

# Utilizing Grouping and Summarizing

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**Chase DeHan, PhD**

LEAD DATA SCIENTIST - TESORIO

[github.com/chasedehan](https://github.com/chasedehan)

“If we have data, let’s look at data.  
If all we have are opinions, let’s go  
with mine.”

- Jim Barksdale

# Summary



**Summarise Function (Dplyr)**

**Use multiple summaries**

**Apply summaries over groups**

**End Result**

- Quick and easy ways to inspect data.

# Summarise Verb

---

```
summary(dataframe)  
# or  
summary(dataframe$col_name)
```

## Base R summary

**Quick and easy way to look at basic summary statistics of a dataframe. BUT, doesn't lend itself to flexibility.**

```
dataframe %>%  
  summarise(mean_col_name = mean(col_name))
```

## Dplyr summarise

**Requires being explicit about desired output. But, gives limitless flexibility with the summaries.**

# Summarise Multi-verbs

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```
dataframe %>%  
  summarise(mean_col_name = mean(col_name),  
           median_col_name = median(col_name))
```

No limit to summarised columns!

**Can do as many transformations as you might want; just separate by commas.**

```
dataframe %>%  
  summarise_all(mean)
```

But that could be tedious - `summarise_all()`  
**Can apply a function to each of the columns in the dataframe, just pass the name of the function.**

```
dataframe %>%  
  summarise_at(vars(col_1, col_2),  
              funs(mean, median))
```

## Flexibility - summarise\_at()

**Specify the columns to summarise, and the functions to apply to those columns.**

group\_by verb

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```
dataframe %>%  
  group_by(col_with_groups) %>%  
  summarise(mean_col = mean(col_name))
```

## group\_by

**Pass the column name into group\_by to create an individual group for each value in the column.**

**Under the hood, creates a dataframe for each group and then executes the following functions; then reassembles for output.**

ungroup

---

```
Dataframe %>%  
  group_by(col_with_groups) %>%  
  summarise(mean_col = mean(col_name)) %>%  
  ungroup()
```

ungroup()

**Not always necessary, but just remember if your data is misbehaving after a group\_by.**

**group\_by stores metadata and sometimes can create issues.**

# Summary



**Summarize Function (Dplyr)**

**Use multiple summaries**

**Apply summaries over groups**

**That's it!**

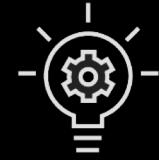
- Quick and easy ways to inspect data.

—

—

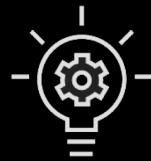
—

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# Design Guidelines





# General Guidelines

## Tips

It is recommended not to use transitions between slides.

Keep your presentation moving to hold the viewer's interest. Have a visual change several times each minute.

Do not put any visuals in the lower right corner - it will be obscured by the watermark.

Use animations and visuals that are simple, straightforward, and have a clear purpose.

Aim for a flat style (avoid gradients and drop shadows).

Use only high resolution visuals that are not blurry or pixelated.

Follow copyright rules for all visuals.

## Less Is More

We understand that course content can include highly technical information which requires a lot of important details.

Minimizing your slide design doesn't necessarily mean you'll be providing less content in your course. The same amount of information can be displayed but should be split up between multiple slides.

Also, be sure to use sentence fragments instead of complete sentences on your slides.



This slide is **NOT** an example of a good course slide!





# Typography

The official typeface for Pluralsight course content is **Gotham**. For code slides, **Roboto Mono** is included.

You received copies packaged with this presentation.  
**Please take a moment to install them.**

If both words below look the same, then you've successfully installed Gotham. Hooray!

**Gotham** **Gotham**

## Type size and weight standards

### Slide Title

36 pt - Gotham Light

All slide titles must be in Titlecase. For help, visit:  
<https://authors.pluralsight.com/titlecase-converter/>

### Headings and Bullet Points

24 pt minimum - Gotham Medium

### Body Copy

20 pt minimum - Gotham Medium





# Color

Color is a powerful tool to help highlight talking points or objects.

