

Project Based Learner Series

Displaying Insights Interactively



Project Based Learner Series

Meet the Instructors



Cristina
Anton



Rachel
McLawhon

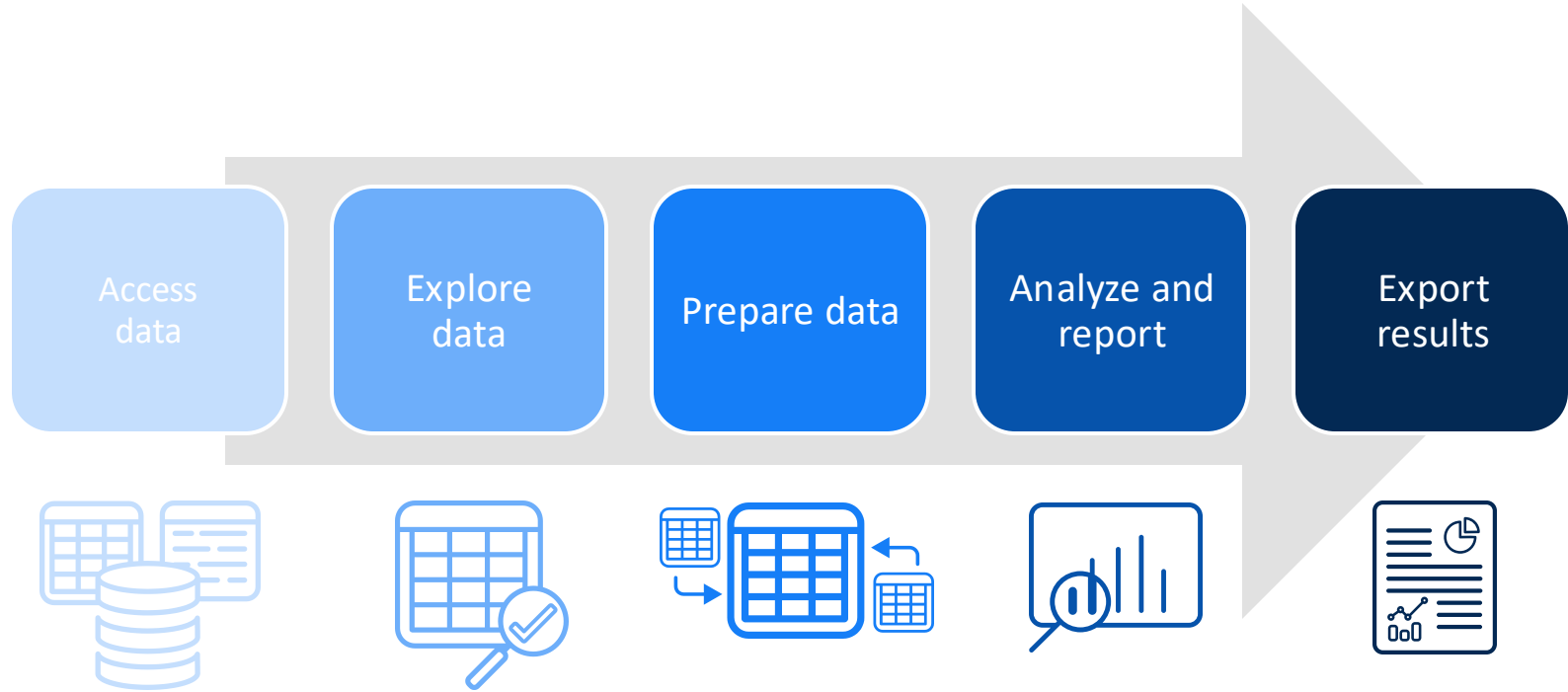


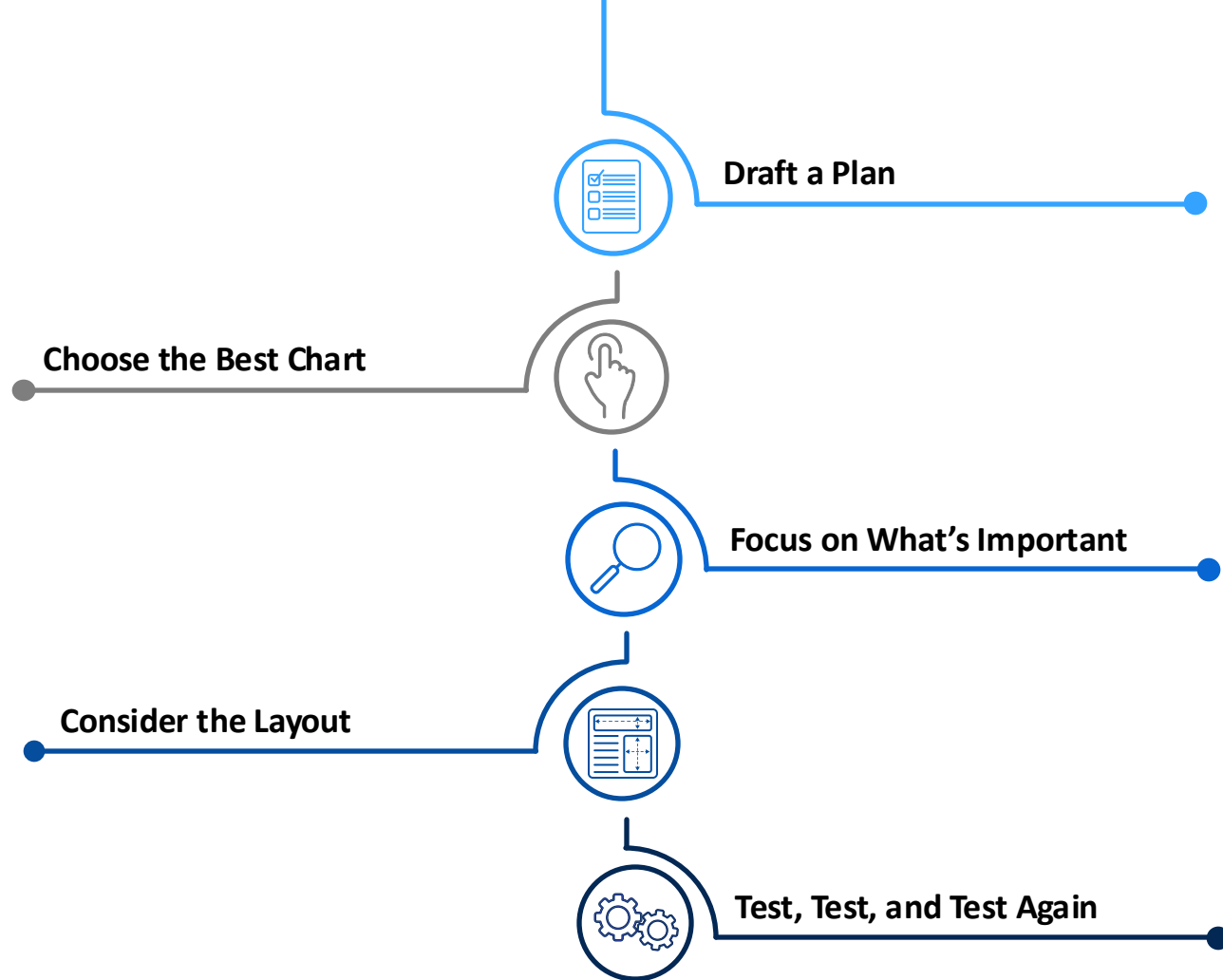
Jackie
Johnson



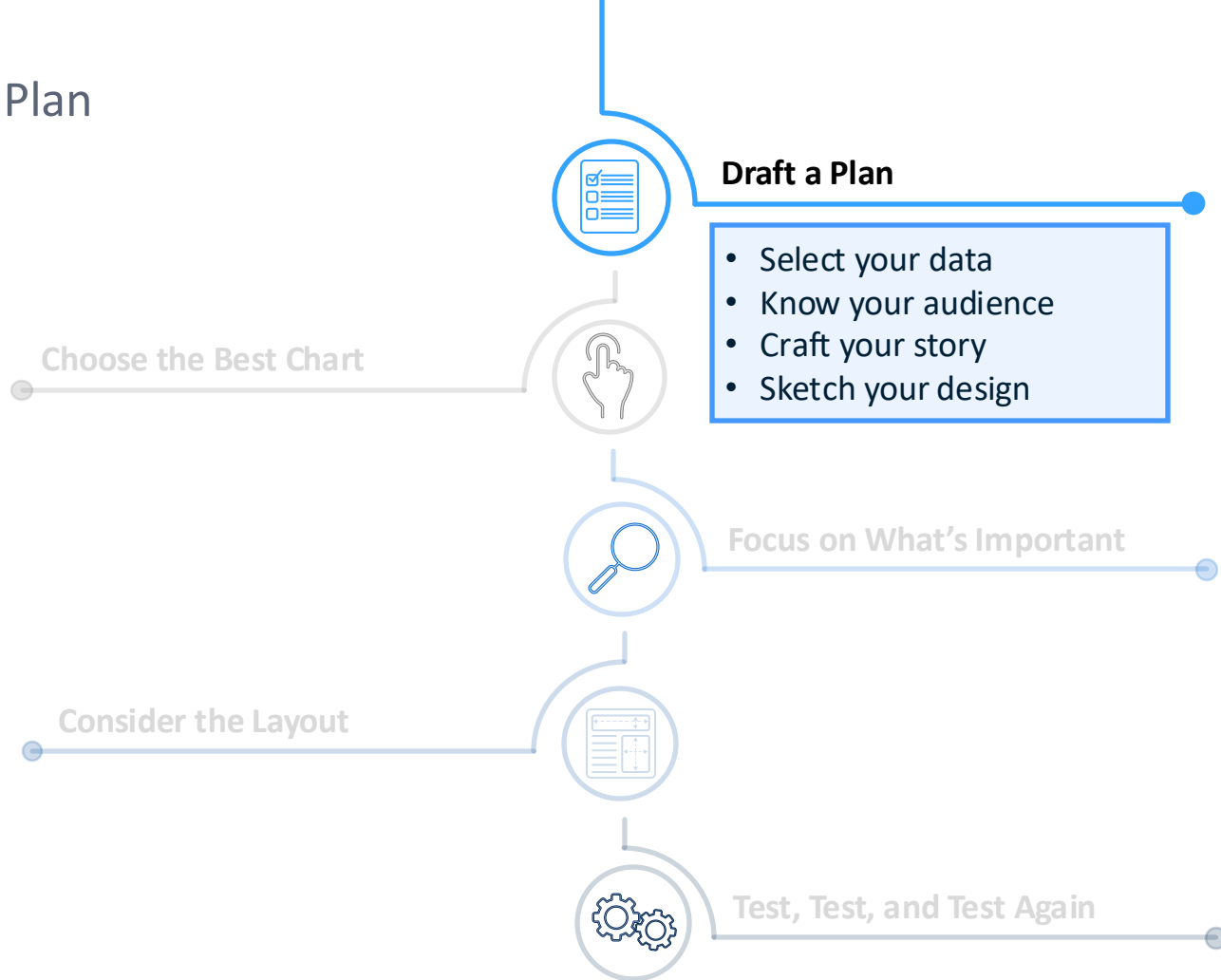
Tom
Grant

Analytical Journey, Simplified





Draft a Plan



Choose the Best Chart

Choose the Best Chart

- Highlighting one important fact
- Comparing two or more things
 - General
 - Over time
 - Against benchmark
- Showing survey or questionnaire results
- Describing how parts relate to the whole
- Showing relationship between data items
- Is a graph required?



