find an Explore

- ▶ Bigquery Datasets
- ▶ Cls Fruit Basket
- ▼ E-Commerce
 - Inventory Items
 - Order Items
 - Products
 - Users
- ▶ E-Commerce Training
- ▶ E-commerce Training Advanced
- ▼ Ecommerce Analytics

Development Mode 

Your organization's folders

New 

Folders

Sort by Name  

Customer Metrics Example Folder Human Resources

Dashboards

Sort by Name   

Name	Views	Created by	Favorite	...
Business Pulse	65	Created by		
Business Pulse '21	35	1 Favorite, Created by		
Citi bike stations with more than thirty bikes	13	1 Favorite, Created by		

≡  Looker

Explore

Will process 2.24 MB Run ⚙️

Order Items ⟳

Find a Field 🔍 Start typing to search

All Fields In Use

User ID

MEASURES

Average Sale Price

Average Spend per User

Order Count

Order Item Count

Total Revenue

Total Revenue from Completed Orders

Products

Users

98 fields Go to LookML

▶ Filters

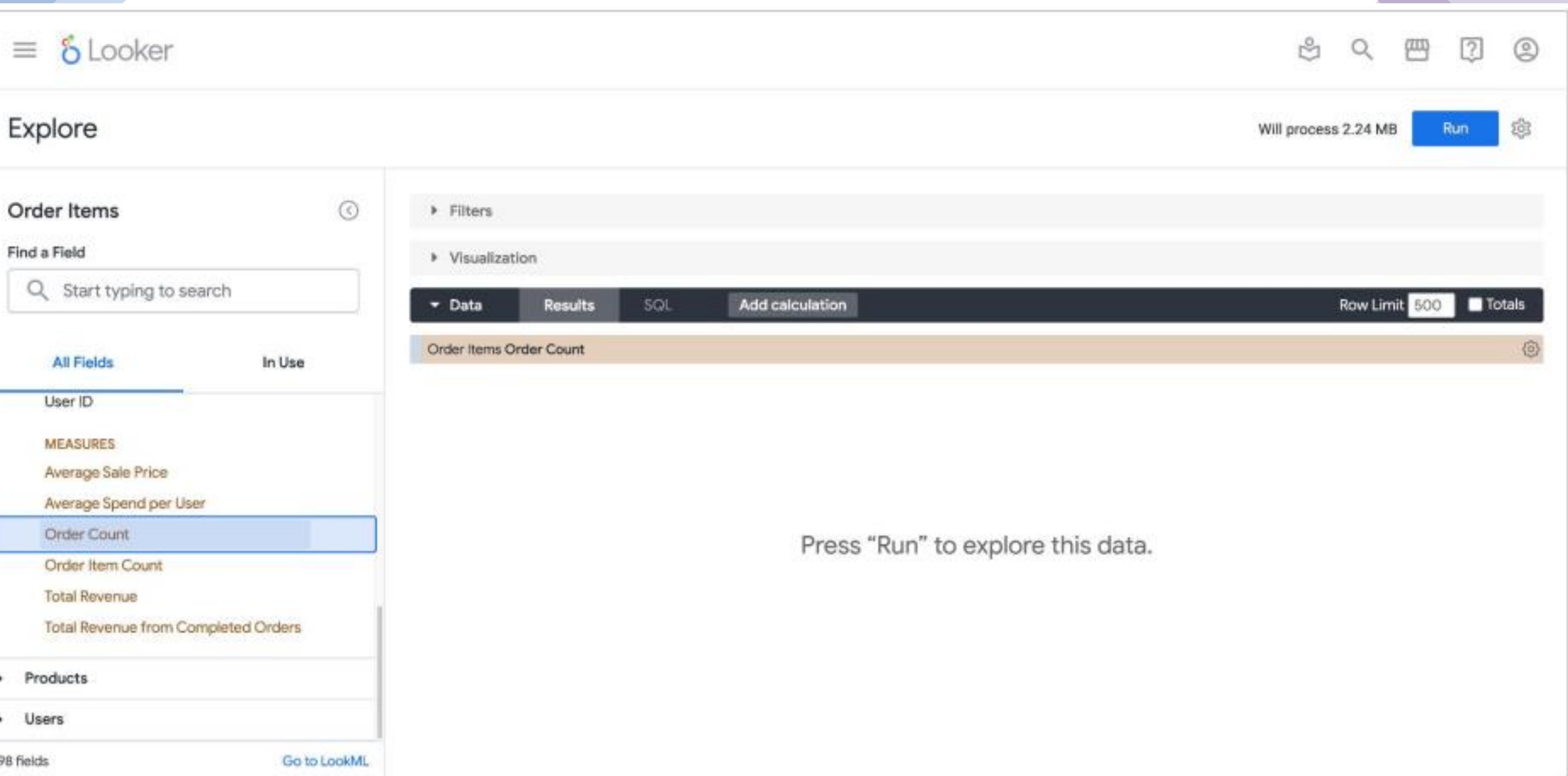
▶ Visualization

▼ Data Results SQL Add calculation

Row Limit 500 Totals

Order Items Order Count ⚙️

Press “Run” to explore this data.



≡  Looker

Explore

Will process 7.32 MB from cache [Run](#) 

Order Items 

Find a Field

All Fields In Use

ID
Last Name
Latitude
Longitude
Map Location
State
Traffic Source 
Zip
MEASURES
Count

98 fields [Go to LookML](#)

▶ Filters
▶ Visualization

▼ Data **Results** SQL Add calculation Row Limit 500 Totals

Users Traffic Source Order Items Order Count 

Press “Run” to explore this data.



Explore

5 rows · 1s · just now

 Run

Order Items



Find a Field

[All Fields](#)

In Use

[Custom Fields](#)[+ Add](#)[Distribution Centers](#)[Inventory Items](#)[Order Items](#) 1[Products](#)[Users](#) 1

92 fields

[Go to LookML](#) Filters Visualization Data Results SQL Add calculationRow Limit 500 Totals

Users Traffic Source	Order Items Order Count ↓	
1 Search	211,015	
2 Organic	44,584	
3 Facebook	12,835	
4 Display	9,227	
5 Email	8,522	
Total	286,183	

≡  Looker

Explore

Will process 2.24 MB Run 

Order Items 

Find a Field

All Fields In Use

+ Add

- Custom Fields
- Distribution Centers
- Inventory Items
- Order Items
- Products
- Users

98 fields [Go to LookML](#)

Filters 

Visualization 

Data Results SQL Add calculation Row Limit 500 Totals 

Order Items Order Count 

Press "Run" to explore this data.



Explore

Order Items

Find a Field

 Start typing to search

All Fields

Custom Fields

Distribution Centers

Inventory Items

Order Items

Products

Users

98 fields

Create table calculation

Calculation *

% of previous row

Current row's value divided by the value of the row below.

Source column *

Order Items Order Count

Format

Percent

Decimals

1

100,012.3%

Name *

Percent of Total Orders

+ Add description

Cancel

Save

5 rows from cache

Run

Row Limit 500

Totals

211,015

44,584

12,835

9,227

8,522

Looker

Explore

Order Items

Find a Field

Start typing to search

All Fields

Custom Fields

TABLE CALCULATIONS

Percent of Total Orders

Distribution Centers

Inventory Items

Order Items

Products

Users

99 fields

Go to LookML

Create table calculation

Calculation * Custom expression

Expression

1 \${order_items.order_count}/\${order_items.order_count :total}

As you type, assistance for writing correct expressions will appear here. Keyboard only users: Press Shift and Escape to escape text editor.

Format Default formatting

Name *

Cancel Save

Row Limit 500 Totals

Orders	
473.3%	
347.4%	
139.1%	
108.3%	
0	

Looker

Explore

Order Items

Find a Field

Start typing to search

All Fields

Custom Fields

TABLE CALCULATIONS

% of total order

Percent of Total Orders

Distribution Centers

Inventory Items

Order Items

Products

Users

100 fields

Go to LookML

Edit table calculation

Calculation *

Custom expression

Expression

```
1 ${order_items.order_count}/${order_items.order_count :total}
```

Keyboard only users: Press Shift and Escape to escape text editor.