## Primary Colors

Orange #F15B2A	R 240 G 90 B 40	Uses: -Highlight text -Graphics
-------------------	-----------------------	---------------------------------------

Blue #2A9FBC	R 42 G 159 B 188	Uses: -Highlight text -Graphics
-----------------	------------------------	---------------------------------------

Dark Gray #404040	R 64 G 64 B 64	Uses: -Text on light background -Graphics
----------------------	----------------------	---

White #FFFFFF	R 255 G 255 B 255	Uses: -Text on dark background -Graphics
------------------	-------------------------	--

## Secondary Colors

Plum #A62E5C	R 166 G 46 B 92	Uses: -Graphics
-----------------	-----------------------	--------------------

Green #9BC850	R 155 G 200 B 80	Uses: -Graphics
------------------	------------------------	--------------------

Purple #675BA7	R 103 G 91 B 167	Uses: -Graphics
-------------------	------------------------	--------------------





# Pluralsight Icon Library

## A Constant Look and Feel

Please use the Pluralsight icon library as your default source for visuals in your courses. Any supplemental graphics you choose must follow all standard legal and copyright rules.

## Two Ways to Access Icons

1. A fully searchable library on the Author Kit:  
[authors.pluralsight.com/icon-library-search](https://authors.pluralsight.com/icon-library-search). New icons are added every few weeks. Just search, choose your color, then copy/paste the graphic into your slide.
2. A quarterly-updated .zip package available from the downloads page of the website. The .zip includes the most recent version of the slide deck template, the fonts, and all the available icons. This is great for working offline.

## The Icon Library Is Always Growing

Authors are our best source for new icon ideas. Submit yours from the link at the top of the icon search page of the Author Kit.

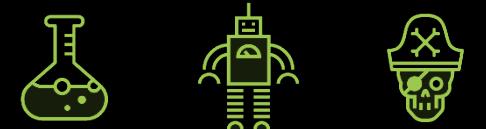
### Abstract Ideas



### Tech Objects



### Non Tech Objects



### People



### Roles



### Files





# Changing the **Background Color**

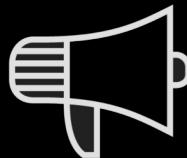
Changing the background color of a slide or shape can be a great way to add emphasis to something important.

However, it can also create clashes in colors between graphics and the background. Here are a few simple guidelines to help.

To change the slide background color, simply right-click. From the menu, select “Format Background.”

## 1. Use white/black graphics and type.

White graphics and type always look good on a dark color. If the background color is light enough, black graphics and text work as well. If you need to use a lot of color, then a colored slide might not be the best option.



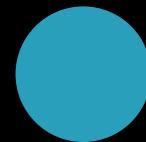
## Big Announcement

## 2. Use colors in the color palette for the background color.

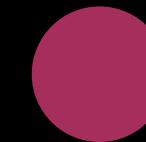
They're easily accessed in the “Format Background” menu.



#F15B2A



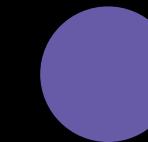
#2A9FBC



#A62E5C



#9BC850



#675BA7



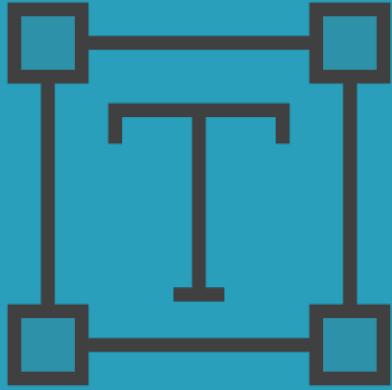
#404040



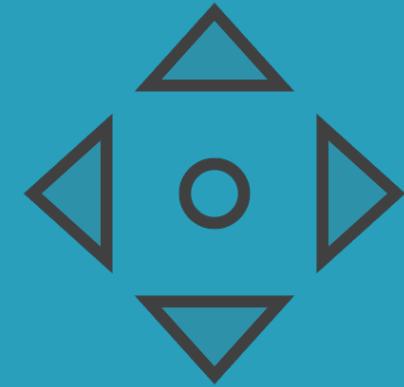
# Example of Changing the Background Color



Make sure you choose a white or black icon, not another color



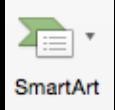
Change your font color to either black or white