Draft a Plan



Focus on What's Important



Test, Test, and Test Again

Chart Best Practices

Use the simplest
graph

Use visually
appealing, easy to
understand objects

Use only the most
important data

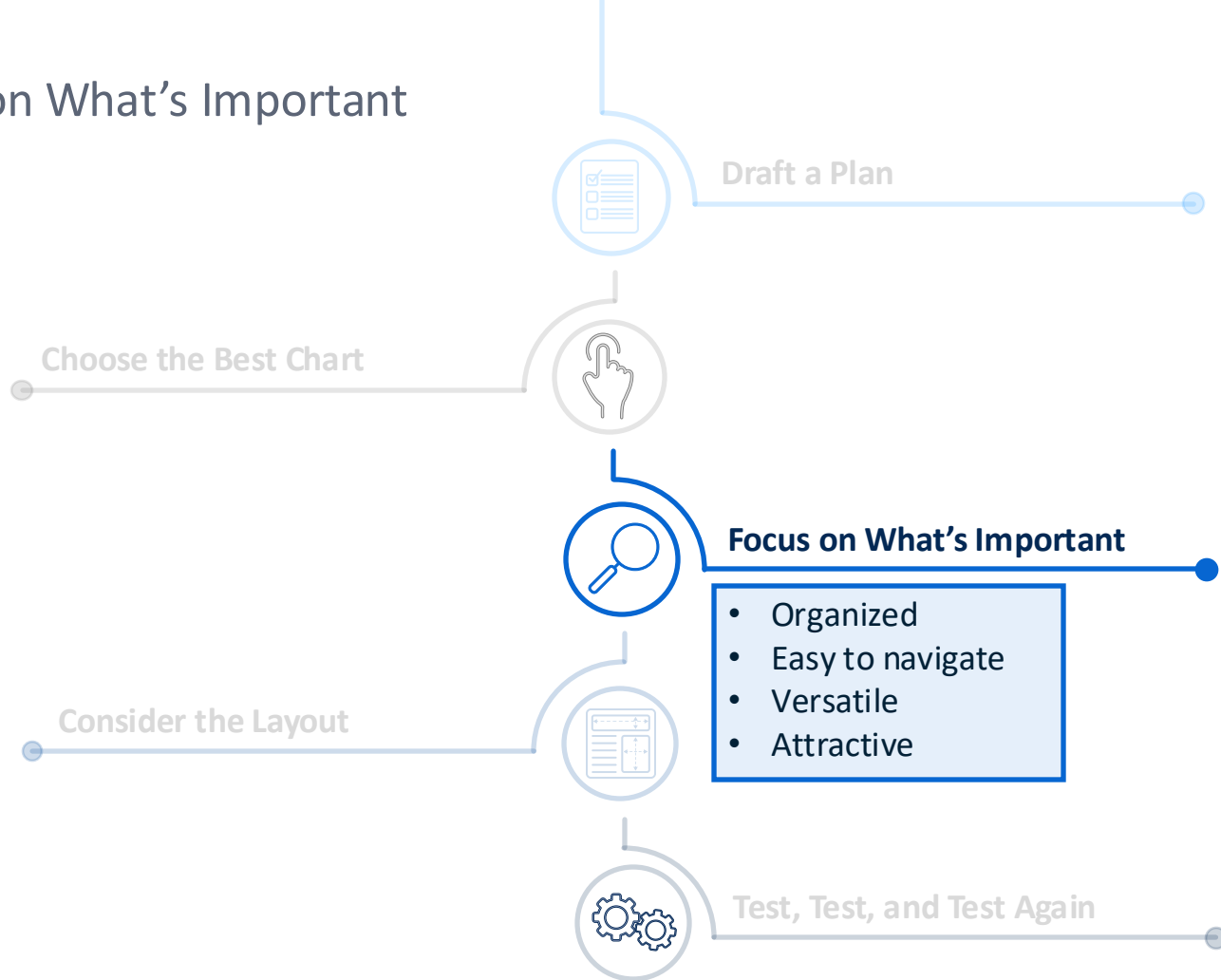
Keep graphs simple

Use a zero baseline

Use
two-dimensional
charts

Choose colors
wisely

Focus on What's Important





Focus on What's Important

Organized

Focus on a single idea



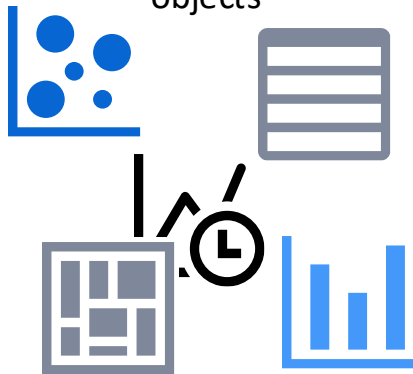
Use hidden and pop-up pages to provide details



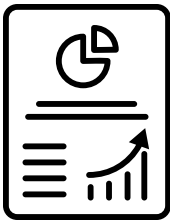
Multiple pages



Limit the number of objects



Stand on its own



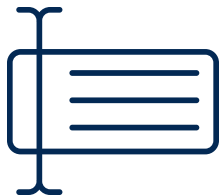
Limit the number of pages





Focus on What's Important

Easy to navigate



Add descriptions

- Use clear, detailed titles.
- Add additional details and numbers when needed.



Add instructions

- Table of contents
- Introductory page
- Instructions for each page
- Descriptions of objects
- Information about actions and links



Use consistent fonts.

Designing Interactive Reports



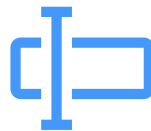
Viewer capabilities

Give viewers more control



Multiple pages

Organize content



Prompts



Actions

Make reports versatile



Links

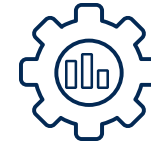
Provide additional context

Controls

Filter or narrow the scope of data

Focus on a specific area of interest

Select appropriate control for your data



Auto control

- Chooses appropriate control
 - Type
 - Cardinality
- For hierarchy
 - Chooses control for each level
 - Automatic filters added



Add instructions as the title

Consider type and cardinality of the data item



Slider control

- Date and measure data items
- Select single value or range of values
- Dynamic minimum or maximum

- Category data items
- Select multiple values
- Search and select/clear all values
- Report and page prompt areas
 - Inside prompt container
 - Left or right of canvas



List control

Consider type and cardinality of the data item



Button bar

- Category with few distinct values



Drop-down list

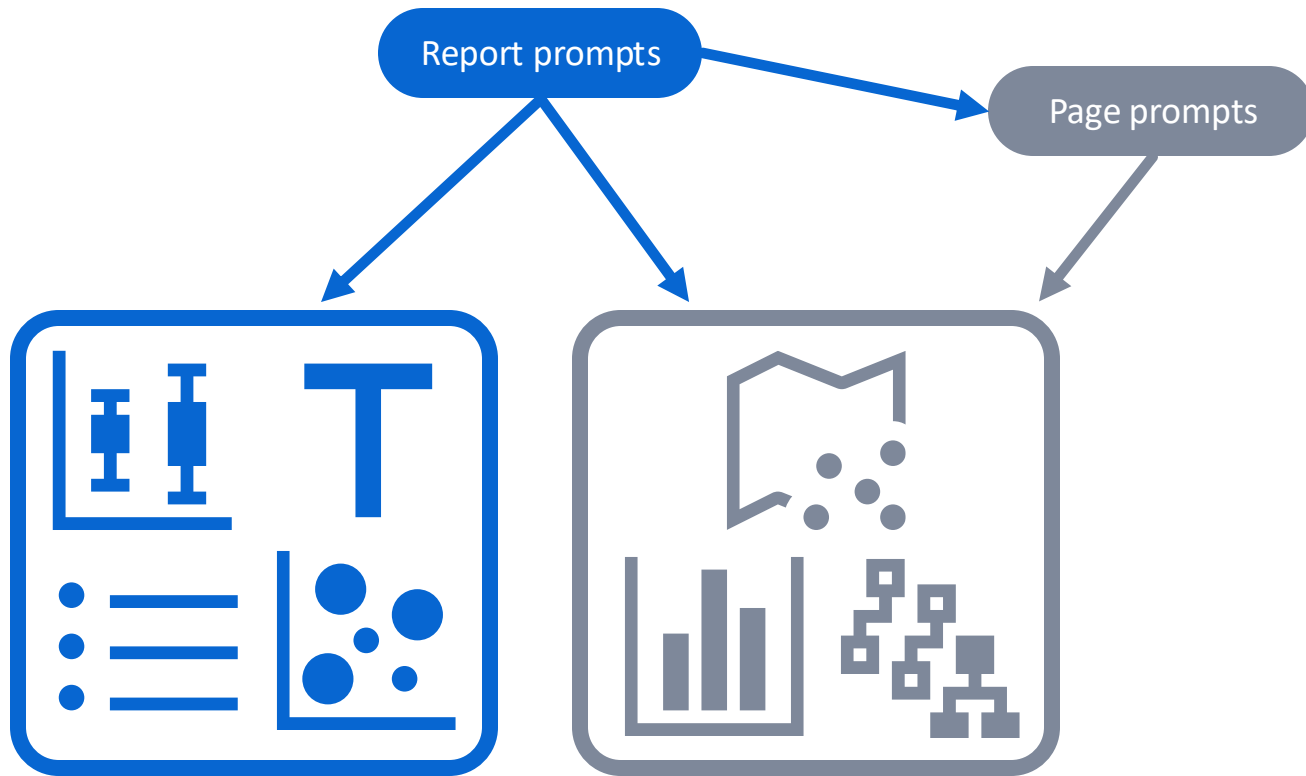
- Category with moderate number of distinct values



