

Breathe Life into Your Dying Data


Turning Your Data Into Information

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@GeorgiaGovTeam

GEORGIA GOV

1,000,000,000,000,000



Spot the LIONS



How would you stalk these IMPALAS?



LIONS and IMPALAS



The BRAIN

- Matching shapes
- Seeing patterns
- Focusing on the important; Ignoring the unimportant
- High-speed problem solving

Data Visualization

- Convey desired meanings
- Group elements
- Filter
- Correct interpretations to visual problems

The BENEFITS

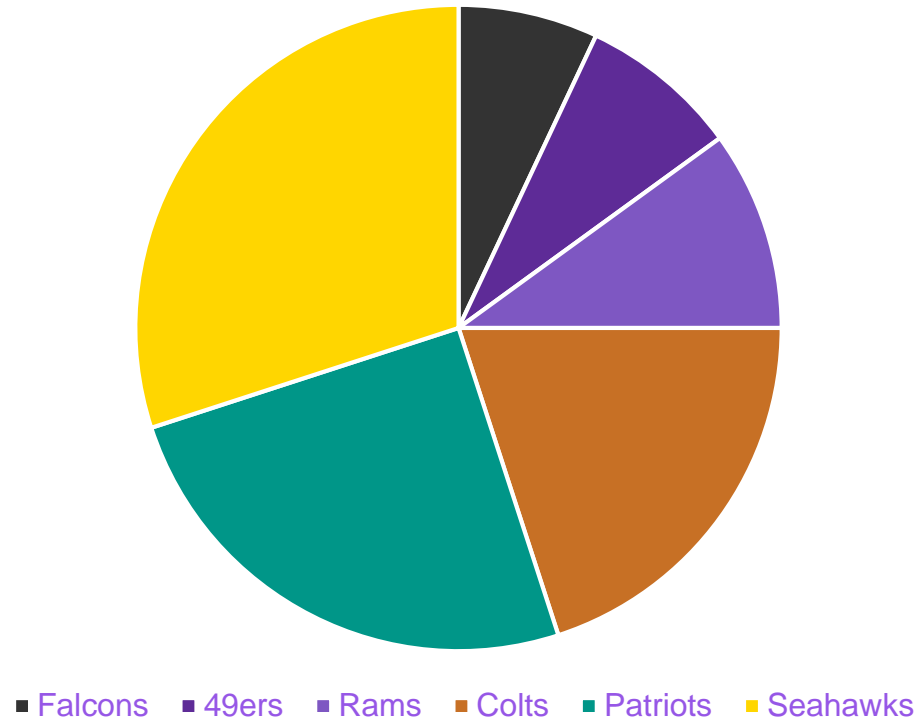
- Comprehend information quickly
- Identify relationships and patterns
- Pinpoint emerging trends
- Communicate the story to others

Playtime



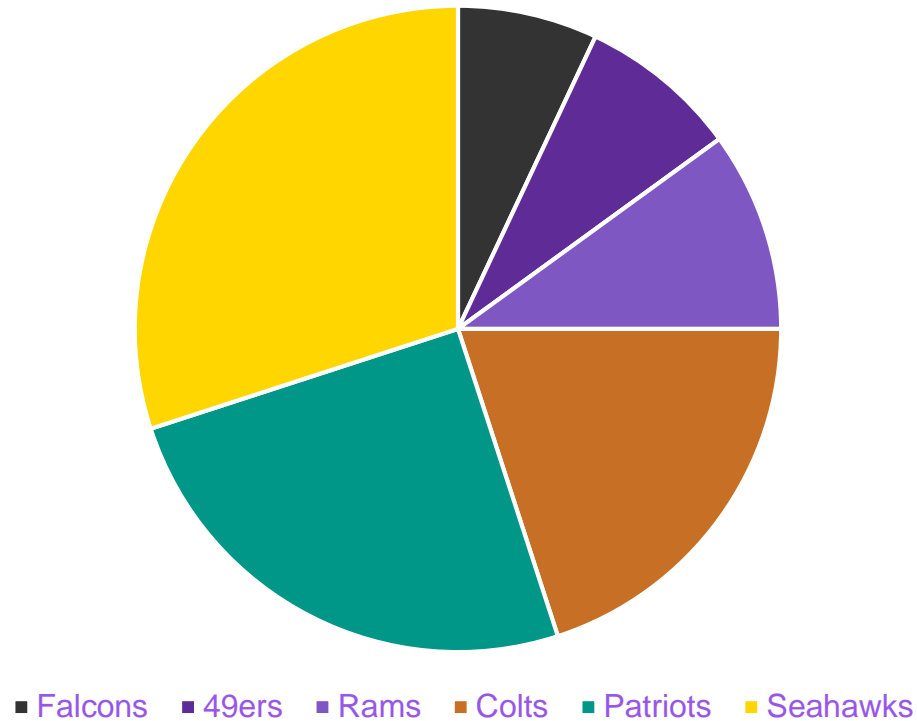
What sport has the MOST championships?

Football Teams



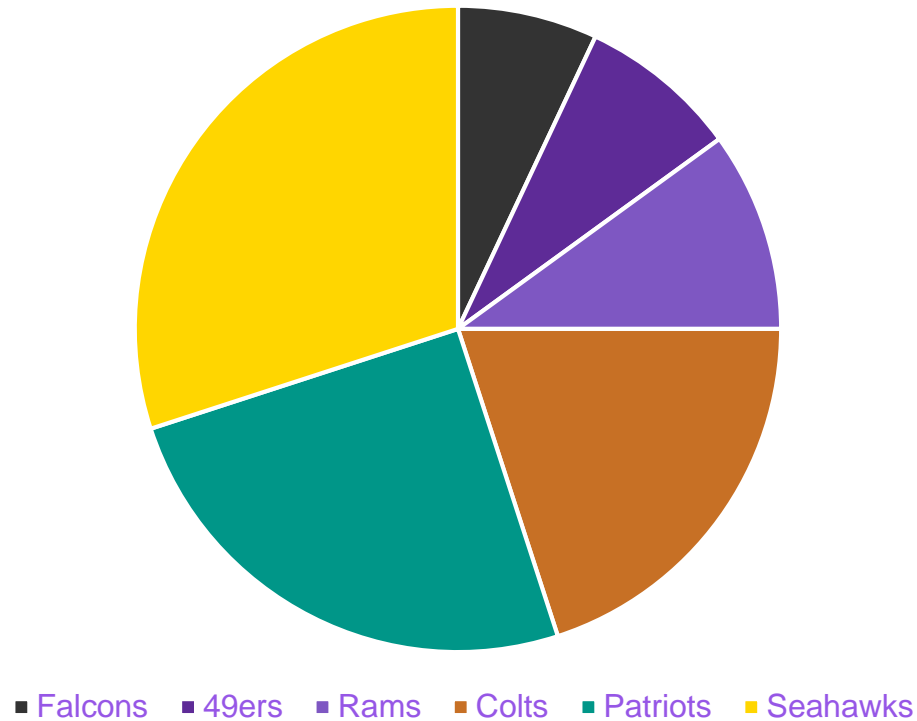
What sport has the SECOND MOST championships?

Football Teams



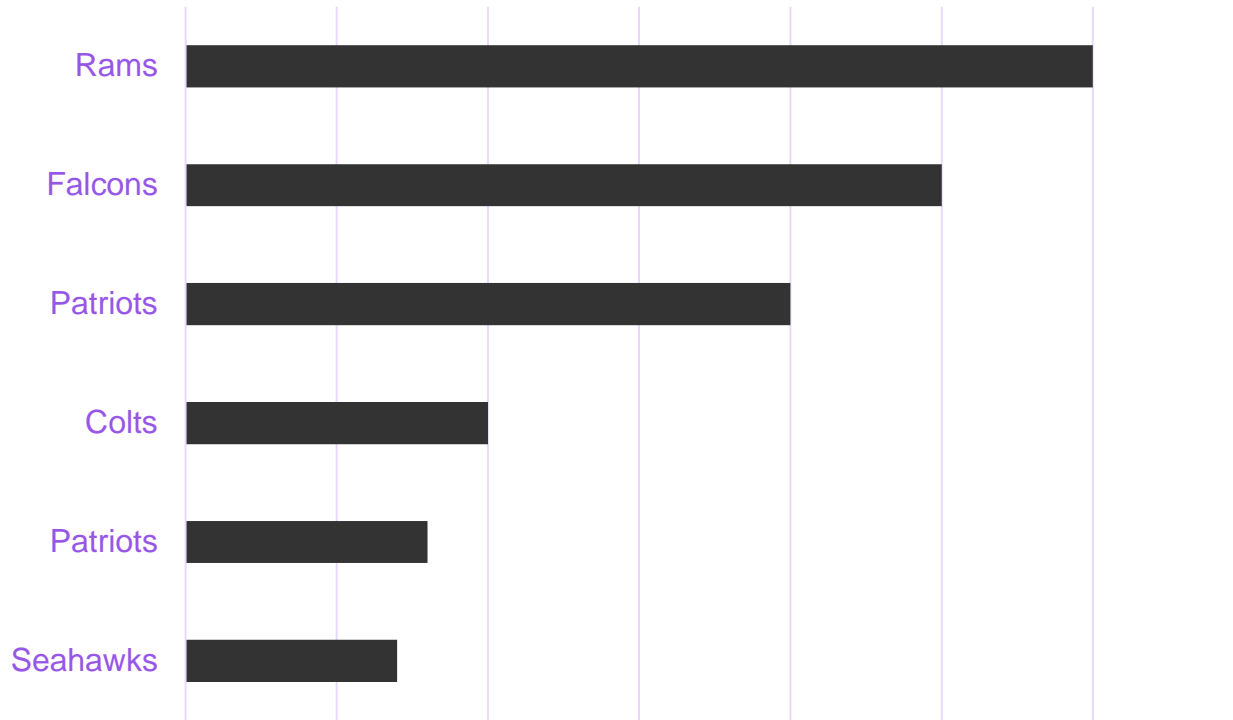
What sport has the FEWEST championships?