Adjust the size and position of your graphics and text to fit your space



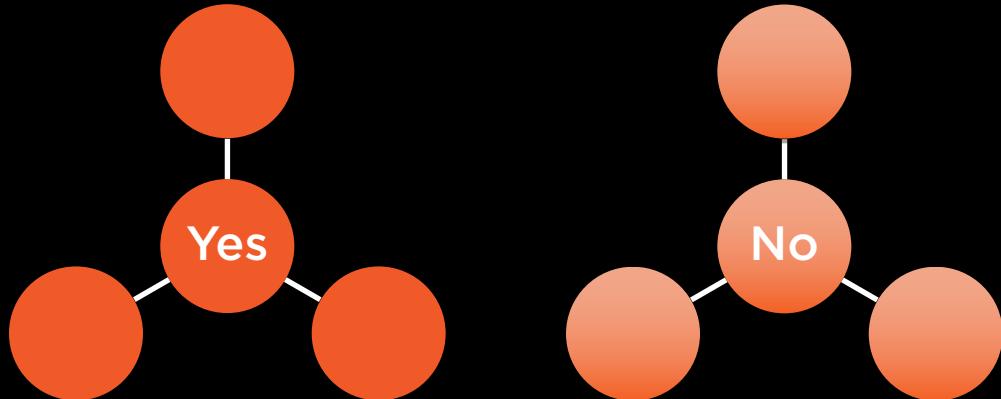
# Using SmartArt



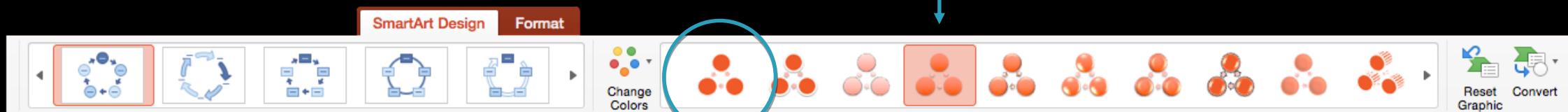
Available under the “Insert” menu, SmartArt provides a large variety of diagram options.

Please use a simple/flat design for your SmartArt. Reference the “yes” diagram to the right to see a good example of this. Compare the examples and be mindful of the following things:

- Do not use gradients
- Do not use 3-D effects
- Do not use drop shadows or inner shadows



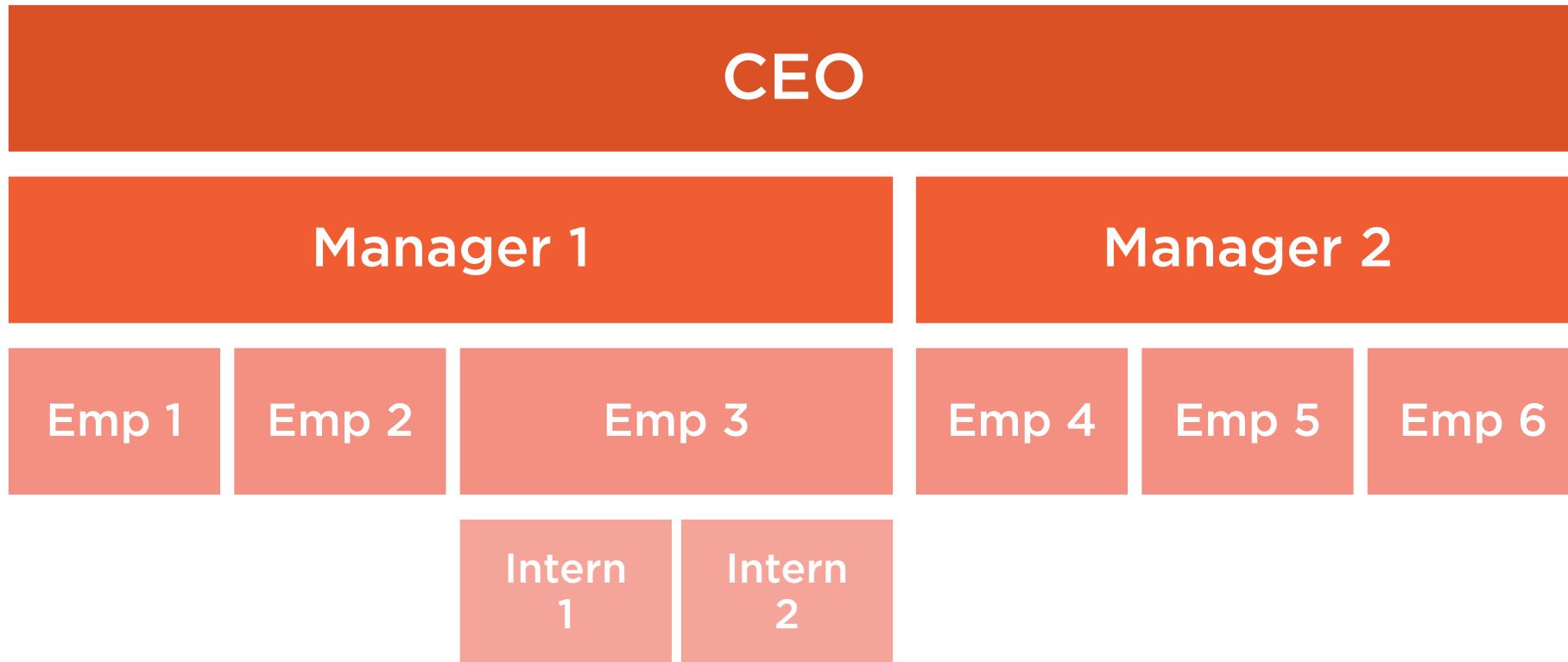
On some versions of PowerPoint,  
this gradient-filled style is selected by default.