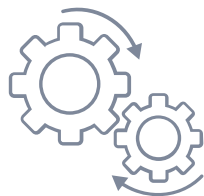
Text input

- Category with many distinct values
- Updates list of available values

Report and Page Prompts

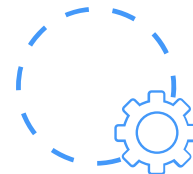


Automatic Actions

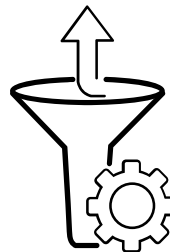


Automatic actions

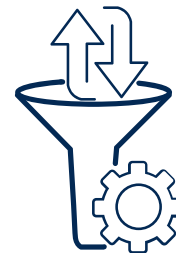
- Between all objects on page
- Make report more dynamic



Linked selection



One-way filter

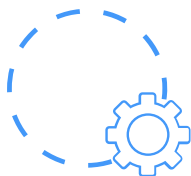


Two-way filter



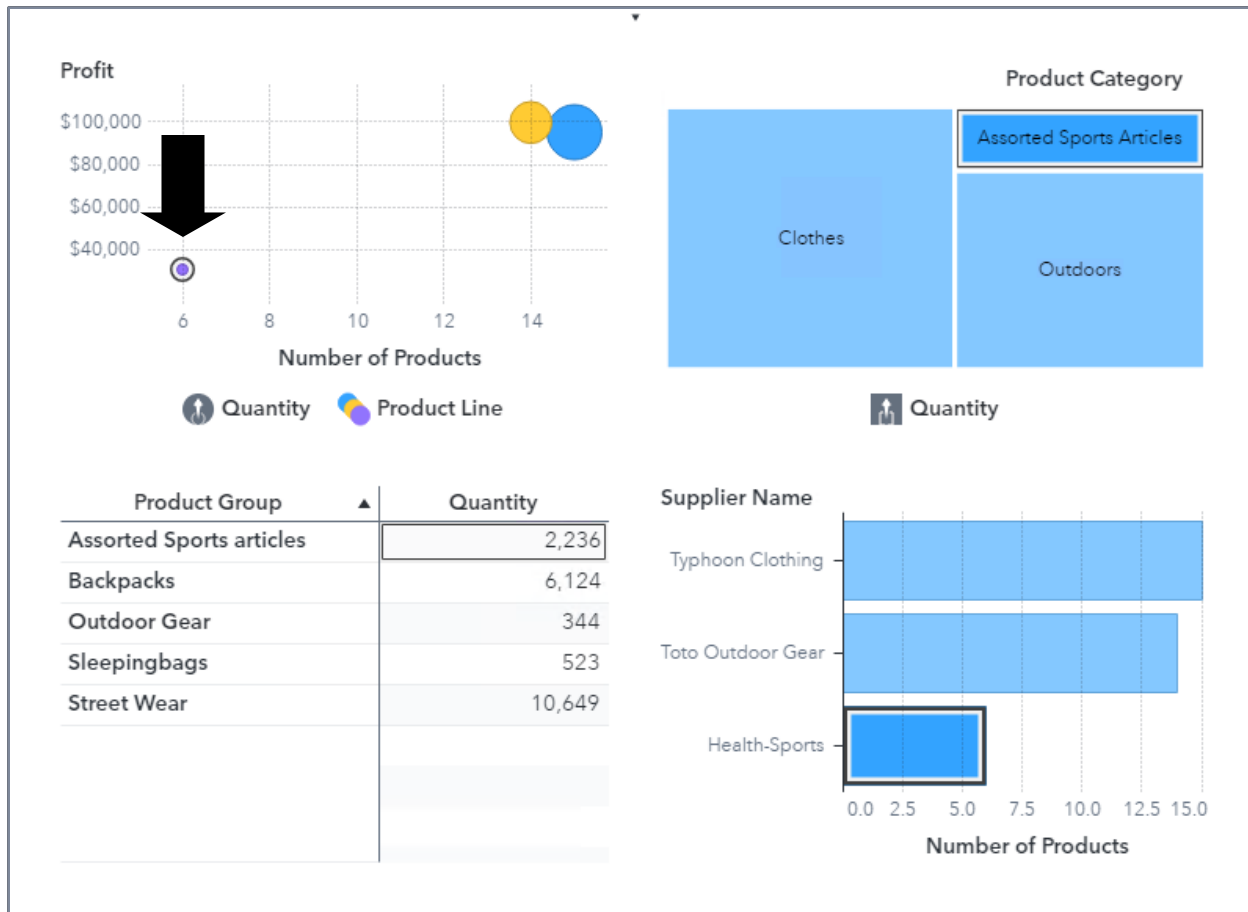
Use automatic actions to speed up development