Football Teams



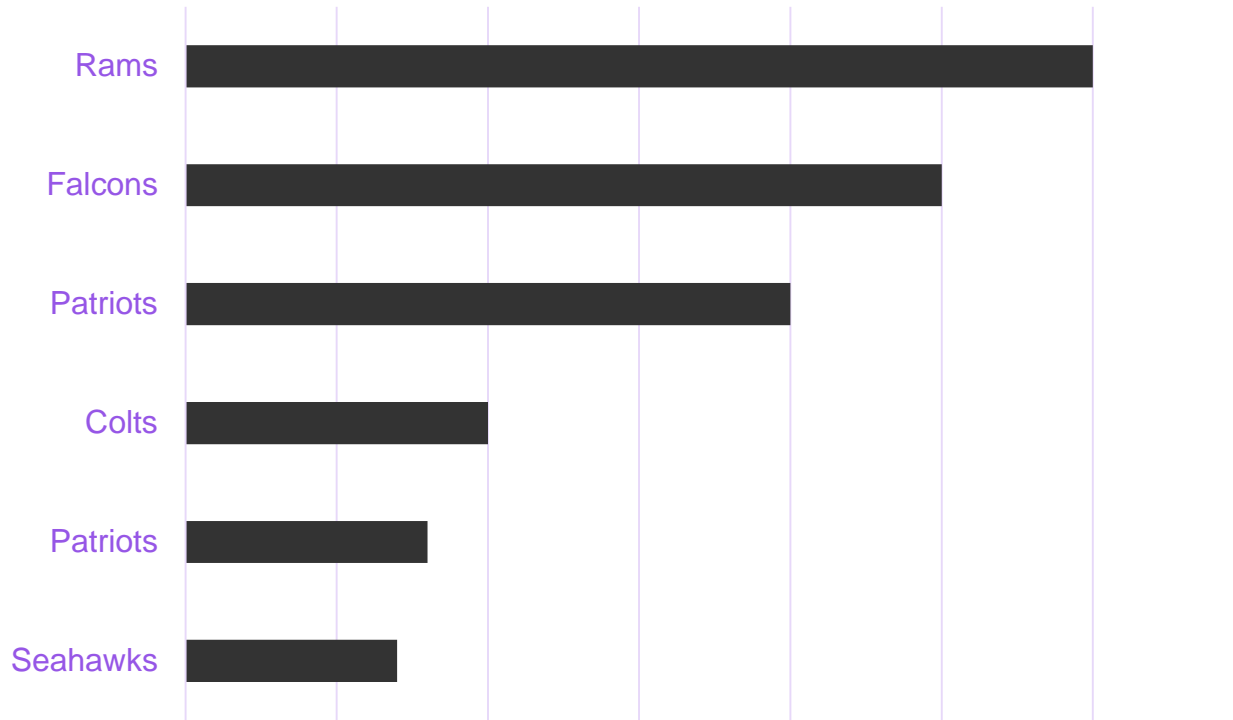
What sport has the MOST championships?

Football Teams



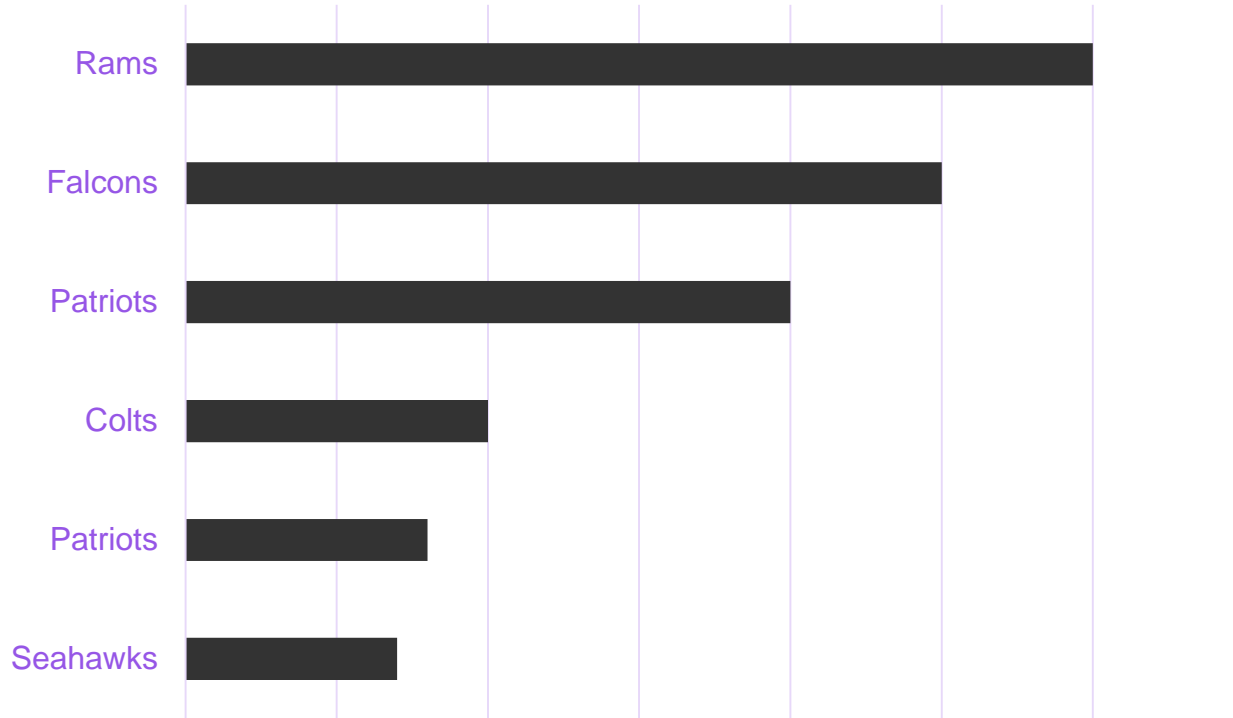
What sport has the **SECOND MOST** championships?

Football Teams



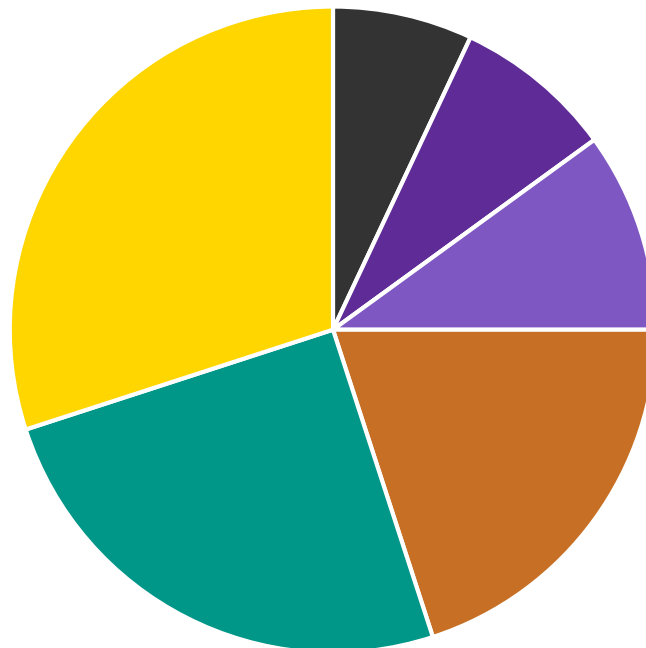
What team has the FEWEST championships?