Format

Percent

Decimals

1

100,012.3%

Name *

% of total order

Cancel

Save

m cache - 11m ago

Run

Row Limit 500

Totals

	211,015
	44,584
	12,835
	9,227
	8,522
	286,183

Explore

Will fetch 5 rows from cache

Run



Order Items

Find a Field

Start typing to search

All Fields

In Use

Custom Fields

+ Add 1

TABLE CALCULATIONS

% of total order

Percent of Total Orders

Distribution Centers

Inventory Items

Order Items

1

Products

Users

1

100 fields

Go to LookML

Filters

Visualization



Edit

Forecast

Edit

Plot

Series

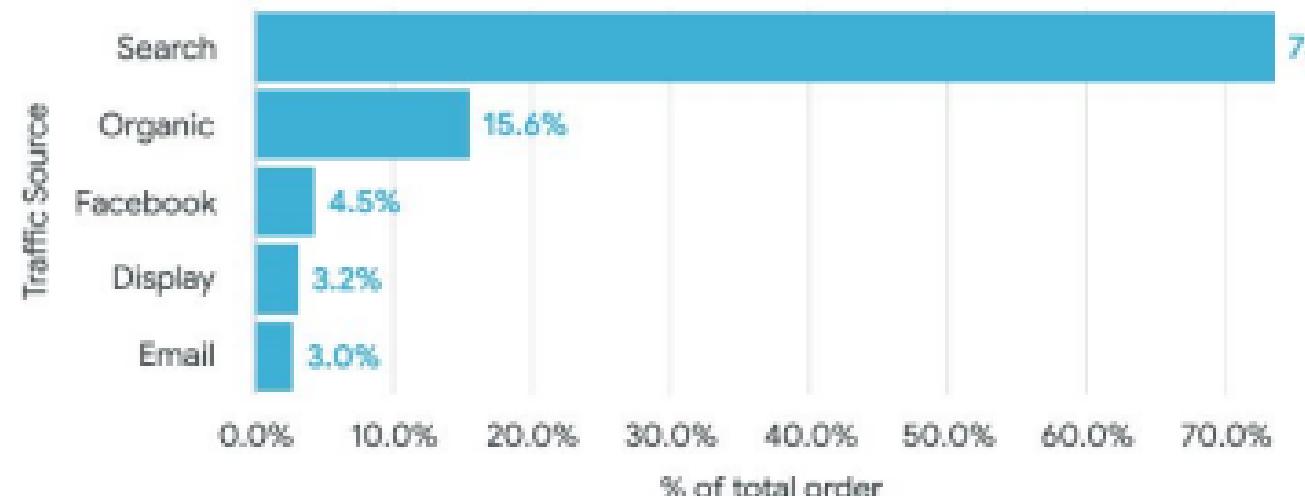
Values

X

Y

 Value Labels Label Null ColumnsValue Colors #62bdf4, #f59b38, blue, etc.

#62bdf4

Font Size 12px, 2em, 100%, etc.

Data Results SQL Add calculation

Row Limit 500 Totals

Users Traffic Source	Order Items Order Count	% of total order
1 Search	211,015	73.7%
2 Organic	44,584	15.6%
3 Facebook	12,835	4.5%
4 Display	9,227	3.2%
5 Email	6,577	2.2%

Explore

Will fetch 5 rows from cache

Run



Order Items

Find a Field

Start typing to search

All Fields

In Use

Custom Fields

+ Add 1

TABLE CALCULATIONS

% of total order

Percent of Total Orders

Distribution Centers

Inventory Items

Order Items

1

Products

Users

1

100 fields

Go to LookML

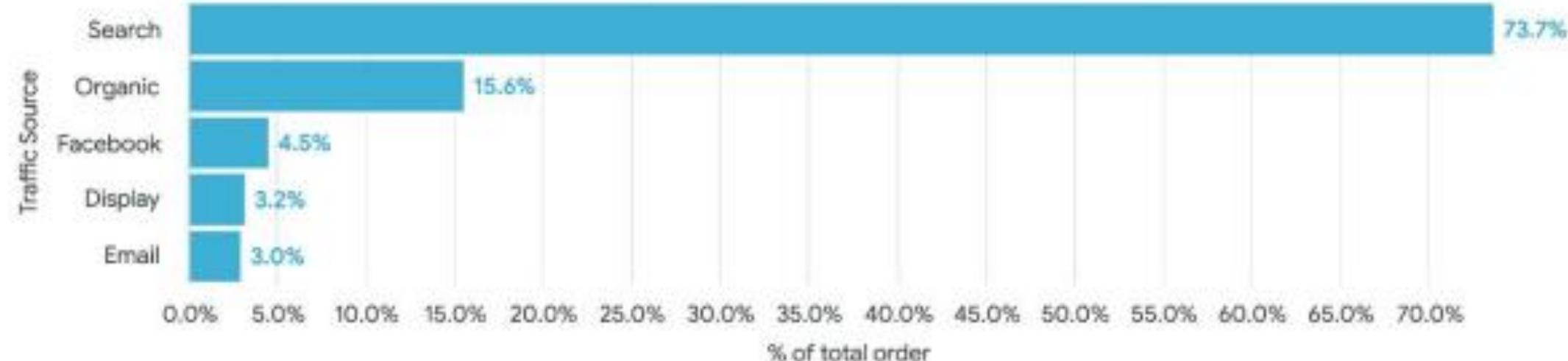
Filters

Visualization



Forecast

Edit



Data Results SQL Add calculation

Row Limit 500 Totals

Users Traffic Source	Order Items Order Count ↓	% of total order
1 Search	211,015	73.7%
2 Organic	44,584	15.6%
3 Facebook	12,835	4.5%
4 Display	9,227	3.2%
5 Email	9,111	3.0%

≡  Looker

Explore Will fetch 5 rows from cache Run 

Order Items

 Filters

Find a Field

All Fields In Use

- Custom Fields + Add 1
- TABLE CALCULATIONS
 - % of total order
 - Percent of Total Orders

Distribution Centers

Inventory Items

Order Items 1

Products

Users 1

100 fields Go to LookML

Visualization      ...  Forecast 



Traffic Source	% of total order
Search	73.7%
Organic	15.6%
Facebook	4.5%
Display	3.2%
Email	3.0%

Data Results SQL Add calculation Row Limit 500 Totals

Users Traffic Source	Order Items Order Count ↓	% of total order
1 Search	211,015	73.7%
2 Organic	44,584	15.6%
3 Facebook	12,835	4.5%
4 Display	9,227	3.2%
5 Email	0	0.0%

Explore

Will fetch 5 rows from cache

Run



Order Items

Find a Field

Start typing to search

All Fields

In Use

Custom Fields

+ Add 1

TABLE CALCULATIONS

% of total order

Percent of Total Orders

Distribution Centers

Inventory Items

Order Items 1

Products

Users 1

100 fields

Go to LookML

Filters

Visualization



Edit

Forecast

Edit

Plot

Series

Colors

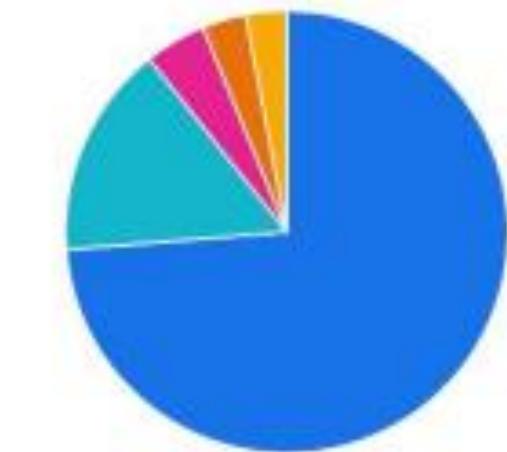
Collection

Shoreline

Palette

 Reverse colors

Customizations



- Search 73.73%
- Organic 15.58%
- Facebook 4.48%
- Display 3.22%
- Email 2.98%

Data Results SQL Add calculation

Row Limit 500 Totals

Users Traffic Source	Order Items Order Count	% of total order
1 Search	211,015	73.7%
2 Organic	44,584	15.6%
3 Facebook	12,835	4.5%
4 Display	9,227	3.2%
5 Email	9,577	3.0%