Automatic Actions: Linked Selection

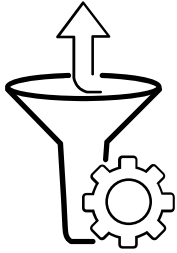


Linked selection

Highlights data

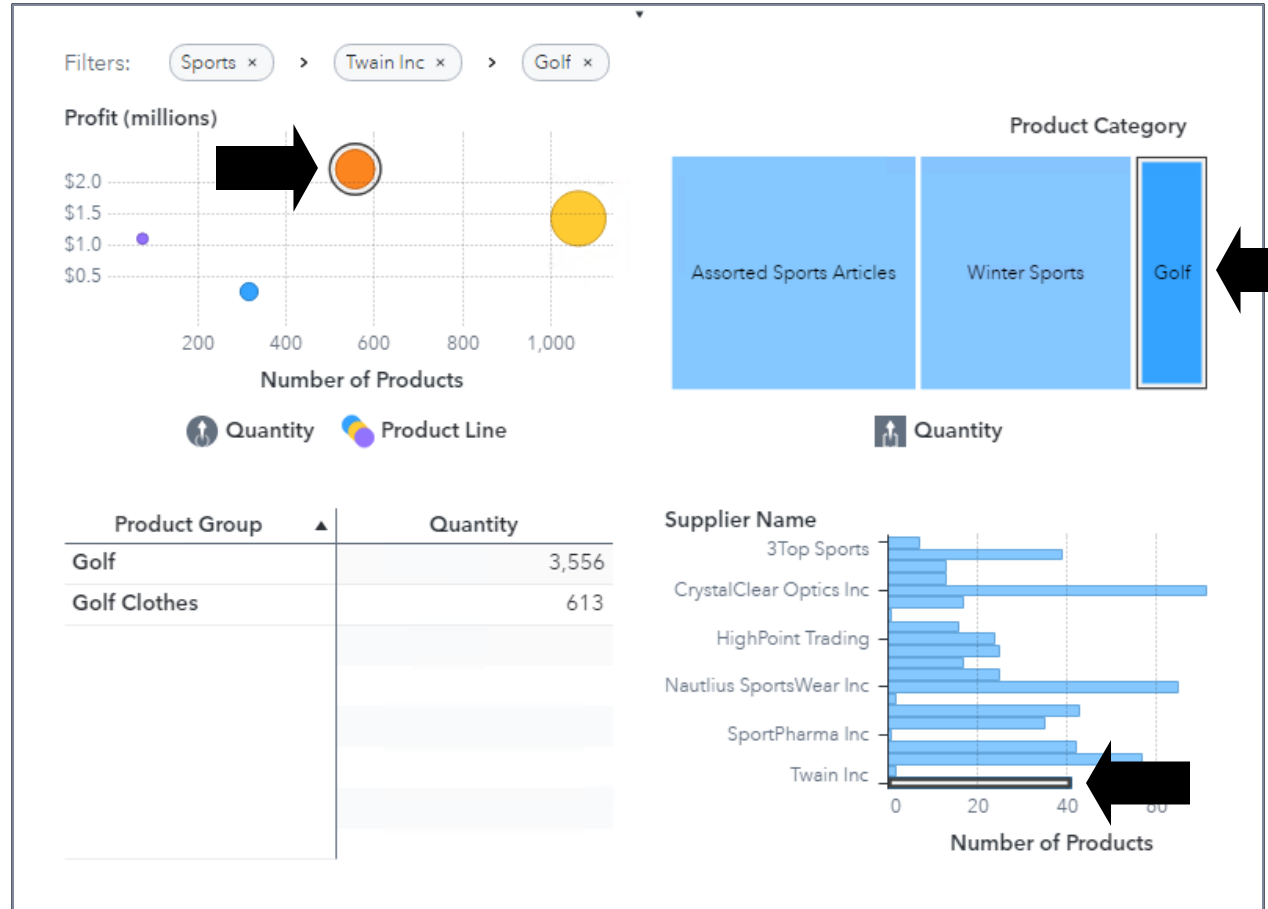


Automatic Actions: One-Way Filters

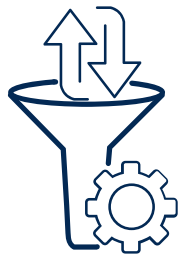


One-way filter

- Applied in *any* order
- In order selected
- Hierarchical or cascading

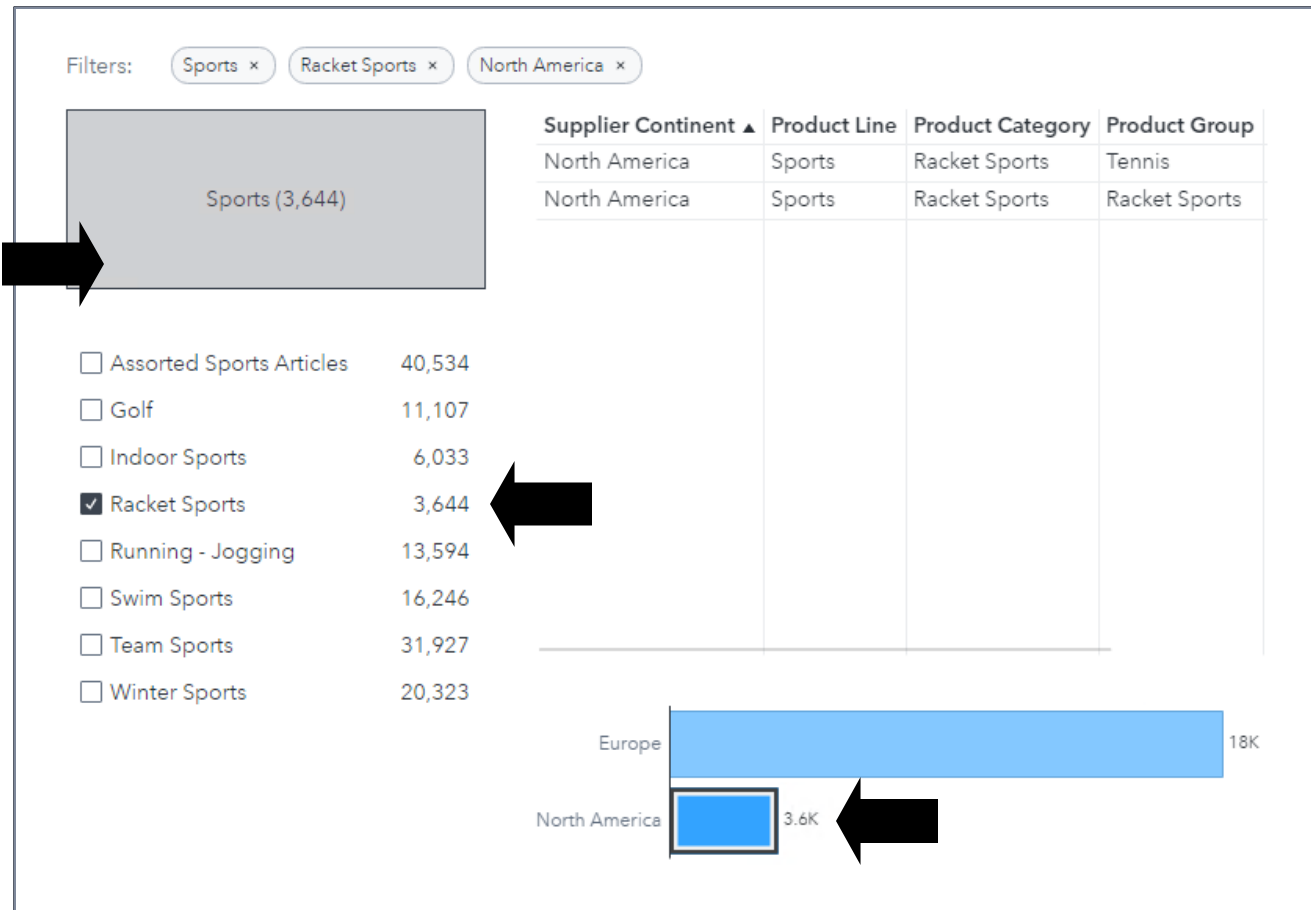


Automatic Actions: Two-Way Filters



Two-way filter

- Applied to all objects
- Even previously selected objects



Display Rules

Levels of Display Rules



Report-Level



Table-Level



Object-Level



Gauge-Level

Types of Display Rules



Color-Mapped Values



Expression

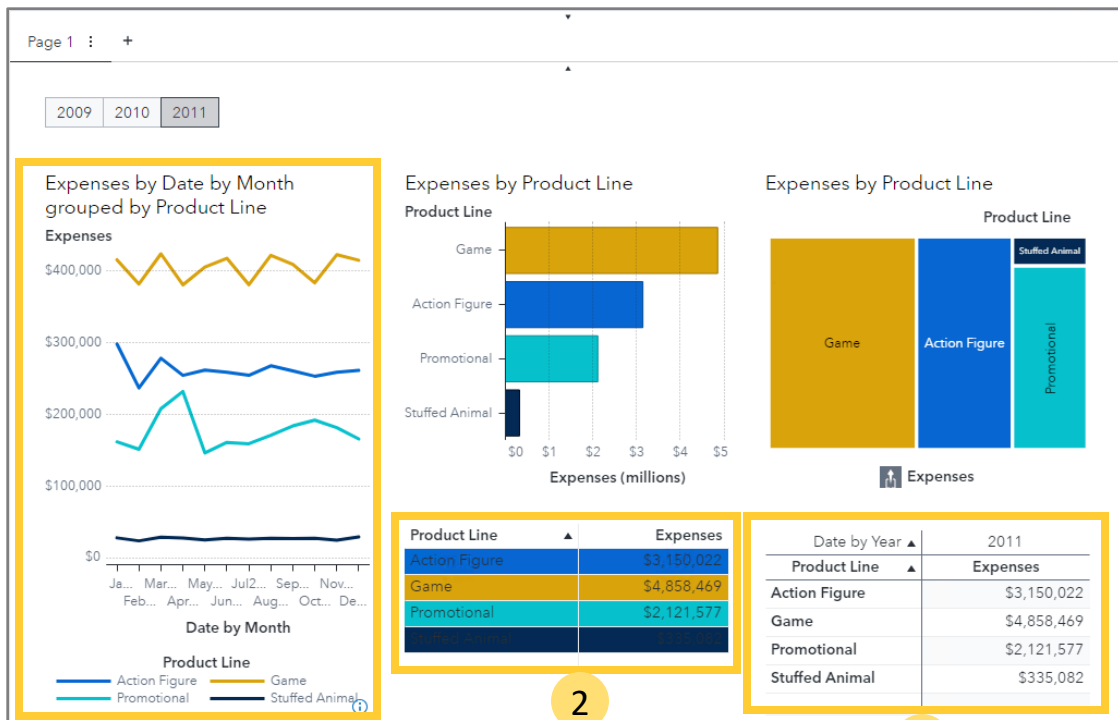


Gauge



Not every level supports all rule types.

Report-Level Display Rules



Display Rules

Display Rules: Report-Level

+ New rule

Report

Any Category

☐ Action Figure

☐ Game

☐ Promotional

☐ Stuffed Animal

i Analytic objects do not support display rules.

Table-Level Display Rules

Use Table-Level Display Rules to identify specific areas of interest.

2009 2010 2011		
Product Line	Expenses ▼	Profit
Game	\$4,858,469	\$11,756,594
Action Figure	\$3,150,022	-\$138,990
Promotional	\$2,121,577	\$3,740,530
Stuffed Animal	\$335,082	\$425,880