Football Teams



Pie Chart Answers

Football Teams



■ Falcons ■ 49ers ■ Rams ■ Colts ■ Patriots ■ Seahawks

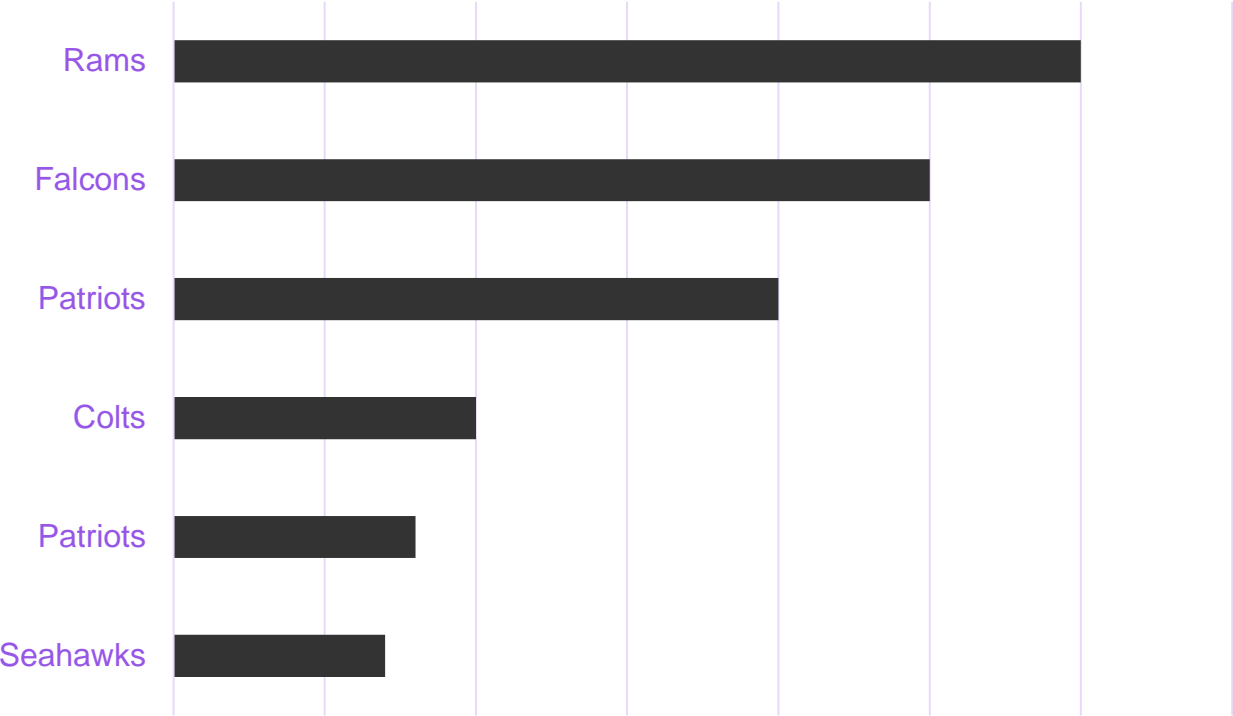
MOST: Seahawks

SECOND MOST: Patriots

FEWEST: Falcons

Bar Chart Answers

Football Teams



FEWEST: Seahawks
SECOND MOST: Falcons
MOST: Rams

Your Role and Data Visualization



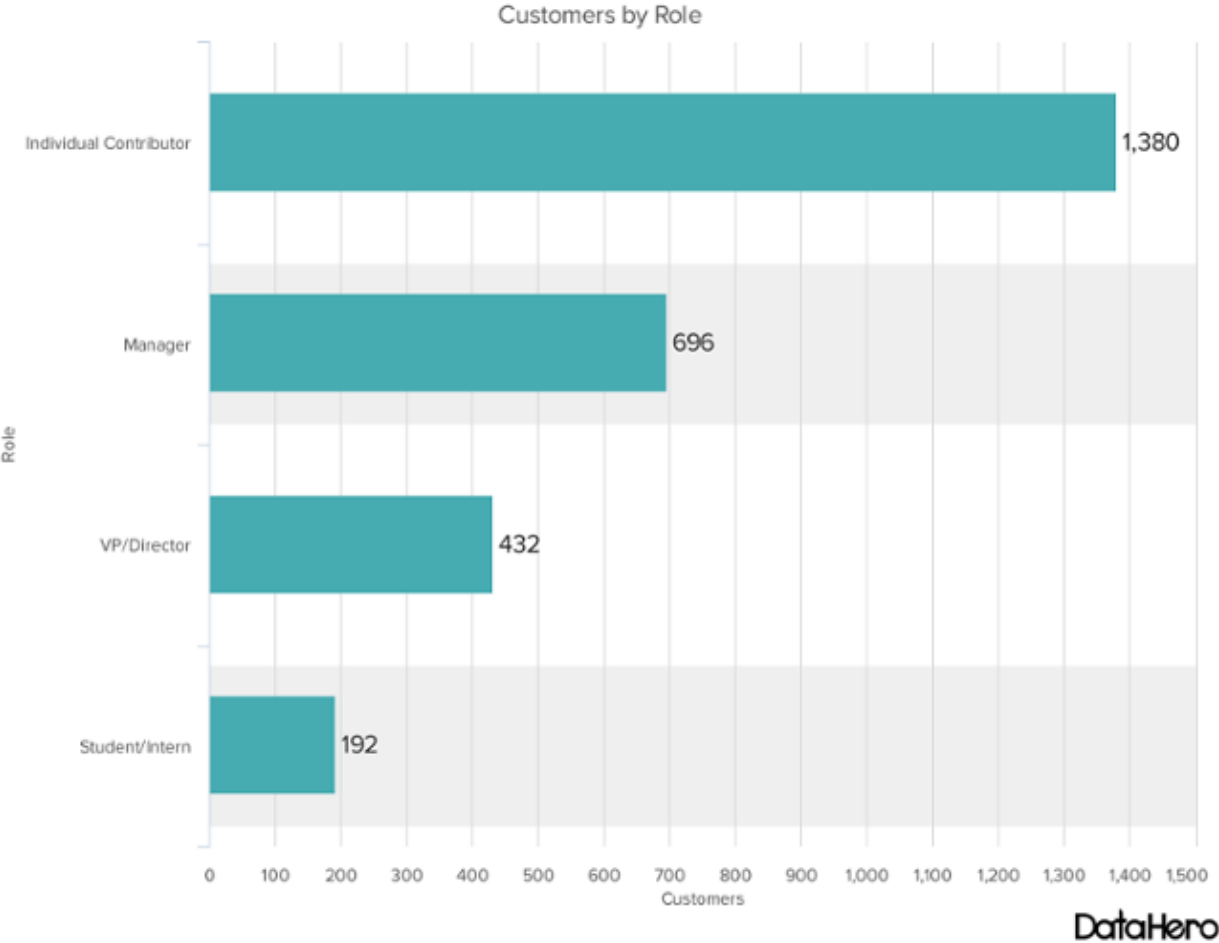
1. Do you want to COMPARE VALUES?