Explore

Will fetch 5 rows from cache

Run



Order Items

Find a Field

Start typing to search

All Fields

In Use

Custom Fields

+ Add 1

TABLE CALCULATIONS

% of total order

Percent of Total Orders

Distribution Centers

Inventory Items

Order Items

1

Products

Users

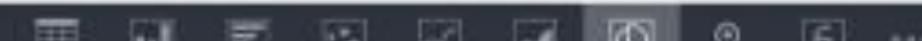
1

100 fields

Go to LookML

Filters

Visualization



Edit

Forecast

Edit

Plot

Series

Value Labels

Labels

‡

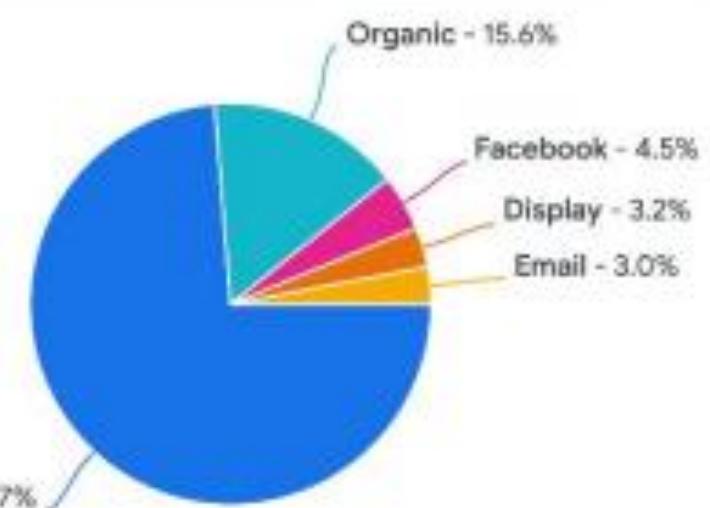
Label Type

Label - Value

‡

Inner Radius

0



Search - 73.7%

Data

Results

SQL

Add calculation

Row Limit 500



Users Traffic Source	Order Items Order Count	% of total order
1 Search	211,015	73.7%
2 Organic	44,584	15.6%
3 Facebook	12,835	4.5%
4 Display	9,227	3.2%
5 Email	8,622	3.0%

Explore

Will fetch 5 rows from cache

 Run

Order Items

Find a Field

 Start typing to search

All Fields

In Use

Custom Fields

 + Add 1

TABLE CALCULATIONS

% of total order

Percent of Total Orders

Distribution Centers

Inventory Items

Order Items

1

Products

Users

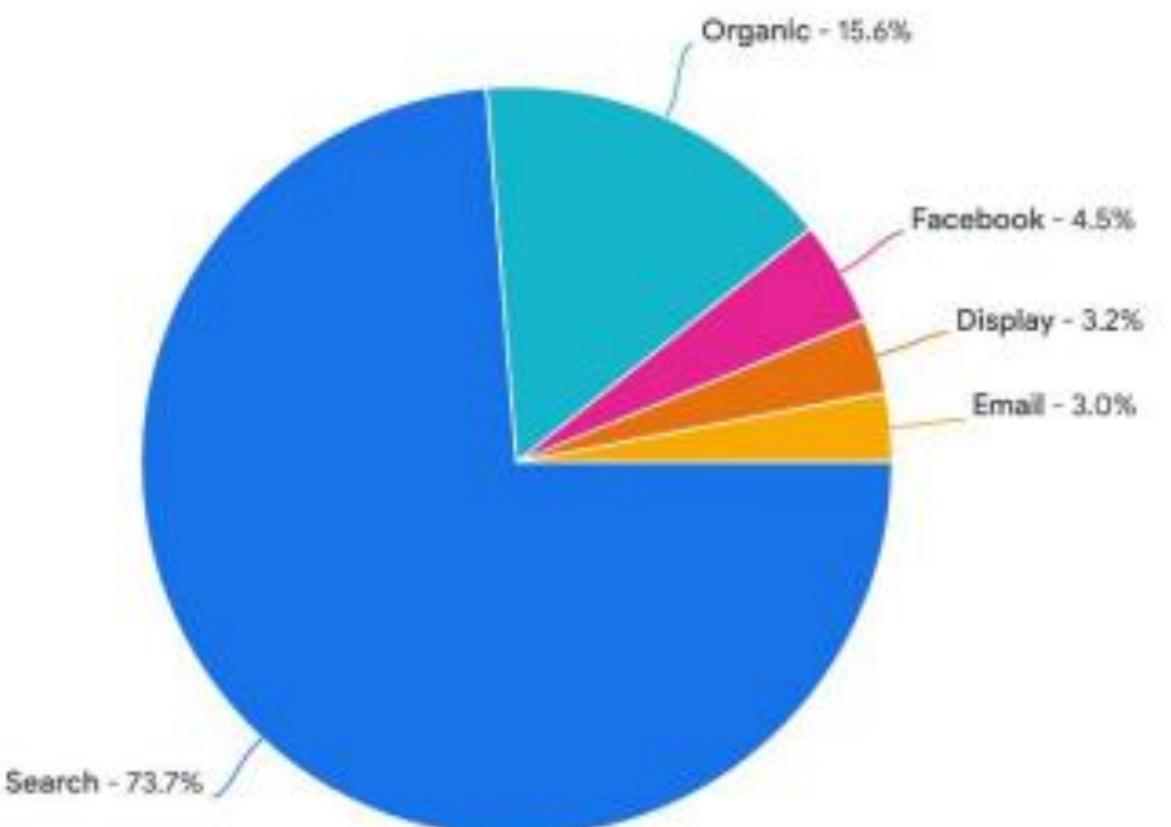
1

100 fields

[Go to LookML](#)