List table

Date by Year ▲		2010				2011			
Facility Region ▲	Product Line ▲	Unit Yield (actual)	Unit Yield (target)	Unit Yield (difference)	Unit Yield (rate)	Unit Yield (actual)	Unit Yield (target)	Unit Yield (difference)	Unit Yield (rate)
South	Action Figure	9,840,844	12,160,769	2,319,925	82.10%	12,312,500	13,854,468	1,541,968	88.36%
	Game	3,197,748	3,510,175	312,427	92.11%	3,062,073	3,397,247	335,174	90.44%
	Stuffed Animal	3,586	4,638	1,052	78.54%	1,894	2,524	630	75.04%
Subtotal: South		13,042,178	15,675,582	2,633,404	85.18%	15,376,467	17,254,239	1,877,772	88.87%
West	Action Figure	1,854,353	2,177,550	323,197	85.16%	1,290,359	1,603,550	313,191	80.47%
	Game	3,667,996	3,843,384	175,388	93.55%	3,890,627	4,132,213	241,586	91.79%
	Promotional	2,192,764	2,741,700	548,936	79.98%	1,714,191	2,308,032	593,841	74.27%
	Stuffed Animal	1,531	1,786	255	85.72%	1,357	1,646	289	82.44%
Subtotal: West		7,716,644	8,764,420	1,047,776	87.34%	6,896,534	8,045,441	1,148,907	84.17%
Total		20,758,822	24,440,002	3,681,180	85.98%	22,273,001	25,299,680	3,026,679	87.30%



Crosstab

Graph-Level Display Rules



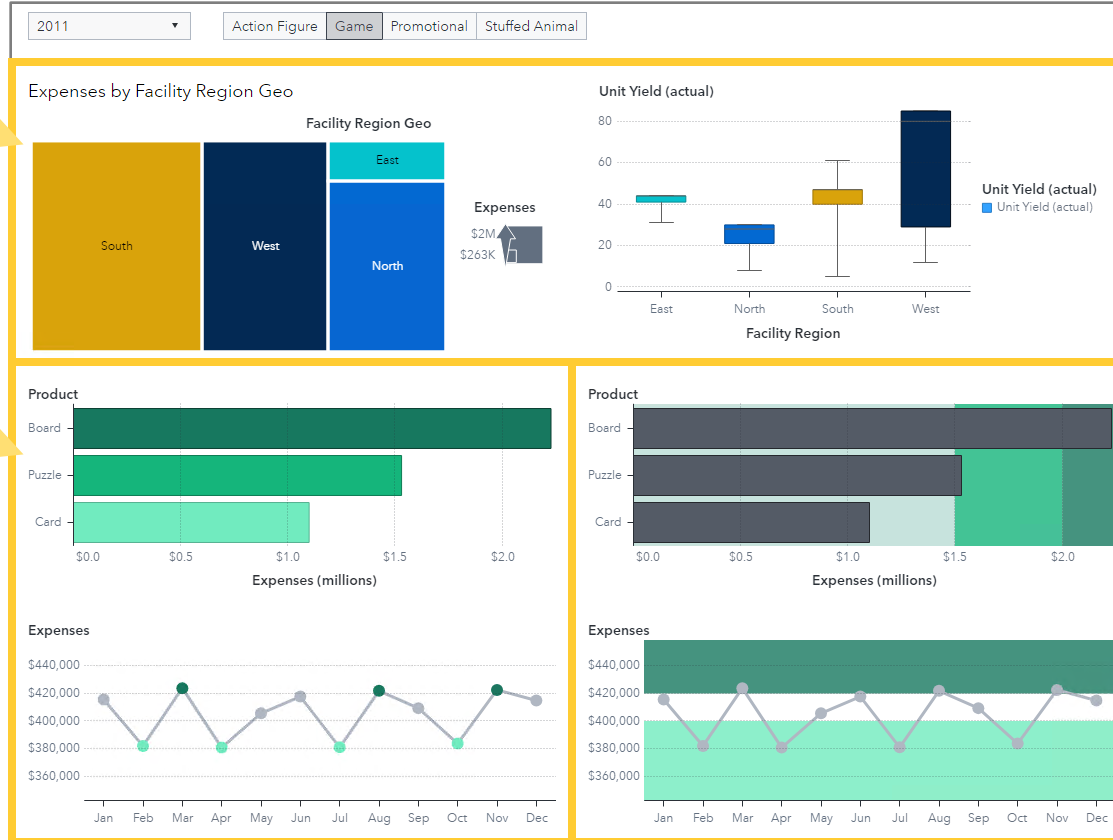
Some Data Roles or graph Options must be applied to view display rule.