- Column
- Bar
- Circular Area
- Line
- Scatter Plot
- Bullet

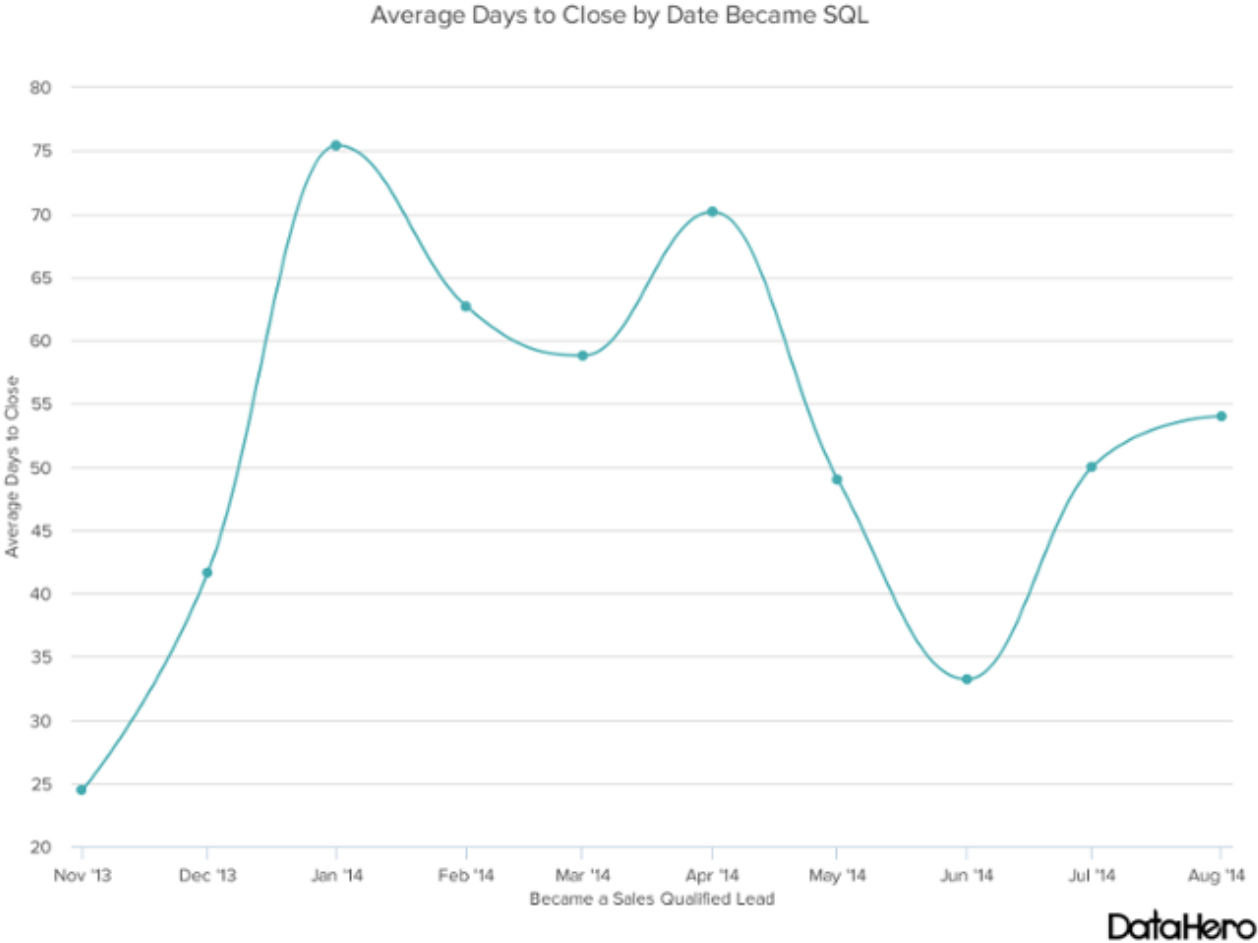
Column



Bar



Line

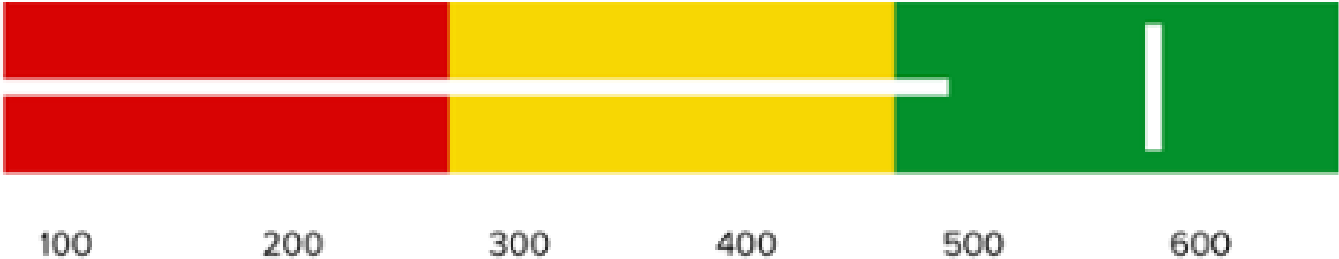


Scatter Plot



Bullet

New Customers

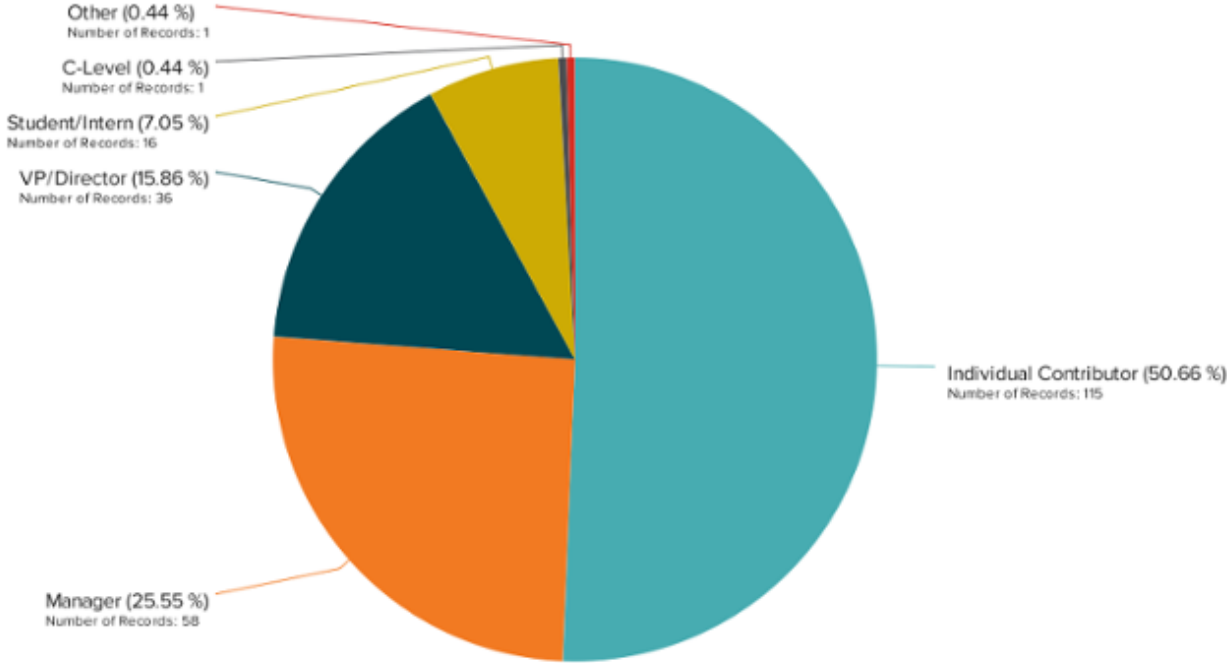


2. Do you want to show the **COMPOSITION** of something?

- Pie
- Stacked Bar
- Stacked Column
- Area
- Waterfall

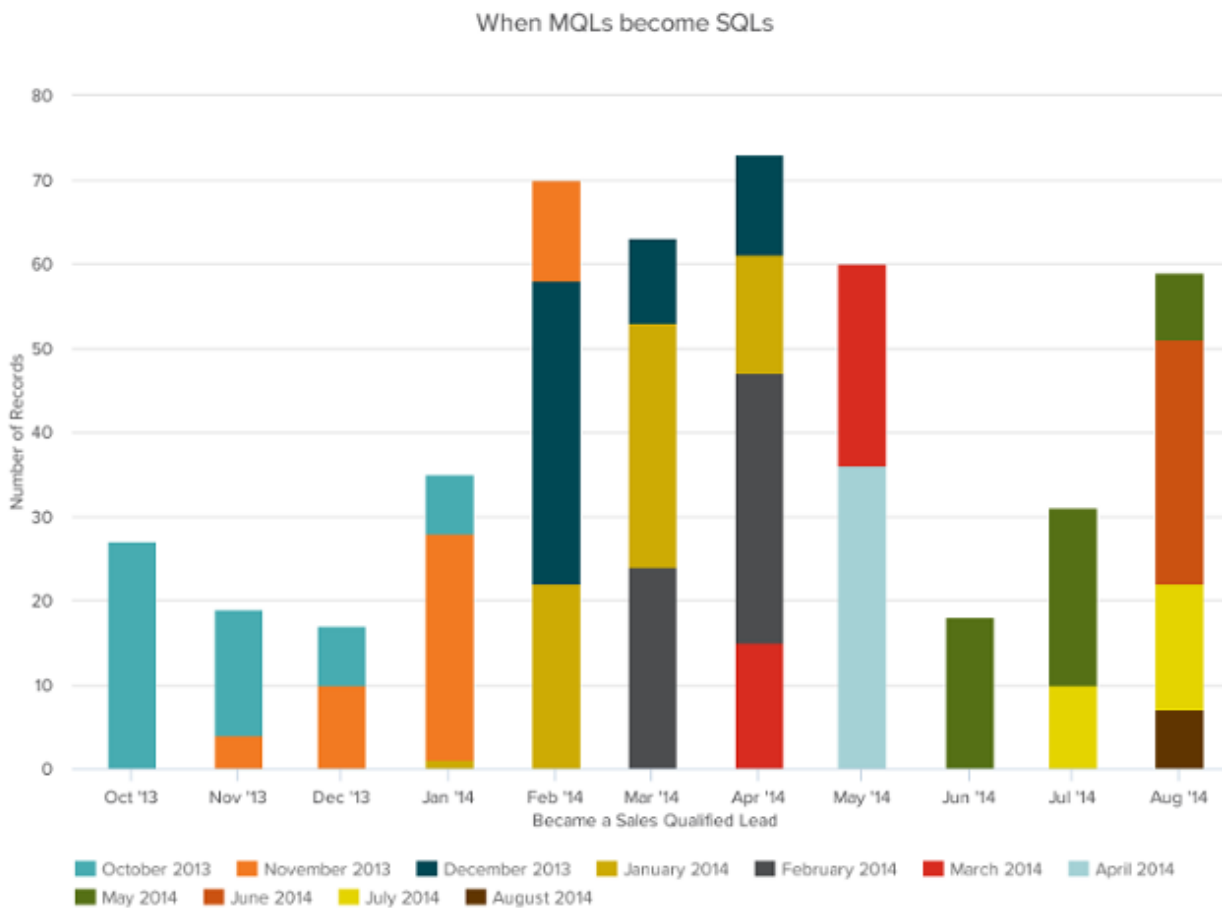
Pie

Customers by Role in Company



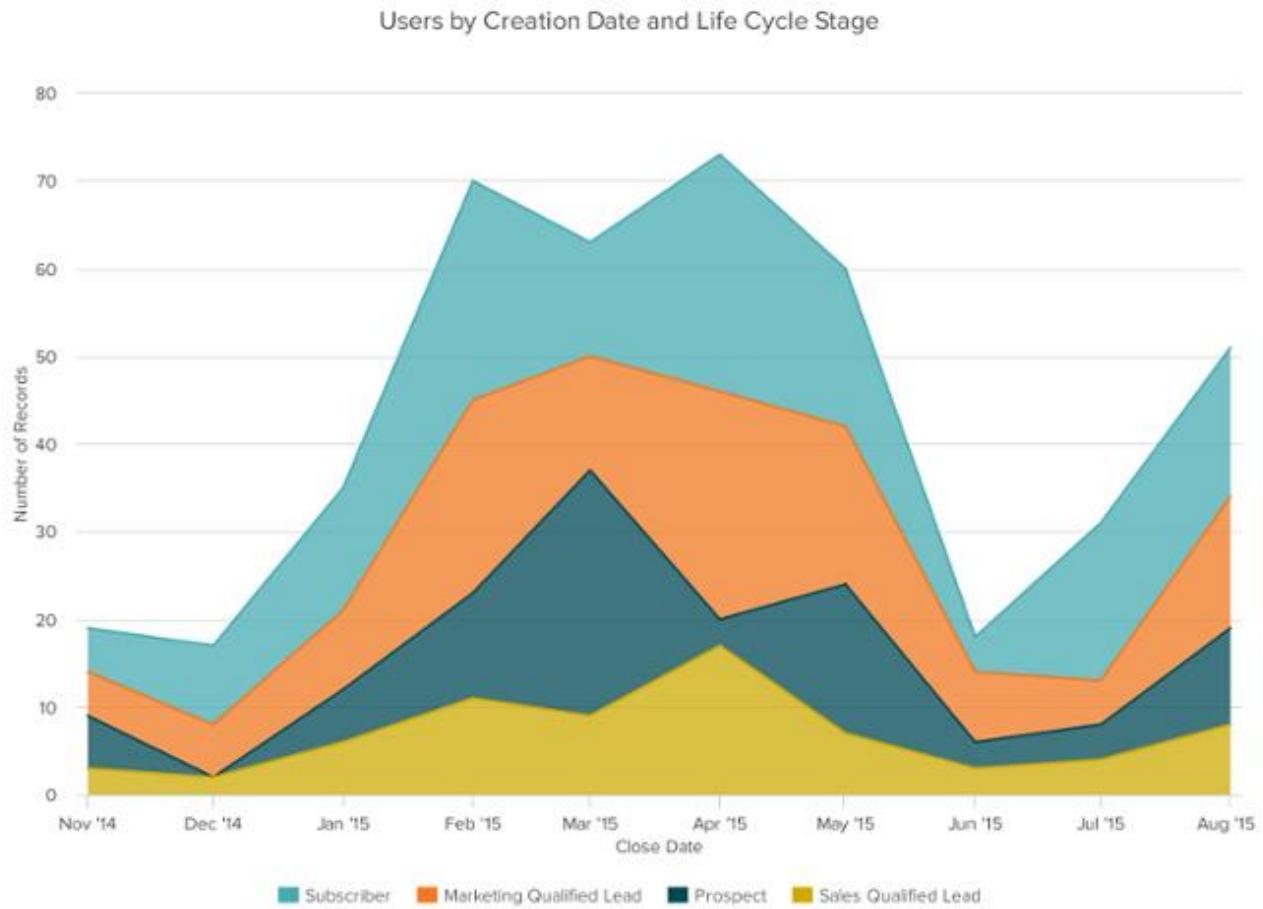
DataHero

Stacked Bar



DataHero

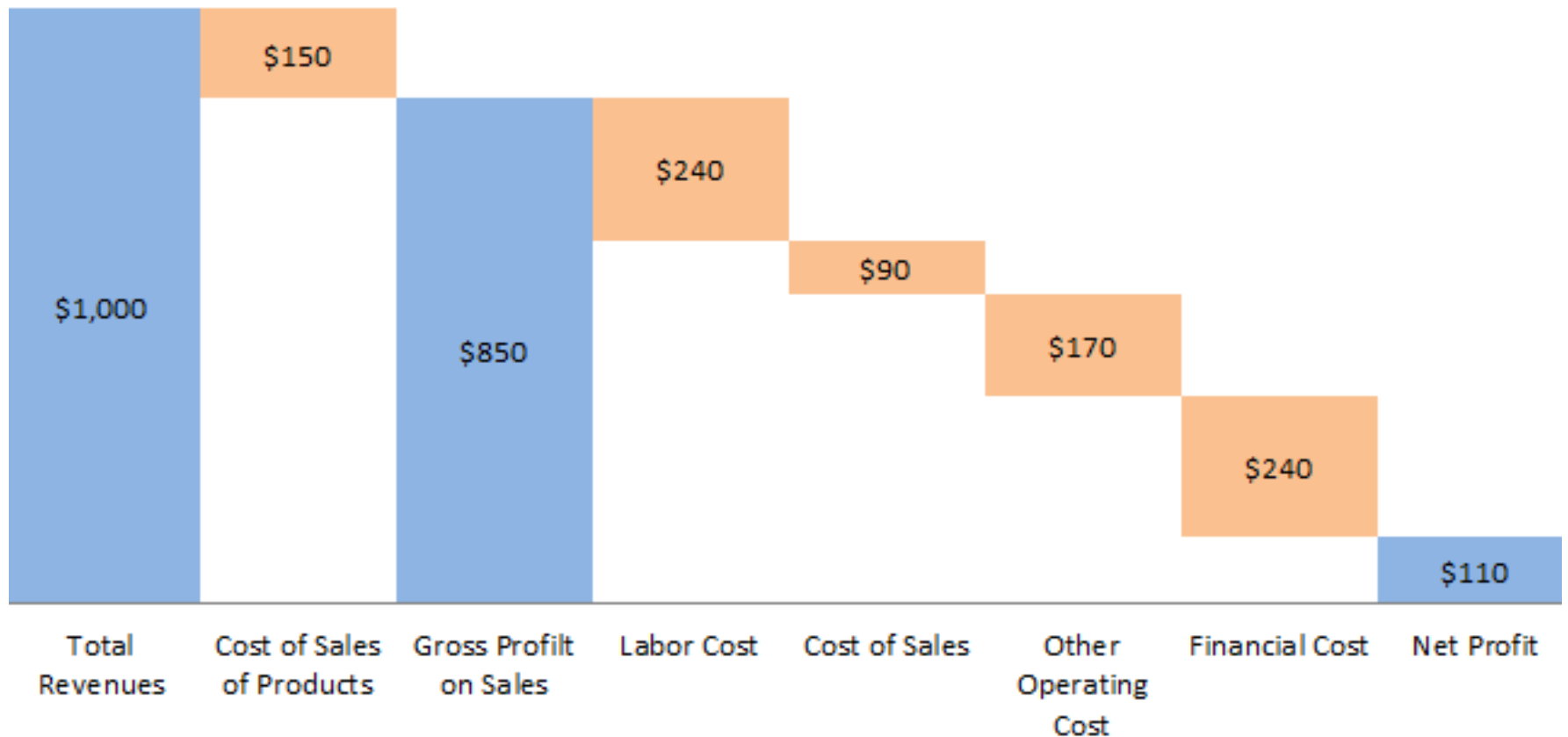
Area



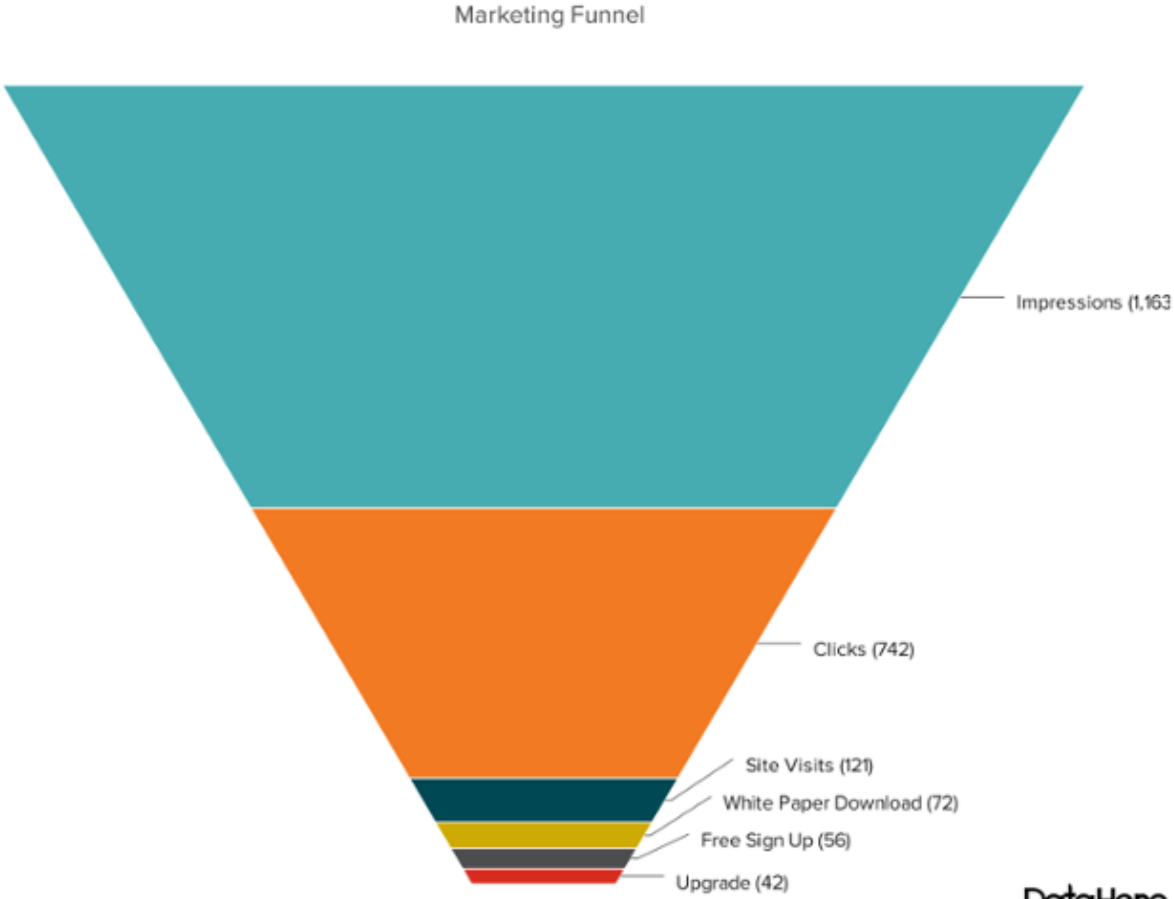
DataHero

Waterfall

Product Profit Analysis



Funnel



DataHero

3. Do you want to understand the **DISTRIBUTION** of your data?

- Scatter Plot
- Line
- Column
- Bar