Filters

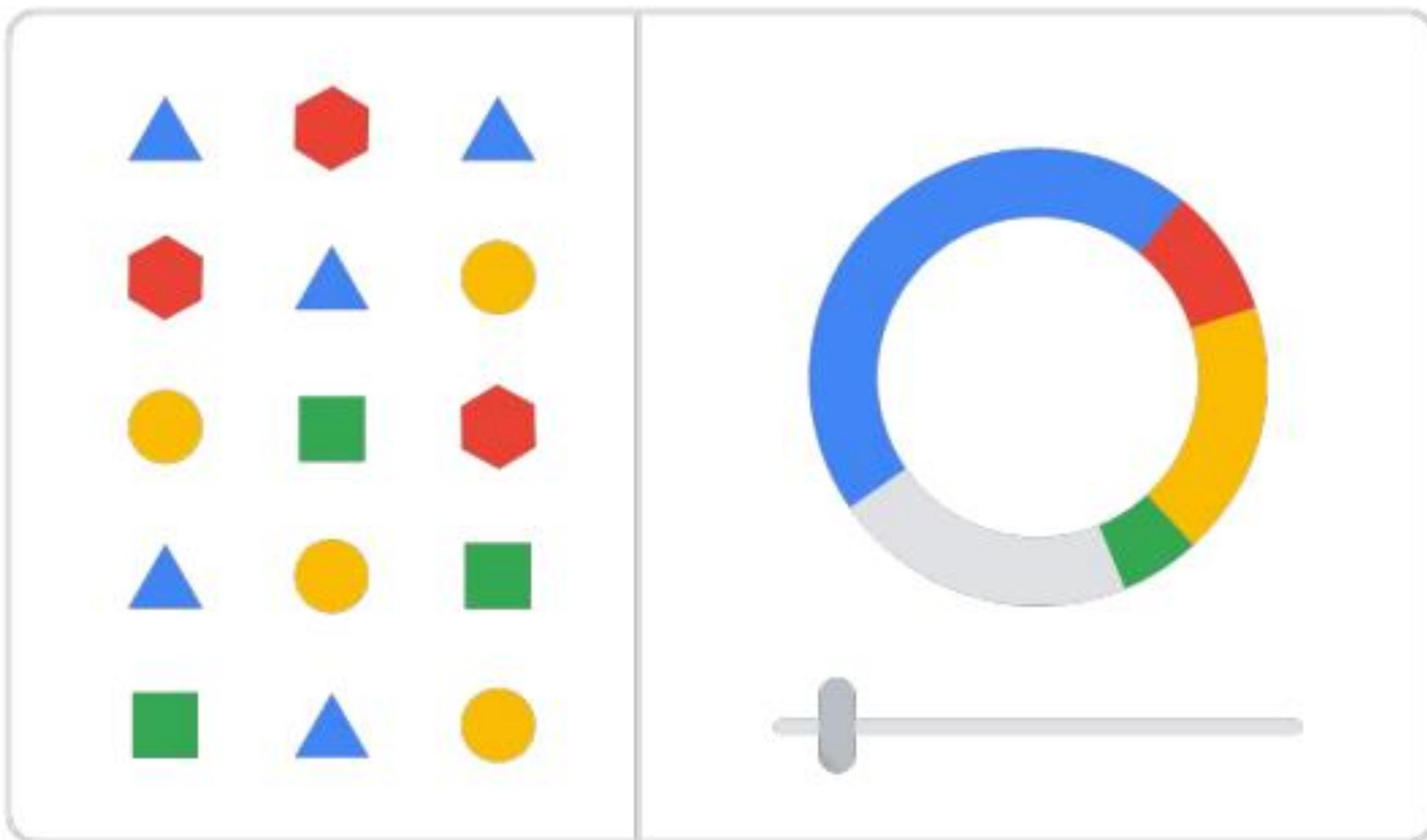
Visualization

 Forecast Edit

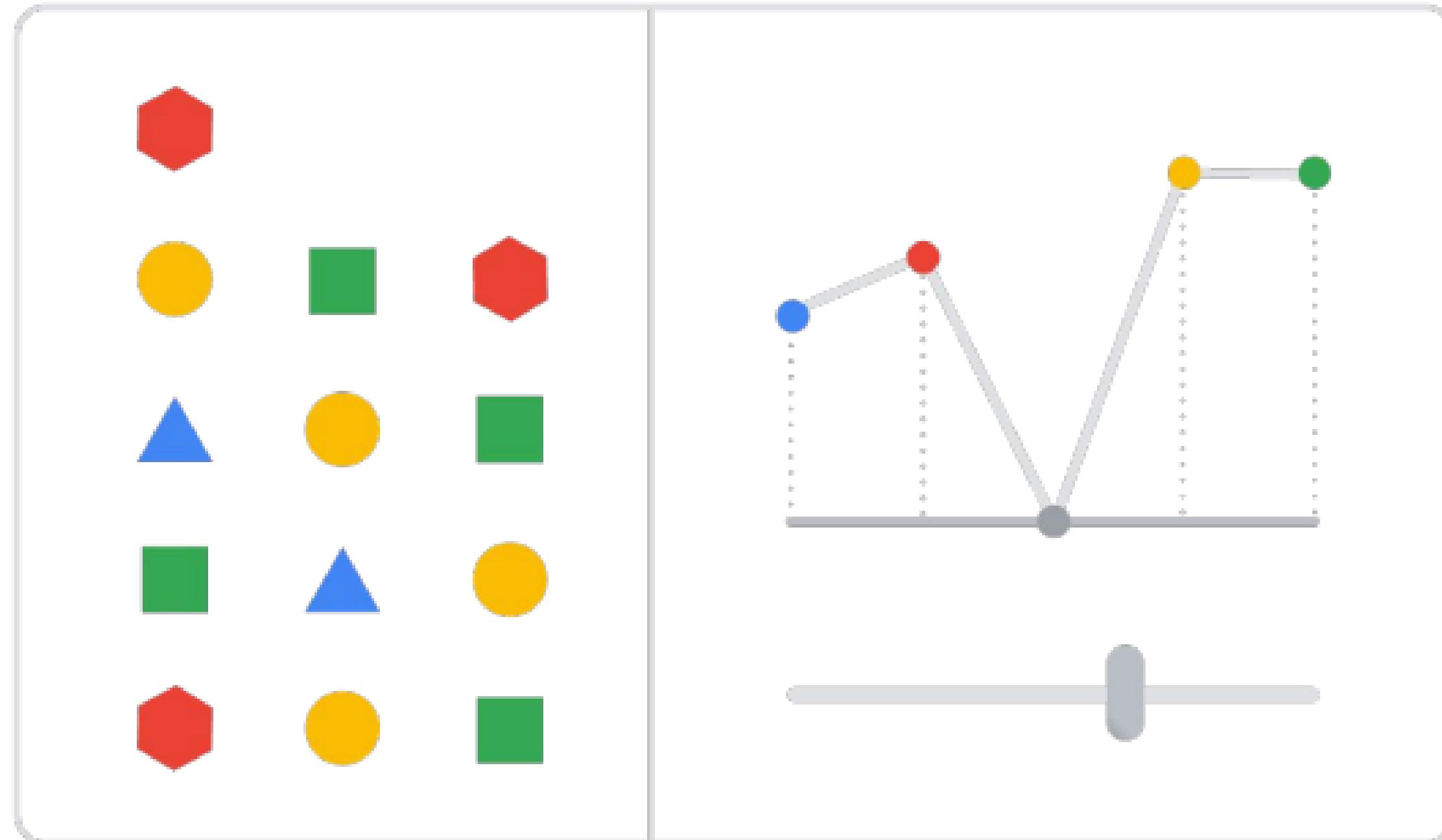
Data



Offset Calculations



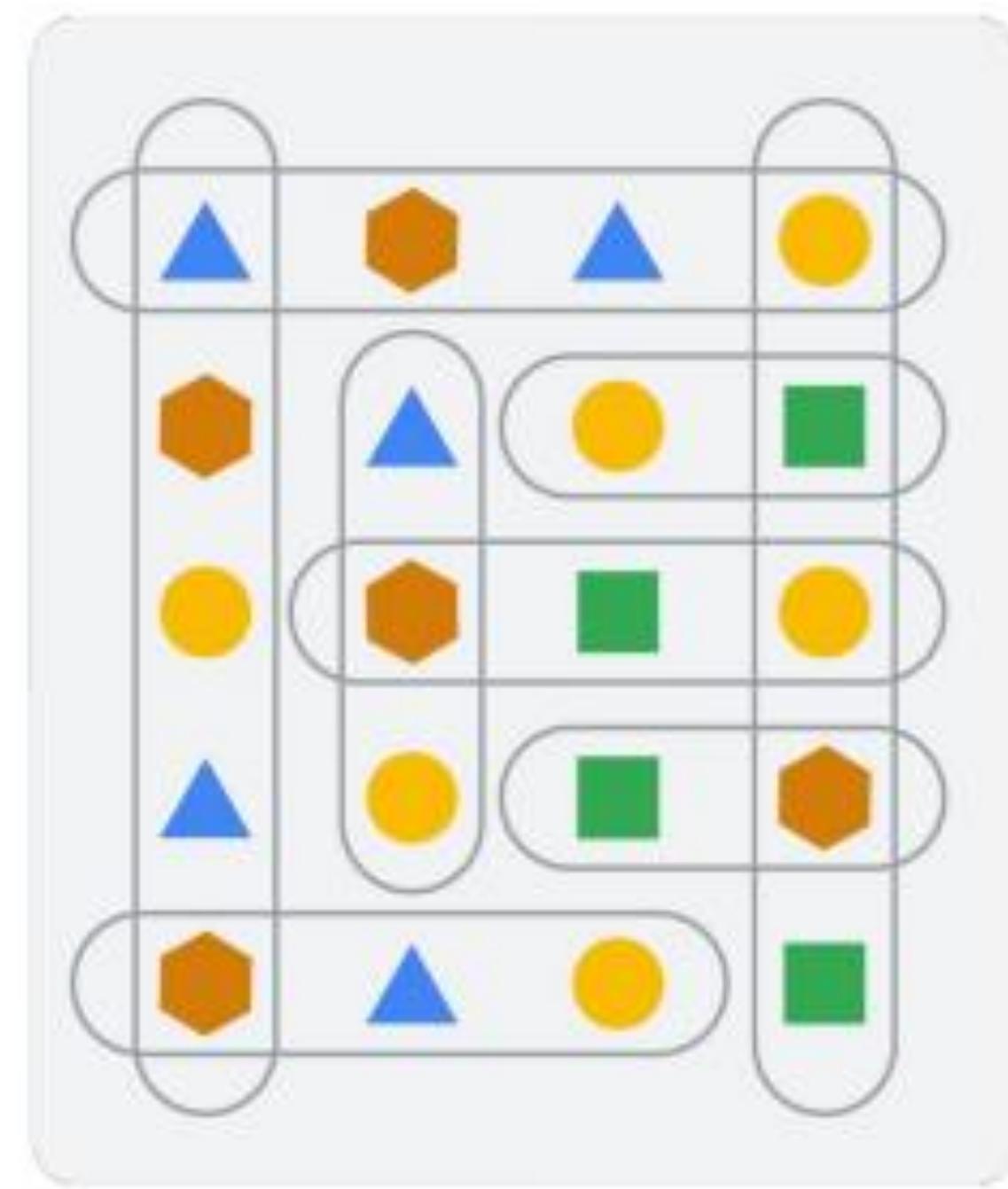
Orders Create Month	Orders Total Revenue	Previous Month Total	Subsequent Month Total
1 2015-10	\$118,579.91	\$127,280.05	–
2 2015-09	\$127,280.05	\$132,223.17	\$118,579.91
3 2015-08	\$132,223.17	\$123,295.45	\$127,280.05
4 2015-07	\$123,295.45	\$112,443.68	\$132,223.17
5 2015-06	\$112,443.68	\$118,574.69	\$123,295.45
offset(\${orders.total_revenue}, 1)			
offset(\${orders.total_revenue}, -1)			