Color-Mapped Values

Treemap can not have Color Data Role assigned.

Expression Graph Style

Line charts must show markers.



Expression Background Style

Consider the Layout

Tell a single data story

- Limit the number of data sources, pages, and objects
- Make more important objects larger
- Consider placement of objects
- Arrange objects with actions
- Use negative space
- Use default grid or containers

Consider the Layout



Draft a Plan



Focus on What's Important

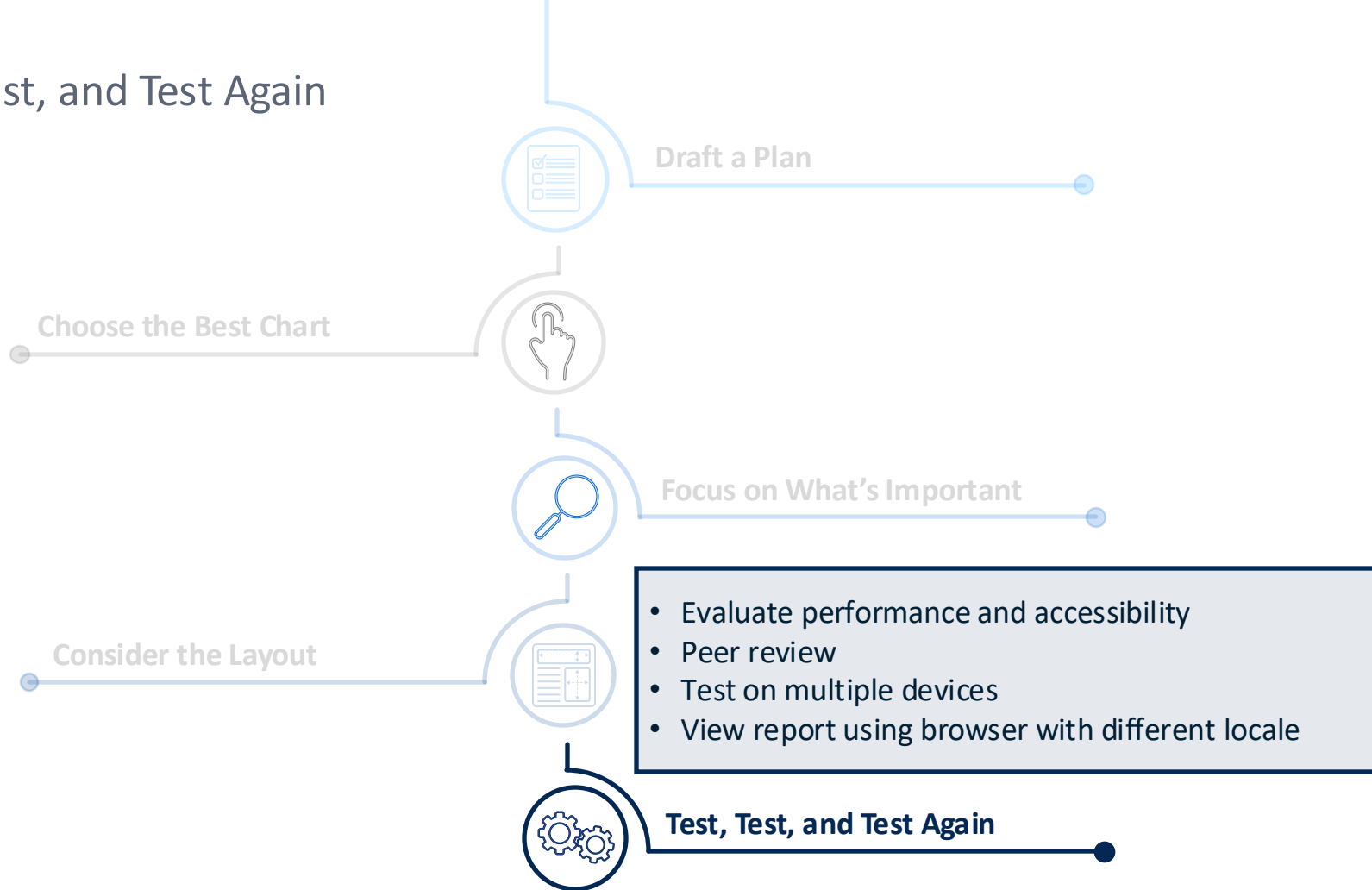


Consider the Layout



Test, Test, and Test Again

Test, Test, and Test Again



Let's try it out!

Tennis Demo

Explore Helpful Resources



[SAS Visual Analytics Gallery](#)

A place to share and chat about visualizations.



[Beautiful Reports](#)

Learn about best practices when creating reports.



[SAS Visual Analytics Interactive Demos](#)

Explore industry-aligned dashboards.



[SAS Users YouTube Channel](#)

A plethora of videos on hundreds of topics, just for SAS users.

More Workshops

Learn more with us!

Check out some other upcoming workshops we are hosting, including:

Foundations in Analytics Series

Modern Data Science With
SAS® Viya® Workbench for Learners

Career-Focused Learner Series | Sports
Analytics

Transitioning From SAS® Enterprise Miner™ to
SAS® Viya® for Learners

SAS Viya Workbench for Learners in Action

Open-Source Integration in SAS for Educators

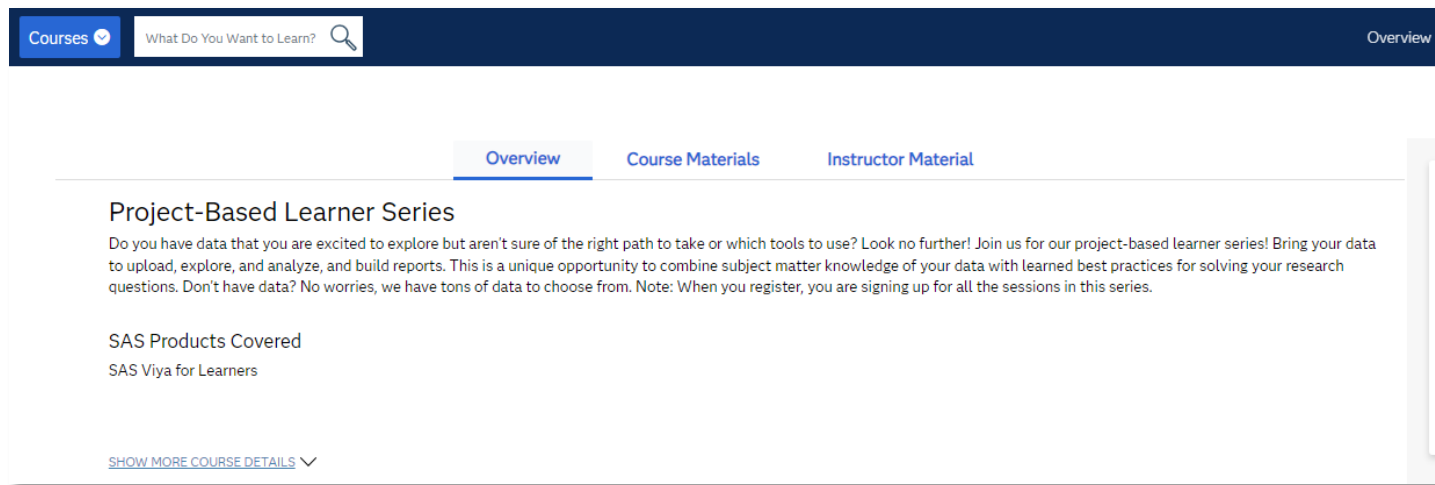


www.sas.com/academicworkshops

Portals and e-Learning Access

Project Based Learner Series

Learning Materials



The screenshot shows the SAS Learning Hub interface for the 'Project-Based Learner Series' course. At the top is a dark blue navigation bar with a 'Courses' button, a search bar containing 'What Do You Want to Learn?', and an 'Overview' link. Below this is a white content area with three tabs: 'Overview' (selected), 'Course Materials', and 'Instructor Material'. The 'Overview' tab displays the course title 'Project-Based Learner Series', a paragraph describing the series, a section titled 'SAS Products Covered' listing 'SAS Viya for Learners', and a link 'SHOW MORE COURSE DETAILS' with a downward arrow.

Courses Overview

Overview Course Materials Instructor Material

Project-Based Learner Series

Do you have data that you are excited to explore but aren't sure of the right path to take or which tools to use? Look no further! Join us for our project-based learner series! Bring your data to upload, explore, and analyze, and build reports. This is a unique opportunity to combine subject matter knowledge of your data with learned best practices for solving your research questions. Don't have data? No worries, we have tons of data to choose from. Note: When you register, you are signing up for all the sessions in this series.

SAS Products Covered

SAS Viya for Learners

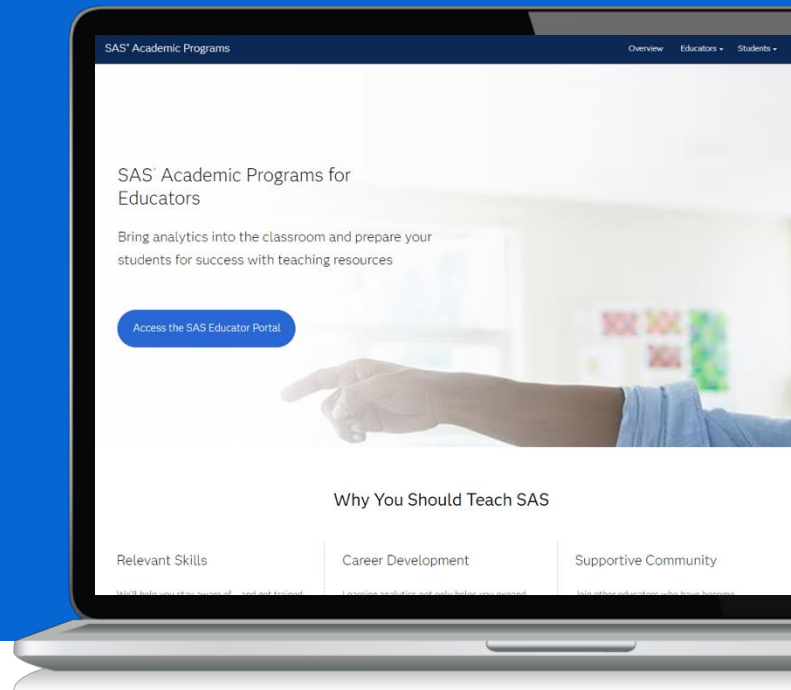
[SHOW MORE COURSE DETAILS](#) ▼

<https://learn.sas.com/course/view.php?name=PBL5>

Educator Portal

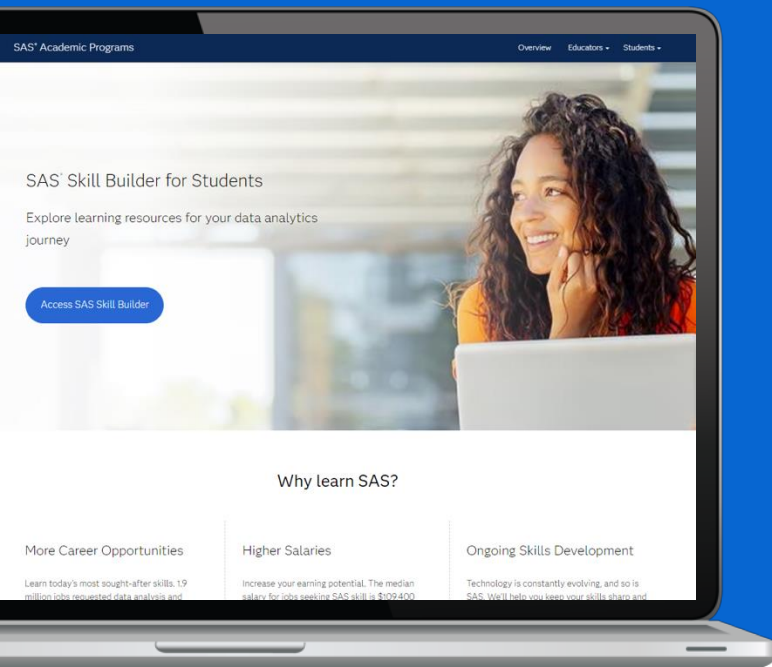
All-in-One Resource Center

- E-learning & Certification Paths
- Teaching Materials
- Certification Preparation Materials
- Educator Workshops & Training
- Discounts & Promotions



SAS Skill Builder for Students

Your future starts here



- Learn on your time
 - Free e-learning courses
 - Certification prep materials
- Free software
- Career resources
 - Discover why data analytics is a rewarding career
 - Learn about what it means to be a data analytics professional
 - Connect with employers
- Cross-industry access
 - Analytical skills for any discipline

www.sas.com/skillbuilder

Questions?

Rachel.McLawhon@sas.com