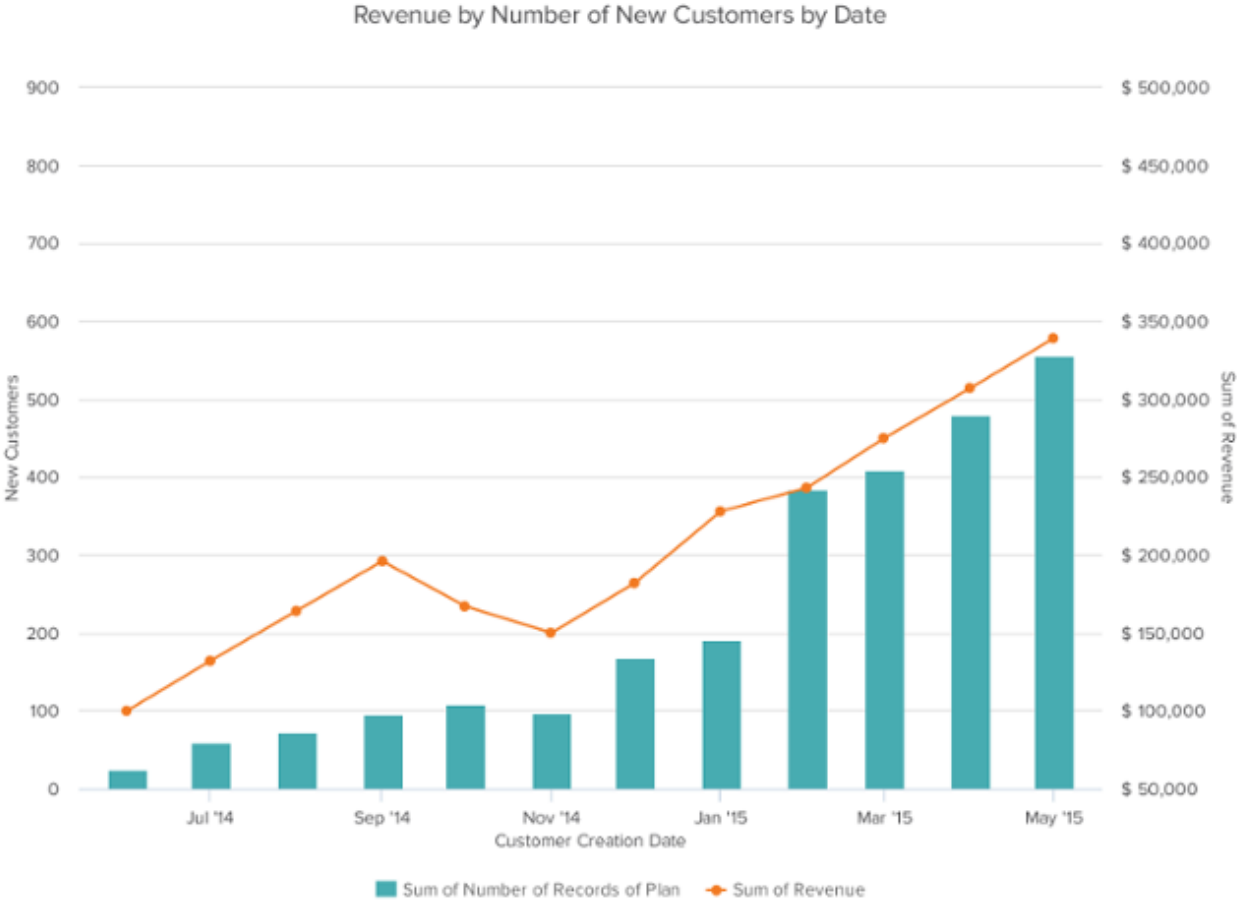
Scatter Plot



4. Are you interested in ANALYZING TRENDS in your data set?

- Line
- Dual-Axis Line
- Column

Dual Axis

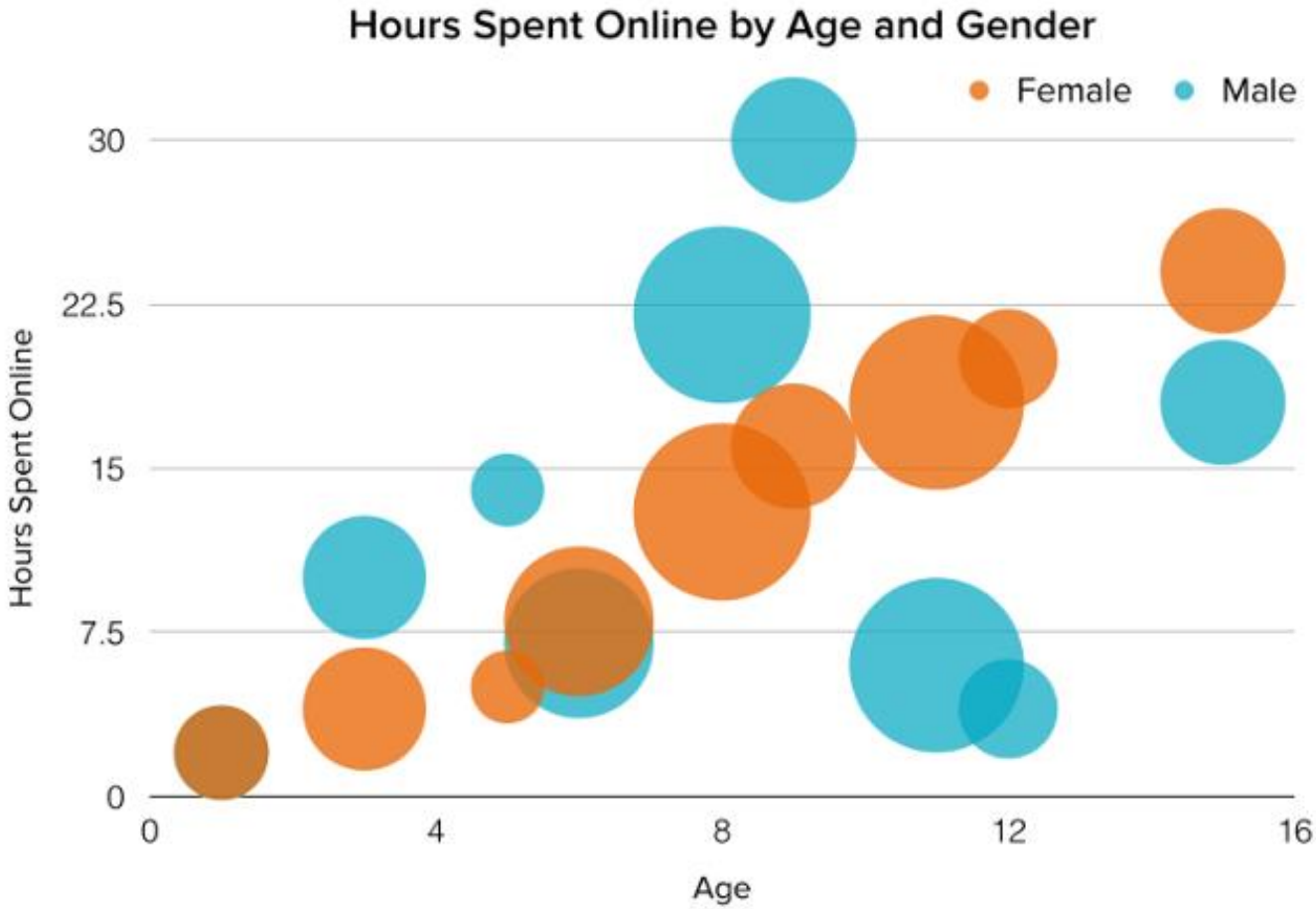


DataHero

5. Do you want to see the **RELATIONSHIP BETWEEN** value sets?

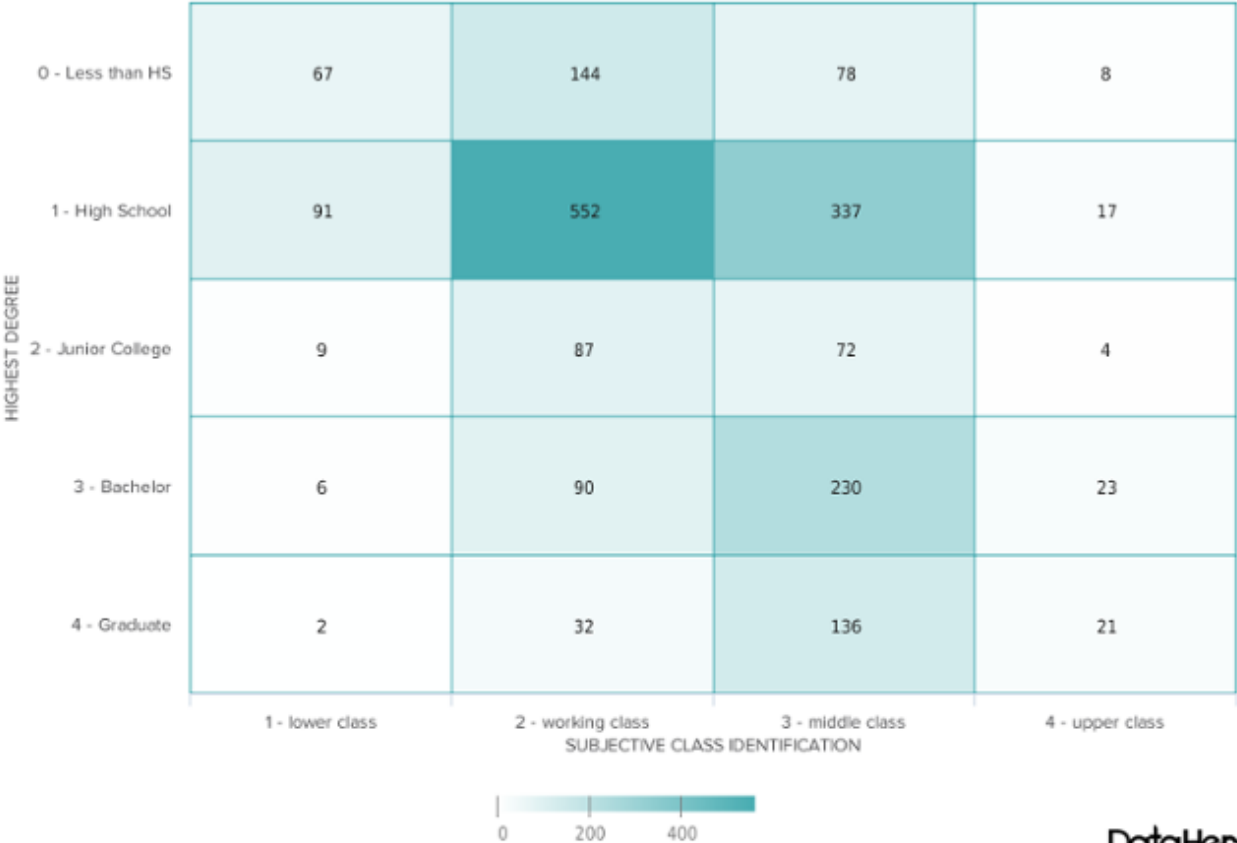
- Scatter Plot
- Bubble
- Line
- Heat Map

Bubble



Heat Map

Highest Degree vs. Class Identification



Your Role



regardless of your role...

**COMMUNICATE BETTER
WITH YOUR AUDIENCE**

regardless of your role...

VISUALIZE RISK

EXPOSURE and

IDENTIFY PROBLEMS

- scale

regardless of your role...

**FORECAST and PLAN
for FUTURE PROJECTS**

regardless of your role...

**IDENTIFY ISSUES in
CONTENT, TRAINING,
and SYSTEMS**

Government and Data



Excel