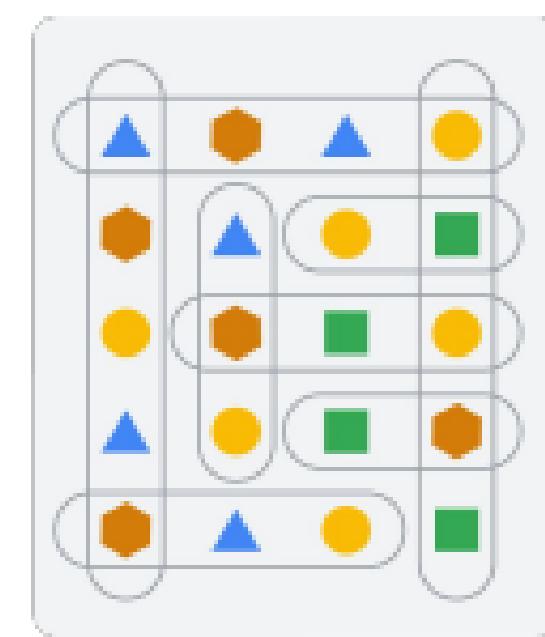
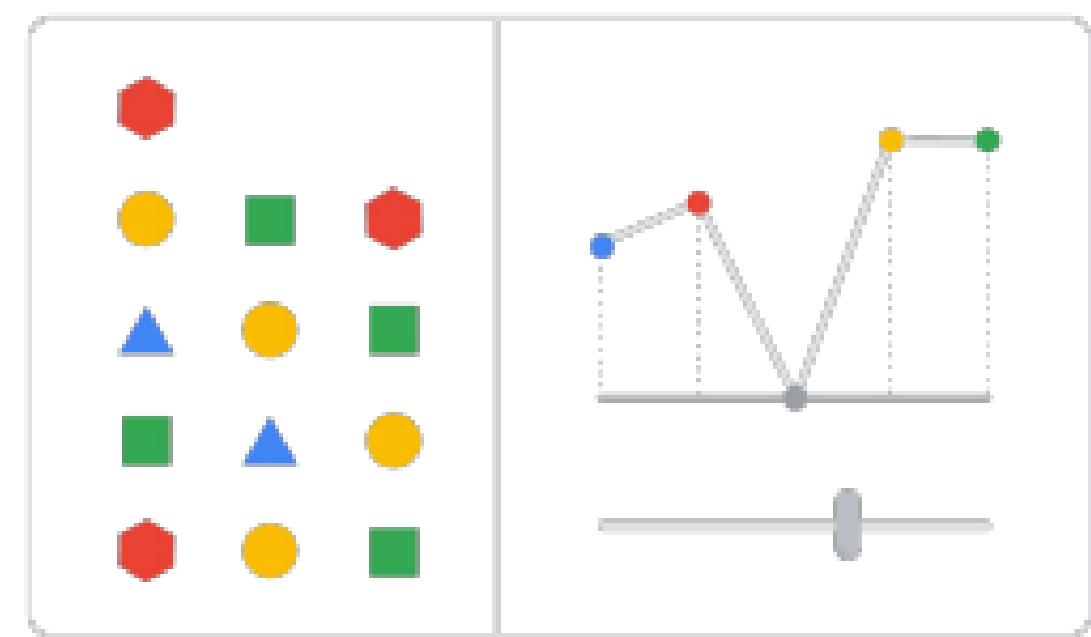
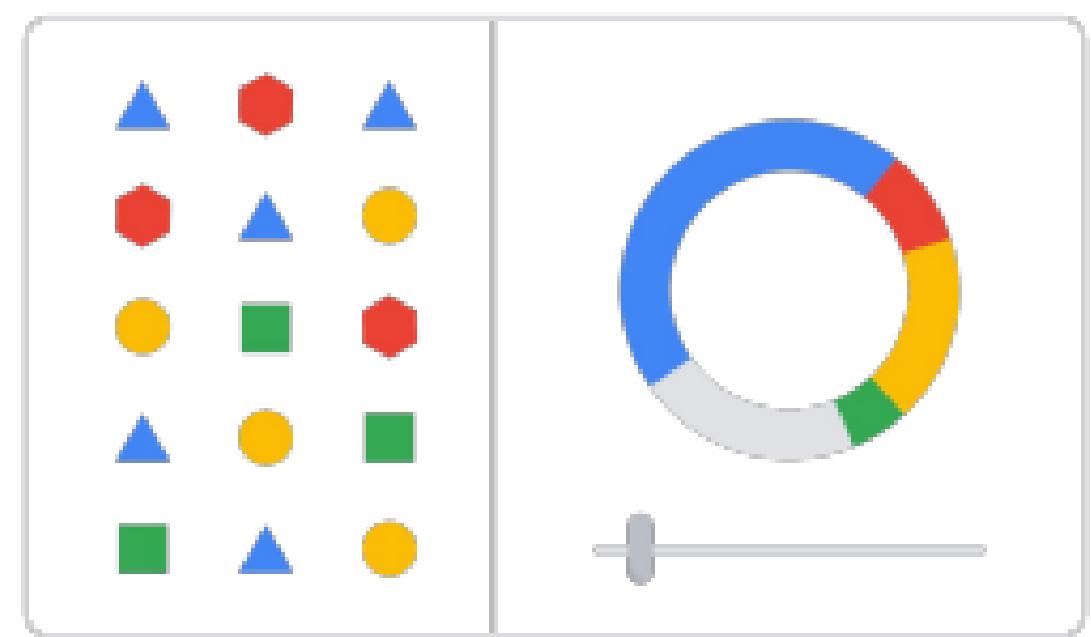
Orders Created Year	2012		2013	
	Orders Created Month Num	Orders Total Revenue	Last Year Revenue	Orders Total Revenue
1 1	\$2,922.37	-	\$4,813.02	\$2,922.37
2 2	\$5,231.76	-	\$8,491.73	\$5,231.76
3 3	\$7,077.91	-	\$9,430.26	\$7,077.91
4 4	\$11,804.10	-	\$15,250.35	\$11,804.10
5 5	\$13,881.63	-	\$18,386.91	\$13,881.63

pivot_offset(\${orders.total_revenue}, -1)

$$(\${orders.total_revenue}-\${last_year_revenue})/\${last_year_revenue}$$



Orders Create Date	Orders Count	Offset List Results	Rolling Average
1 2016-03-23	391	"	-
2 2015-03-24	359	,391	391.00
3 2015-03-25	388	,391,359	375.00
4 2015-03-26	385	391,359,388	379.33
5 2015-03-27	376	359,388,385	377.33
<code>offset_list(\${orders.count}, -3, 3)</code>			
<code>mean(offset_list(\${orders.count}, -3, 3))</code>			



Write Offset Calculations

≡  Looker

← Explore

Find an Explore

- Bigquery Datasets
- Cls Fruit Basket
- E-Commerce
 - Inventory Items
 - Order Items
 - Products
 - Users
- E-Commerce Training
 - E-commerce Training Advanced
 - E-commerce Analytics
- Development Mode 

Your organization's folders

Folders contain Dashboards and Looks for specific groups of people. You can copy, move, or save Dashboards and Looks to a folder. 