**Choose this** far left option.  
It provides simple solid shapes.



# SmartArt Example





# Using the Layouts





# How to Add a New Slide

## Option 1

Look through all the example slides in this document and rework them to fit your own purposes.

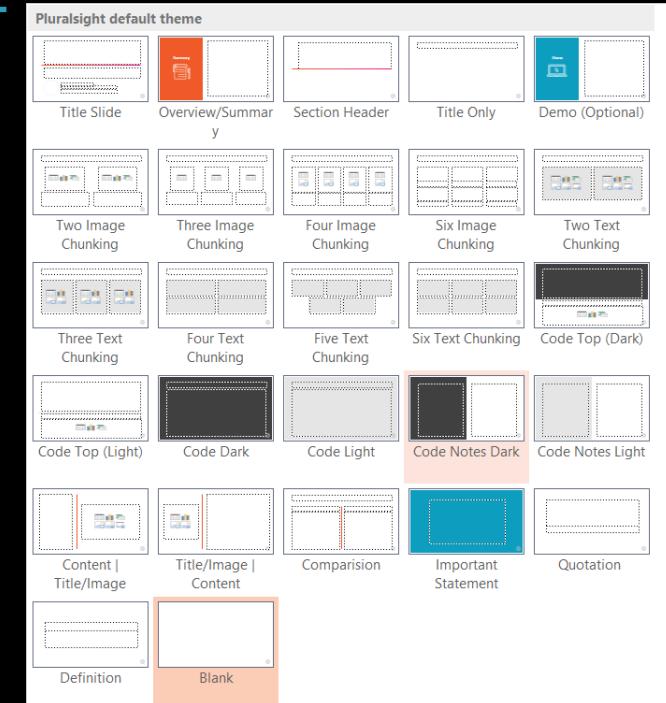
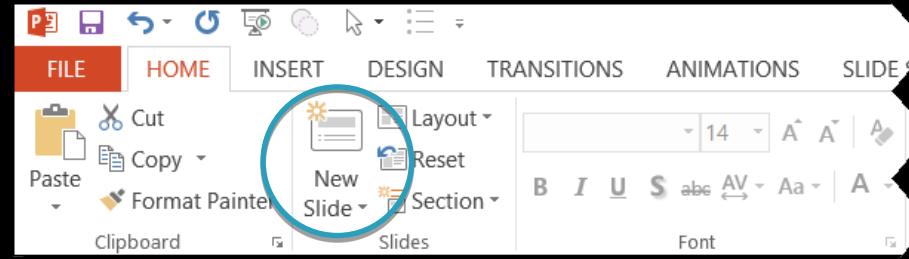
## Option 2

1. From the “Home” tab, click on the arrow next to “New Slide.”
2. A dropdown menu of all the layouts will appear.

Alternatively:

Ctrl+M = New Slide

Ctrl+D = Duplicate Slide





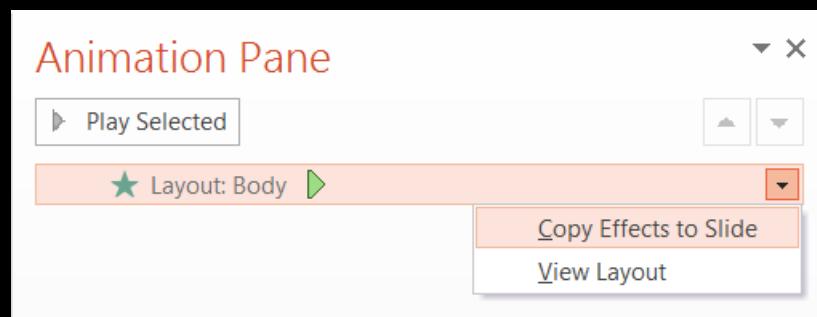
# Some Slides Have **Animations Built In**

Switch to **Slide Show View** to preview the animations.

If you want to edit or remove the “built-in” animation:

## PowerPoint for PC

From the Animation Pane, **right-click** on “Layout Body” and choose “Copy Effects to Slide”. You should now be able to make changes.



## PowerPoint for Mac

While the Mac version of PowerPoint does not have the same option in the Animation Pane, you can do the same thing manually:

1. Create a blank slide
2. Go to the Master Slide you want to change
3. Select all using (CMD+A)
4. Go back to your new blank slide and paste (CMD+V)
5. Now the animation is editable from the animation pane





# How to Choose Your **Author Headshot**

## Requested Image Specifications

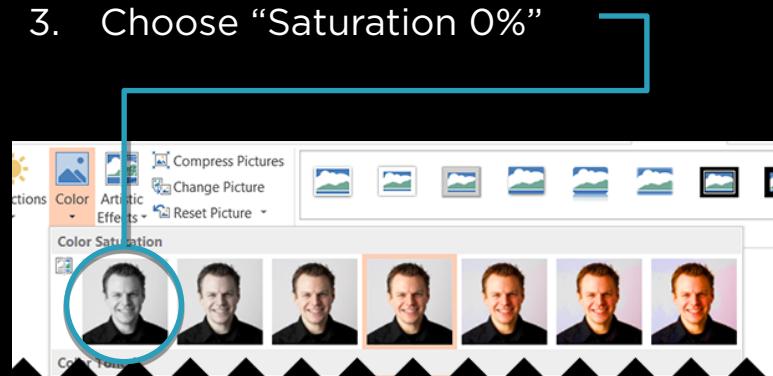
Image Size: 600 x 600 pixels or larger

Color Mode: RGB or Greyscale

File Type: JPEG or PNG

## Desaturate your headshot

1. With the image selected click the “Picture Format” tab.
2. Click the “Color” tab
3. Choose “Saturation 0%”



## Do's

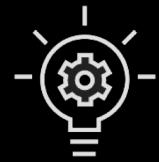
- White background or wall
- Professional clothing
- Centered on face
- Shot at eye level



## Don'ts

- Busy or dark backgrounds
- Poor lighting
- Artistic, iconic, or illustrated
- Poor resolution or focus
- No other beings in photo