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	sys_sch	SystemId	SystemName	SchoolName	SchoolId	Grade	Cluster	total_enroll	SingleScore	performance_9E	performance_10E	performance_9M	performance_17H	performance_11H	performance_12H
2	761192	761	Atlanta Public	North Atlanta High	192	D									
	761192	761	Atlanta Public Schools	North Atlanta High School	192	C	H	1657	76.4				81.5	59.2	62.5
3															
4	761192	761	Atlanta Public	North Atlanta High	192	C	H	1596	72.9				73.5	56.8	62.8
5	761192	761	Atlanta Public	North Atlanta High	192	C	H	1413	70.6				80.2		
		761	Atlanta Public Schools					50032	67	46.5	58.6	55	71.5	41.2	49.2
6															
7		761	Atlanta Public					49023	62.6	55	57.8	69.1	59.1	40.4	53.4
8		761	Atlanta Public					48460	65.3	56	55.4	63.9	58.6		
9		ALL	All Systems						75.5	51.6	65.7	66.7	79	61.4	47.5
10		ALL	All Systems						72.3	63.7	67.7	78.6	72.6	60.9	49.8
11		ALL	All Systems						75.8	65	65.3	73.4	71.8		

North Atlanta High School

C

76.4

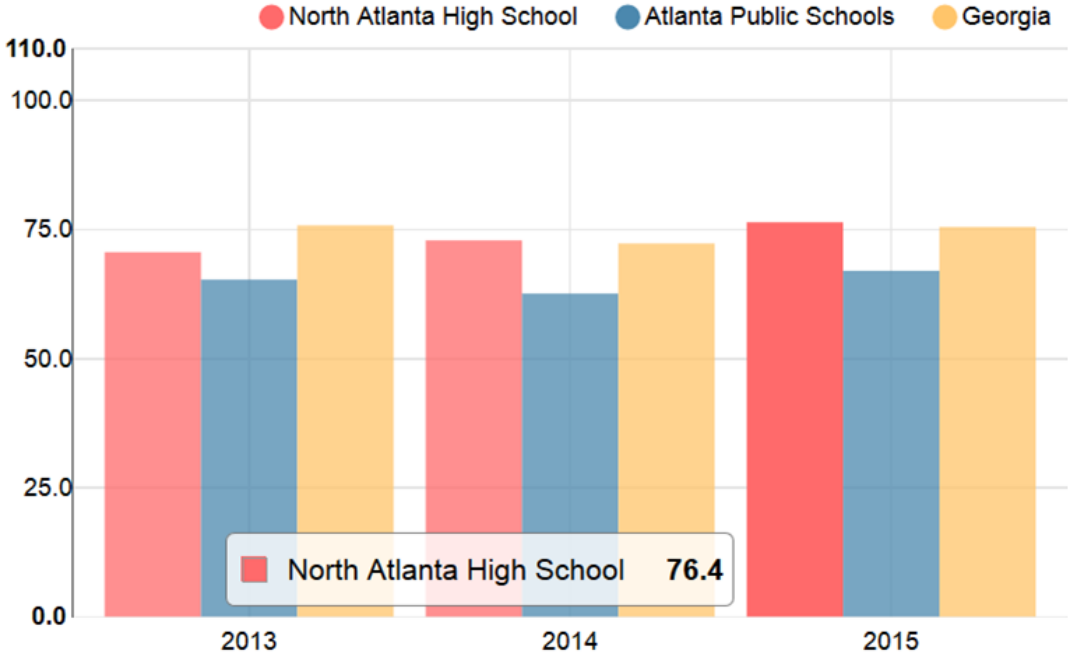


Year	North Atlanta High School
2015	C
2014	C
2013	C
2012	D

Grade conversion	
A	90 - 100
B	80 - 89.9
C	70 - 79.9
D	60 - 69.9
F	0 - 59.9

North Atlanta High School

CCRPI Single Score



Students with Disability (SWD)

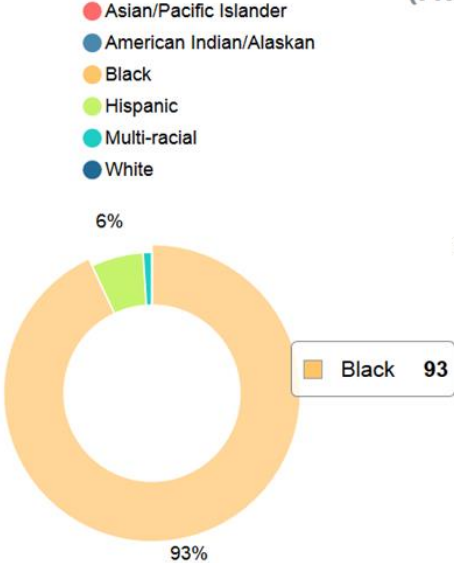
● SWD ● Not SWD

English Language Learners (ELL)

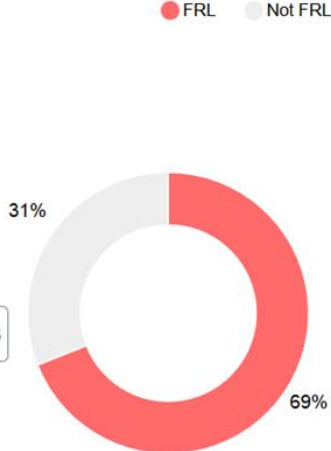
● ELL ● Not ELL

KIPP South Fulton Academy School

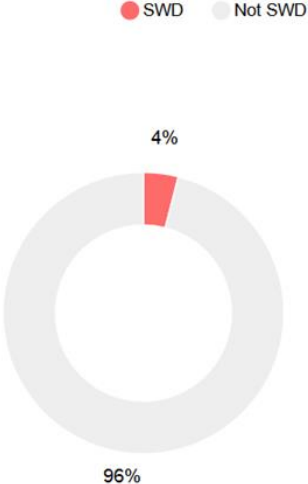
Race/Ethnicity



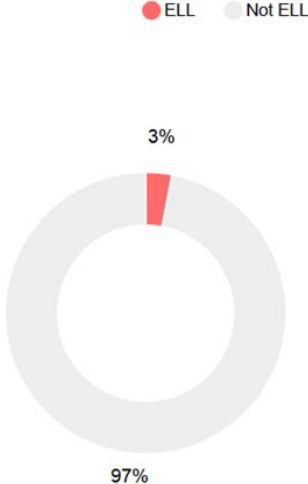
Free/Reduced-Price Lunch (FRL)