New  

Sort by Name  

Customer Metrics Example Folder Human Resources

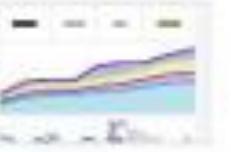
Folders

Dashboards

Sort by Name   

Name  Favorite  

 Business Pulse
65 Views, Created by  

 Business Pulse '21
35 Views, 1 Favorite, Created by  

 Citi bike stations with more than thirty bikes
13 Views, 1 Favorite, Created by  

≡  Looker

Explore

Order Items

Find a Field

All Fields In Use

- Age Tier
- City
- Country
- Created Date
 - Date
 - Month**
 - Quarter
 - Time
 - Week
 - Year
- Email

98 fields [Go to LookML](#)

» Filters

» Visualization

▼ Data **Results** SQL Add calculation

Row Limit 500 Totals

Users Created Month 

Press "Run" to explore this data.

☰ Looker

Explore

Will process 5.03 MB [Run](#) [⚙️](#)

Order Items [🕒](#)

Find a Field [🔍](#) Start typing to search

All Fields In Use

- Age Tier
- City
- Country
- Created Date
 - Date
 - Month
 - Quarter
 - Time
 - Week
 - Year [📅 ⓘ ⋮](#)
- Email

98 fields [Go to LookML](#)

Filters (1) [Custom Filter](#)

Users Created Year is in the year 2018 [✖️](#) [➕](#)

Visualization [Data](#) [Results](#) [SQL](#) [Add calculation](#) Row Limit 500 Totals

Users Created Month [🕒](#) [⚙️](#)

Press “Run” to explore this data.

This screenshot shows the Looker Explore interface. On the left, there's a sidebar titled 'Order Items' with a 'Find a Field' search bar and a dropdown menu for 'All Fields'. Below this are several date-related fields: 'Age Tier', 'City', 'Country', 'Created Date' (with sub-options for Date, Month, Quarter, Time, Week, and Year), and 'Email'. At the bottom of the sidebar, it says '98 fields' and has a link to 'Go to LookML'. The main area is titled 'Explore' and shows a single filter: 'Users Created Year is in the year 2018'. Below the filters, there's a 'Visualization' section with tabs for 'Data', 'Results', 'SQL', and 'Add calculation', along with a 'Row Limit' set to 500 and a 'Totals' checkbox. A message at the bottom says 'Press “Run” to explore this data.'

≡  Looker

Explore

Will process 5.03 MB [Run](#) 

Order Items 

Find a Field

[All Fields](#) [In Use](#)

ID
Last Name
Latitude
Longitude
Map Location
State
Traffic Source
Zip

MEASURES

Count

98 fields [Go to LookML](#)

Filters (1)

 Users Created Year is in the year 2018  

Visualization

Data **Results** **SQL** [Add calculation](#) Row Limit 500

 Users Created Month   Users Count 

Press “Run” to explore this data.

Explore

Will fetch 12 rows from cache

Run



Order Items

Find a Field

Start typing to search

All Fields

In Use

ID

Last Name

Latitude

Longitude

Map Location

State

Traffic Source

Zip

MEASURES

Count

98 fields

Go to LookML

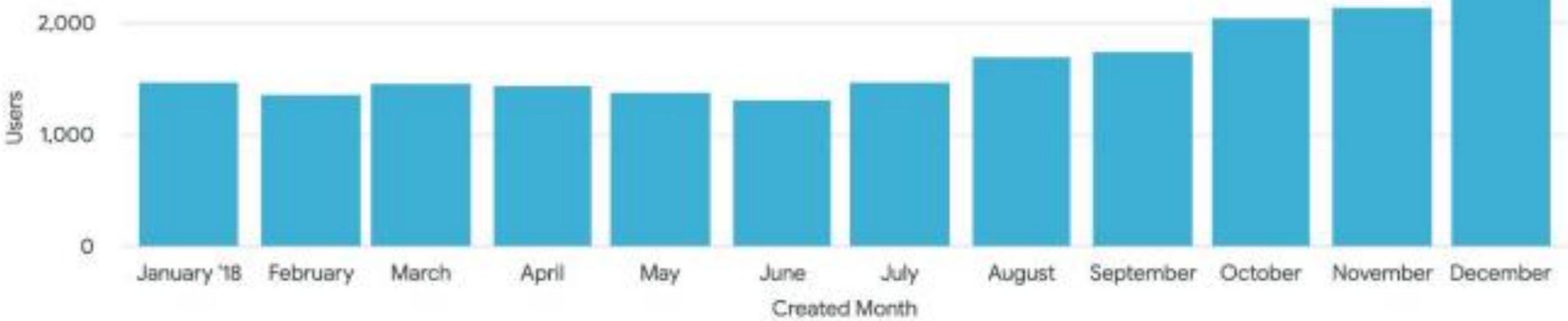
▶ Filters (1) Users Created Year in the year 2018

Visualization



Forecast

Edit



Data

Results

SQL

Add calculation

Row Limit 500

Totals

Users Created Month

Users Count

1	2018-12	2,269
2	2018-11	2,144
3	2018-10	2,047
4	2018-09	1,751
5	2018-08	1,407

≡  Looker

Explore

Order Items

Find a Field

Start typing to search

All Fields

Custom Fields

Distribution Centers

Inventory Items

Order Items

Products

Users

98 fields

Go to LookML

Create table calculation

Calculation * Custom expression

Expression

```
1 offset(${users.count}, 1)
```

As you type, assistance for writing correct expressions will appear here. Keyboard only users: Press Shift and Escape to escape text editor.

Format Default formatting

Name * Users Last Month

Cancel Save

2 rows from cache Run

Forecast Edit

October November December

Row Limit 500 Totals

	2,269	2,144	2,047	1,751	1,407
October					
November					
December					

Looker

Explore

Order Items

Find a Field

Start typing to search

All Fields

Custom Fields

TABLE CALCULATIONS

Users Last Month

Distribution Centers

Inventory Items

Order Items

Products

Users

99 fields

Go to LookML

2 rows from cache

Run

Forecast Edit

Row Limit 500 Totals

Month

Month	Value
2018-03	2144
2018-02	2047
2018-01	1751
	1697
	1494

Create table calculation

Calculation * Custom expression

Expression

1 \${users.count}/\${users_last_month}-1

As you type, assistance for writing correct expressions will appear here. Keyboard only users: Press Shift and Escape to escape text editor.

Format Percent Decimals 0 100,012%

Name * Diff From Last Month

Cancel Save

The screenshot shows the Looker interface with a modal dialog titled "Create table calculation". The dialog has the following fields:

- Calculation type: Custom expression
- Expression: 1 \${users.count}/\${users.last_month}-1
- Format: Percent
- Decimals: 0
- Name: Diff From Last Month

The background shows a bar chart with three bars and a table with four rows. The table has columns labeled "Month" and "Value". The values are 2144, 2047, 1751, and 1697 respectively. There are also buttons for "Run", "Forecast", "Edit", "Row Limit 500", and "Totals". The overall interface is clean and modern, with a dark header and light body.