# Using the **Title Slide**

Module number **ONE**



This Is the Title of Your Course

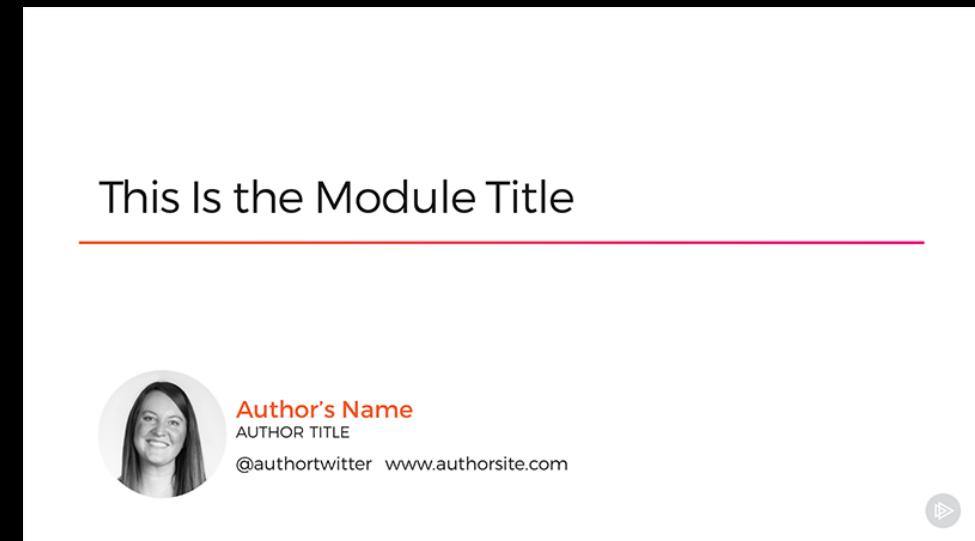
---

THIS IS THE FIRST MODULE TITLE

 Author's Name  
AUTHOR TITLE  
@authortwitter www.authorsite.com



Module number **TWO** and up



This Is the Module Title

---

 Author's Name  
AUTHOR TITLE  
@authortwitter www.authorsite.com





# Visualizing Data in ggplot2

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## GETTING STARTED WITH GGPLOT2



**Chase DeHan**

LEAD DATA SCIENTIST - TESORIO

[github.com/chasedehan](https://github.com/chasedehan)

# Understanding ggplot's Systems

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**Chase DeHan**

LEAD DATA SCIENTIST - TESORIO

[github.com/chasedehan](https://github.com/chasedehan)



# Using **Summary** and **Demo** Layouts

A screenshot of a slide titled "Slide Title" featuring a clipboard icon. The main content area contains the text "Click to add text" followed by a nested list: "- Second level", "\* Third level", "# Fourth level", and "% Fifth level".

## Overview/Summary Layout

Only use the Overview/Summary Layout at the beginning and/or ending of your module.

Keep the title of this slide to **two lines or less**.

A screenshot of a slide titled "Demo" featuring a laptop icon. The main content area contains the text "Click to add text" followed by a nested list: "- Second level", "\* Third level", "# Fourth level", and "% Fifth level".

## Demo (Optional) Layout

Only use the **Demo Layout** when introducing a demonstration.



# Summary



**This bullet list is preset with animations**

**Use this layout to introduce and/or summarize the module**

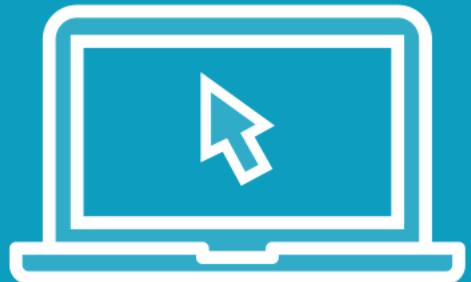
**Don't just read a list of topics**

**Build excitement**

**Tell the viewer why this is important**

- Where would they use this info on the job?

Demo



This bullet list is preset with animations

Use this layout to introduce your demo

How to do this one thing

- Why we do it
- How we do it

Then there's that thing

Don't forget to do this

We'll finish it off with this thing



# Using the **Image Chunking Slides**

This screenshot shows a slide layout designed for image chunking. It features a title bar at the top with the placeholder 'Click to Add Slide Title in Title Case'. Below the title are two image placeholders, each with the text 'Click to add image'. Underneath each image placeholder is a text placeholder with the text 'Click to add text'.

Two Image Chunking

This screenshot shows a slide layout designed for image chunking. It features a title bar at the top with the placeholder 'Click to Add Slide Title in Title Case'. Below the title are three image placeholders, each with the text 'Click to add image'. Underneath each image placeholder is a text placeholder with the text 'Click to add text'.

Three Image Chunking

This screenshot shows a slide layout designed for image chunking. It features a title bar at the top with the placeholder 'Click to Add Slide Title in Title Case'. Below the title are four image placeholders, each with the text 'Click to add image'. Underneath each image placeholder is a text placeholder with the text 'Click to add text'.

Four Image Chunking

This screenshot shows a slide layout designed for image chunking. It features a title bar at the top with the placeholder 'Click to Add Slide Title in Title Case'. Below the title are six image placeholders, each with the text 'Click to add image'. Underneath each image placeholder is a text placeholder with the text 'Click to add text'.