Students with Disability (SWD)

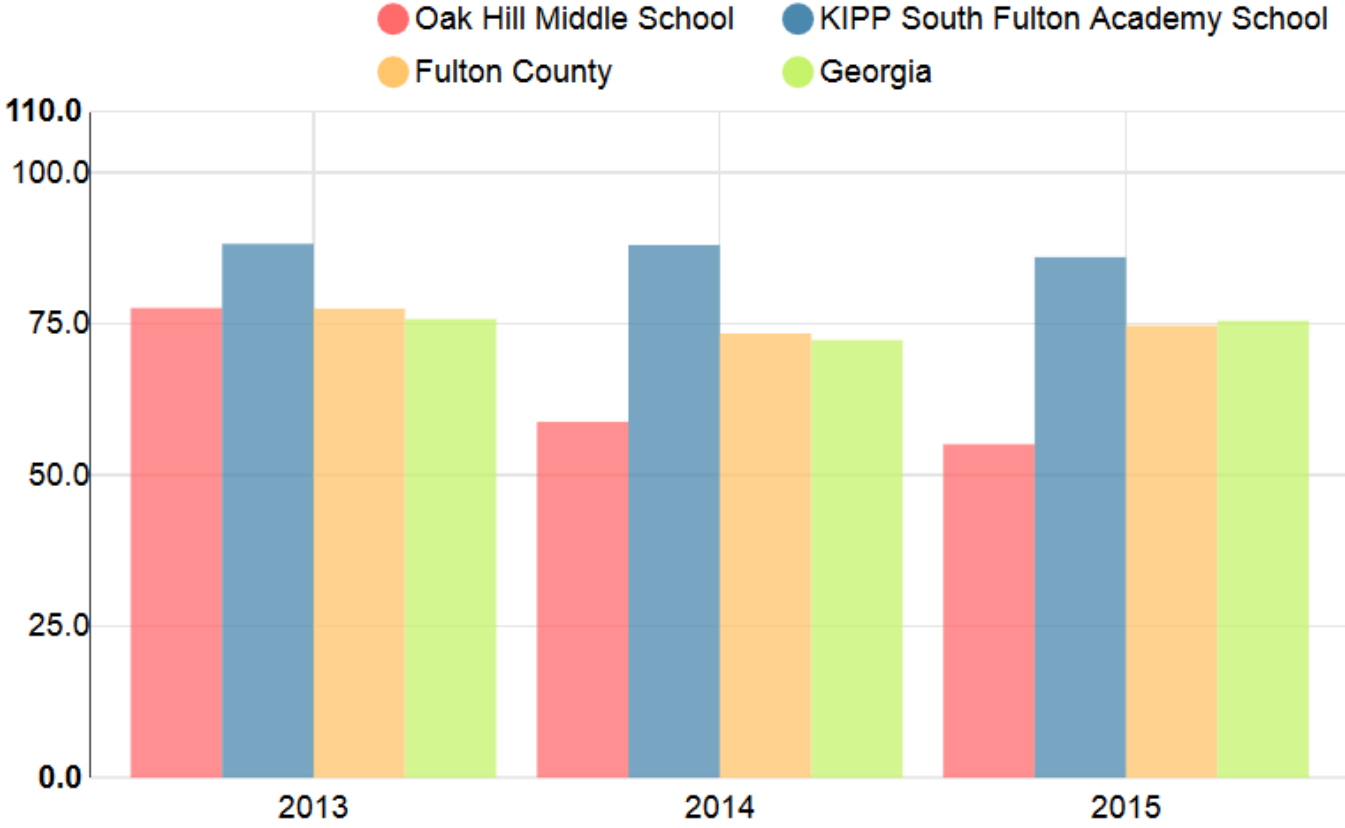


English Language Learners (ELL)



KIPP vs. Oak Hill Middle School

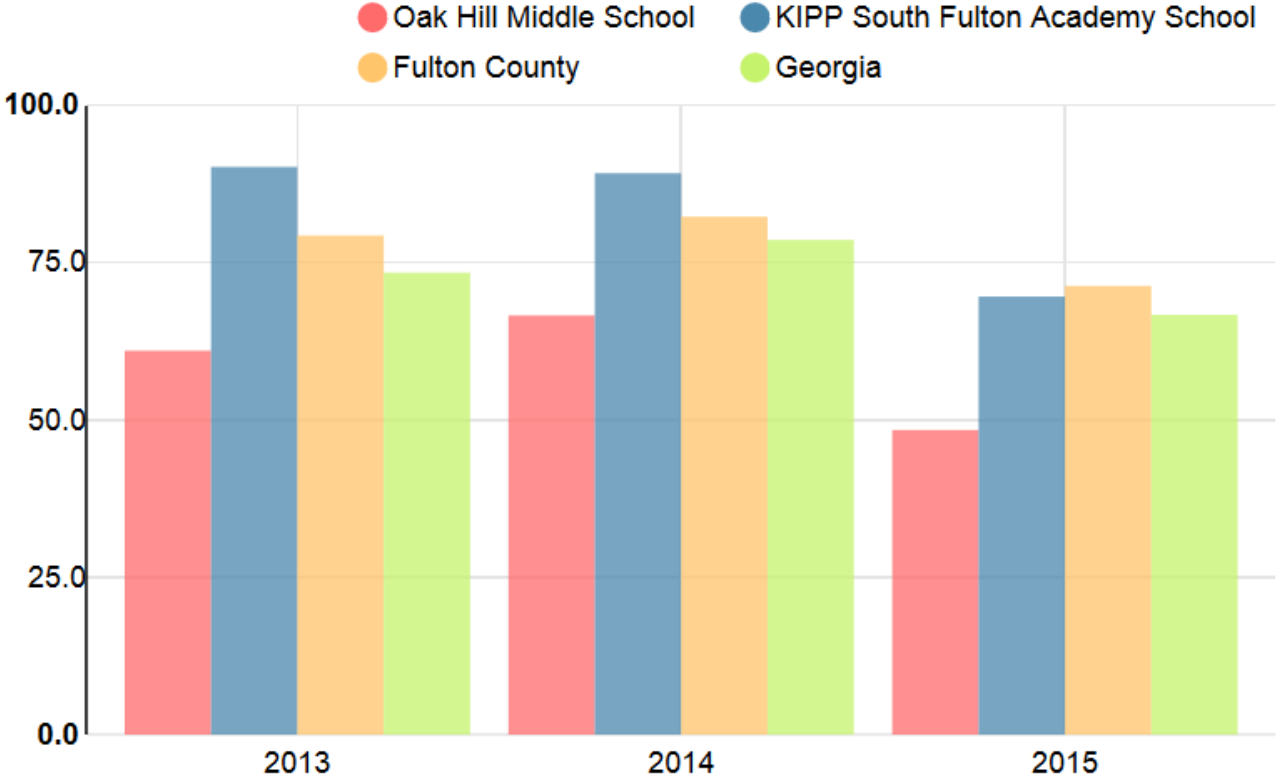
CCRPI Single Score [?](#)



KIPP vs. Oak Hill Middle School

Reading at or above the Grade Level Target (8th Grade) 📊

Percent of students in grade 8 achieving Lexile measure greater than 1050



Input and Output





Bad, Bad (Dirty) Data

- Incorrect Data
- Inaccurate Data
- Business Rule Violations
- Inconsistent Data
- Incomplete Data
- Nonintegrated Data

Recognizing Dirty Data

Boston

CA

INACCURATE DATA

Boston

CA

Boston, CA is correct not accurate

INACCURATE DATA

There are NOT 36 months in a year

BUSINESS RULE VIOLATIONS

Retirement age

INCONSISTENT DATA

Mary Karlinsky

Maria Louise Karlinsky

Mary L. Karlynski

INCOMPLETE DATA

Basic information across departments

NONINTEGRATED DATA

Primary keys, outsourcing

Apophenia





Data Visualization

- False Positive: seeing a pattern where none exists
- Seeing no pattern where a pattern exists

Build a Solution



Stop bumping into your data walls.

LET YOUR DATA WORK FOR YOU.

- Data Analysis
- Data Quality
- Data Visualization

NEXT STEPS

- Talk to GeorgiaGov Interactive
- Start Seeing Data
- Start Sharing Data

Level Up!



Data Visualization Maturity



LIONS and IMPALAS



Data Visualization Maturity

Level	Process Description
1 - Initial	Processes unpredictable, poorly controlled and reactive.
2 - Managed	Process characterized for projects and is often reactive.
3 - Defined	Process characterized for the organization and is proactive. Projects tailor their processes from the organization's standards.
4 - Measured	Process measured and controlled.
5 - Optimizing	Focus on process improvement.

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