Explore

Will fetch 12 rows from cache

Run



Order Items

Find a Field

Start typing to search

All Fields

In Use

Custom Fields

+ Add 2

TABLE CALCULATIONS

Diff From Last Month

Users Last Month

Distribution Centers

Inventory Items

Order Items

Products

Users

3

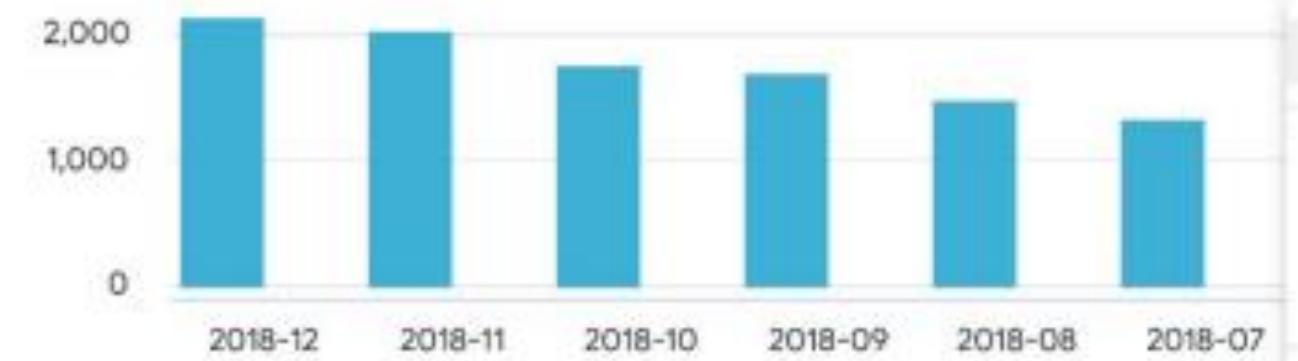
100+ fields

Go to LinkedIn

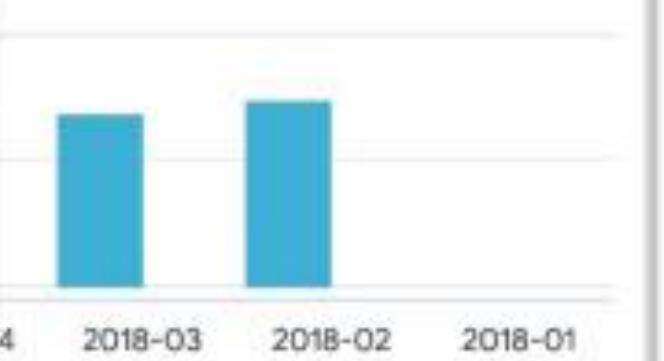
▶ Filters (1) Users Created Year in the year 2018

▼ Visualization

Forecast Edit



Remove
Edit calculation
Duplicate
Delete
Create Calculations
Users Last Month Hide from visualization



▼ Data Results SQL Add calculation Copy values Row Limit 500 Totals

Users Created Month	Users Count	Users Last Month	Diff From Last Month
1 2018-12	2,269	2144	6%
2 2018-11	2,144	2047	5%
3 2018-10	2,047	1751	17%
4 2018-09	1,751	1697	3%
5 2018-08	1,407	1401	4%

Explore

Will fetch 12 rows from cache

Run



Order Items

Find a Field

Start typing to search

All Fields

In Use

Custom Fields

+ Add 2

TABLE CALCULATIONS

Diff From Last Month

Users Last Month

Distribution Centers

Inventory Items

Order Items

Products

Users

3

100 fields

Go to LookML

▶ Filters (1) Users Created Year in the year 2018

▼ Visualization



Forecast

Edit

Data

Results

SQL

Add calculation

Row Limit 500

 Totals

Users Created Month	Users Count	Users Last Month	Diff From Last Month
1 2018-12	2,269	2,144	6%
2 2018-11	2,144	2,047	5%
3 2018-10	2,047	1,751	17%
4 2018-09	1,751	1,697	3%
5 2018-08	+ 407	+ 101	+ 5%

Write Offset Calculations Example

← Explore

 Find an Explore

- Bigquery Datasets
- Cis Fruit Basket
- ▼ E-Commerce
 - Inventory Items
 - Order Items
- Products
- Users
- E-Commerce Training
- E-commerce Training Advanced
- ▼ Ecommerce Analytics

 Development Mode 

Your organization's folders

[New](#)

Folders

Sort by Name [Customer Metrics](#)[Example Folder](#)[Human Resources](#)

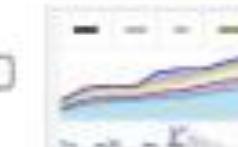
Dashboards

Sort by Name   Name 

Favorite

[Business Pulse](#)

65 Views, Created by

[Business Pulse '21](#)

35 Views, 1 Favorite, Created by

[Citi bike stations with more than thirty bikes](#)

13 Views, 1 Favorite, Created by



Explore

Will process 0.0 bytes

Run



Order Items



Find a Field

 Start typing to search

All Fields

In Use

Status

User ID

MEASURES

Average Sale Price

Average Spend per User

Order Count

Order Item Count

Total Revenue

Total Revenue from Completed Orders

Products

98 fields

Go to LookML

▼ Filters

 Custom Filter

No filters selected.

▶ Visualization

▼ Data

Results

SQL

Add calculation

Row Limit 500

 Totals

Order Items Order Item Count



Press "Run" to explore this data.

≡  Looker

Explore

Will process 2.13 MB Run 

Order Items 

Find a Field

All Fields In Use

Inventory Items

Order Items  2

DIMENSIONS

Created Date

Delivered Date

Date

Month

Quarter

Week 

Year

ID

98 fields [Go to LookML](#)

Filters  Custom Filter

No filters selected.

Visualization 

Data Results SQL Add calculation Row Limit 500 Totals

Order Items Delivered Week  Order Items Order Item Count 

Press "Run" to explore this data.

≡  Looker

Explore

Will process 2.13 MB Run 

Order Items 

Find a Field

All Fields In Use

► Inventory Items

▼ Order Items 3

DIMENSIONS

► Created Date

▼ Delivered Date

Date 
Month
Quarter
Week 
Year

ID

98 fields [Go to LookML](#)

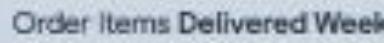
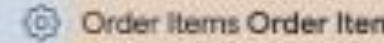
▼ Filters (1) Custom Filter

 Order Items Delivered Date Is in range until (before) X +

► Visualization

▼ Data Row Limit 500 Totals

Results SQL Add calculation

 Order Items Delivered Week   Order Items Order Item Count 

Press "Run" to explore this data.

≡  Looker

Explore

52 rows · 1s · just now Run ⚙️

Order Items 🕒

Find a Field 🔍 Start typing to search

All Fields In Use

► Inventory Items

► Order Items 3

DIMENSIONS

► Created Date

► Delivered Date

Date 📅

Month

Quarter

Week 🕒

Year

ID

98 fields Go to LookML

▼ Filters (1) Custom Filter

Order Items Delivered Date is in range Dec 31, 2018 until (before) Dec 30, 2019 X +

► Visualization

▼ Data Results SQL Add calculation Row Limit 500 Totals

Order Items Delivered Week 🕒	Order Items Order Item Count
1 2019-12-23	1,394
2 2019-12-16	1,371
3 2019-12-09	1,421
4 2019-12-02	1,285
5 2019-11-25	1,217
6 2019-11-18	1,295
7 2019-11-11	1,308
8 2019-11-04	1,208
9 2019-10-28	1,154
10 2019-10-21	1,206
11 2019-10-14	1,177

Explore

52 rows · 1s · just now

Run



Order Items

Find a Field

Start typing to search

Filters (1)

Custom Filter

Order Items Delivered Date

is in range

Dec 31, 2018

until (before)

Dec 30, 2019



All Fields

In Use

Custom Fields

+ Add

Distribution Centers

Inventory Items

Order Items

Products

Users

98 fields

Go to LookML

Visualization

Data

Results

SQL

Add calculation

Row Limit 500

Totals

Custom Dimension

Custom Measure

Table Calculation

5 2019-11-25

6 2019-11-18

7 2019-11-11

8 2019-11-04

9 2019-10-28

10 2019-10-21

++ 2019-10-++

Ordered Week ⏪ ↓

Custom Week ⏪ ↓

Order Items Order Item Count



1,394

1,371

1,421

1,285

1,217

1,295

1,308

1,208

1,154

1,206

1,110

Explore

Order Items

Find a Field

 Start typing to search

All Fields

Custom Fields

Distribution Centers

Inventory Items

Order Items

Products

Users

98 fields

Create table calculation

Calculation *

% change from previous row

Difference between the current row's value and value of the row below, divided by the value of the row below.

Source column *

Order Items Order Item Count

Format

Percent

Decimals

1

100,012.3%

Name *

Percent Change from Previous Week

+ Add description

Cancel

Save

7	2019-11-01
8	2019-11-04
9	2019-10-28
10	2019-10-21
...	... 2019-10-19 ...

Go to LookML

rows - 1s - 3m ago

Run

Custom Filter

X +

Row Limit 500

Totals

...

1,394

1,371

1,421

1,285

1,217

1,295

1,308

1,208

1,154

1,206

...

≡  Looker

Explore

Will fetch 52 rows from cache Run ⚙️

Order Items 🕒

Find a Field

All Fields In Use

Custom Fields + Add 1

TABLE CALCULATIONS

Percent Change from Previous Week

Distribution Centers

Inventory Items

Order Items 3

Products

Users

99 fields Go to LookML

▶ Filters (1) Order Items Delivered Date is from 2018/12/31 until 2019/12/30

▶ Visualization

Data Results SQL Add calculation

Row Limit 500 Totals

	Order Items Delivered Week ⏪ ↓	Order Items Order Item Count	Percent Change from Previous Week
1	2019-12-23	1,394	1.7%
2	2019-12-16	1,371	-3.5%
3	2019-12-09	1,421	10.6%
4	2019-12-02	1,285	5.6%
5	2019-11-25	1,217	-6.0%
6	2019-11-18	1,295	-1.0%
7	2019-11-11	1,308	8.3%
8	2019-11-04	1,208	4.7%
9	2019-10-28	1,154	-4.3%
10	2019-10-21	1,206	3.3%
11	2019-10-14	1,168	5.2%
12	2019-10-07	1,110	-4.2%
13	2019-09-30	1,159	4.1%
14	2019-09-23	1,113	-8.6%
15	2019-09-16	1,218	6.8%

Explore

Will fetch 52 rows from cache

Run



Order Items

Find a Field

Start typing to search

All Fields

In Use

Custom Fields

+ Add 1

TABLE CALCULATIONS

Percent Change from Previous Week

Distribution Centers

Inventory Items

Order Items

3

Products

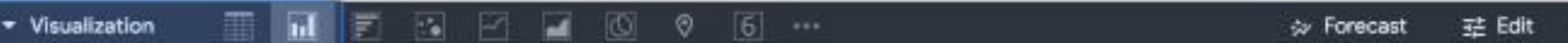
Users

99 fields

Go to LookML

▶ Filters (1) Order Items Delivered Date is from 2018/12/31 until 2019/12/30

▼ Visualization



Forecast

Edit

▼ Data

Results

SQL

Add calculation

Row Limit 500

Totals

Order Items Delivered Week ⏪ ↓

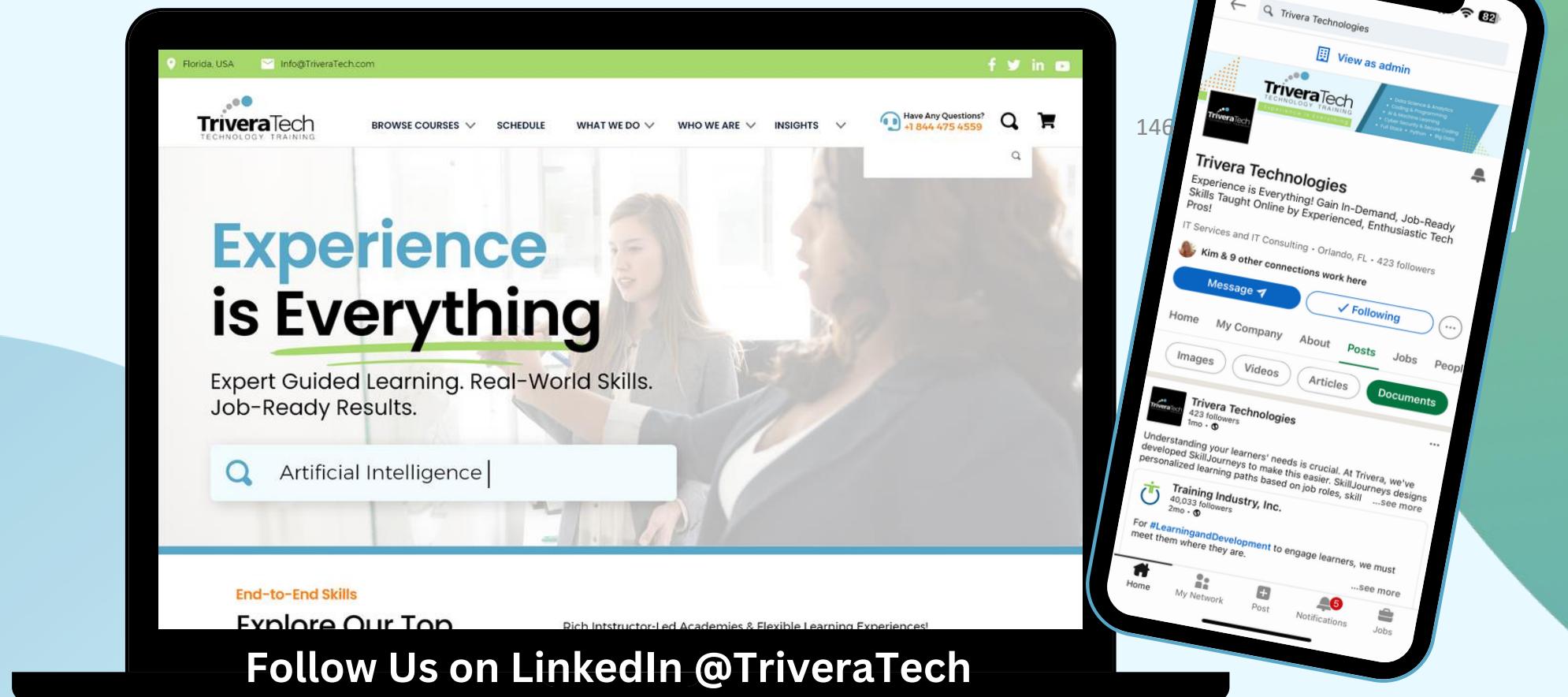
Order Items Delivered Week	Order Items Order Item Count	Percent Change from Previous Week
1 2019-12-23	1,394	1.7%
2 2019-12-16	1,371	-3.5%
3 2019-12-09	1,421	10.6%
4 2019-12-02	1,285	5.6%
5 2019-11-26	1,317	-4.0%

Any Questions? Thanks for joining us!

We appreciate the time you spent with us today.

To Continue Your AI Skills Journey:

- Review the companion tip guide: **AI for All: Ensuring Safe Use in Your Workplace**
- Explore our 50+ courses in end-to-end AI skills at www.TriveraTech.com or contact Info@triveratech.com
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- MLOps, AIOps & Machine Learning Engineering
- Data Literacy, Data Science & Data Engineering
- PowerBI, Tableau, Oracle, Microsoft, Looker
- Cloud Foundation to Engineering
- Azure / AWS / GCP
- Python
- Full Stack Web Development & Mobile
- Coding / Intro to Advanced: Java, .Net, C++
- Secure Coding & Cybersecurity
- And Much More
- Onsite / Online / Blended / Self-Paced
- Training for Individuals, Teams or Enterprise Solutions
- Boot Camps / SkillJourneys / Assessments / Coaching / End to End Skills Programs