Six Image Chunking

These layouts can be used as an alternative to a bulleted list.

They're built specifically for **photos** or **graphics** and look especially awesome when you incorporate icons from the **Pluralsight Icon Library**.

See them in action in the next 4 slides.



# Example of Image Chunking Two Items



**Jill Anderson**

Some information about this graphic goes here and four lines or fewer is best



**John Doe**

Some information about this graphic goes here and four lines or fewer is best

# Example of Image Chunking Three Items



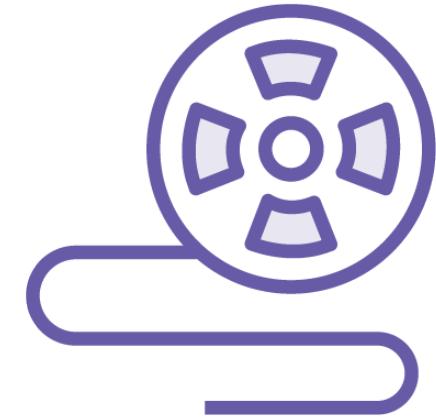
**Clipboard**

Some information  
goes here; three lines  
or fewer is best



**Book**

Some information  
goes here; three lines  
or fewer is best



**Film**

Some information  
goes here; three lines  
or fewer is best

# Example of Image Chunking Four Items



Write



Create



Record

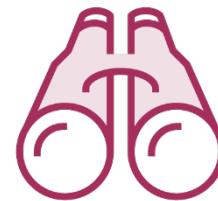


Learn

# Example of Image Chunking Six Items



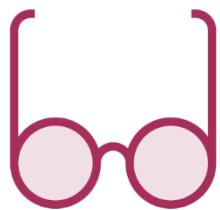
Address book



Binoculars



Camera



Eyeglasses

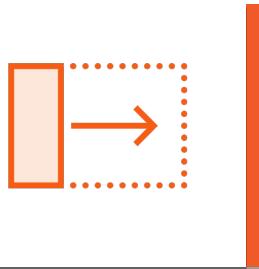


Megaphone

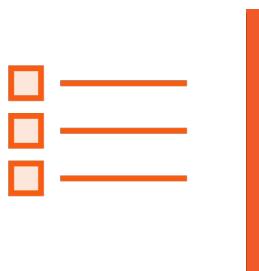


World

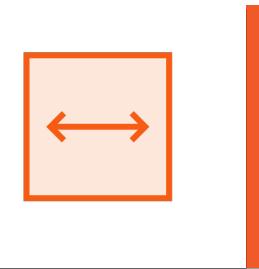
# Icons with Bullets



An image chunking option for when you have longer text



Be concise and keep the text to 3 lines or shorter



Add relative icons on the left for each text item on the right

# Icons with Bullets



An image chunking option for when you have longer text



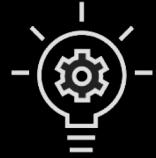
Two whole lines of text per image also fits nicely however, you should avoid using three lines



Add relative icons on the left for each text item on the right



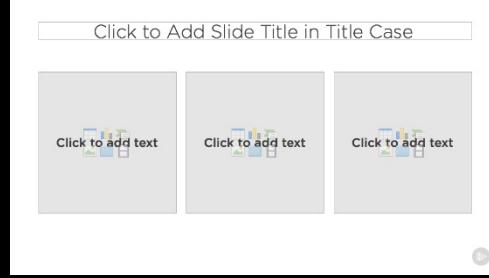
An alternative to bullets



# Using the **Text Chunking Slides**



Two Text Chunking



Three Text Chunking

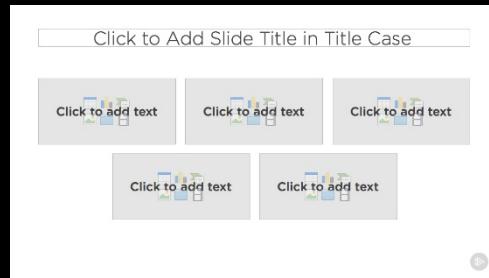
These layouts are intended to group chunks of text. Among other uses, they can be a great alternative to a bullet list.

Use **animations** to bring focus to the point you're speaking on one at a time, and/or use **color** to group points together.

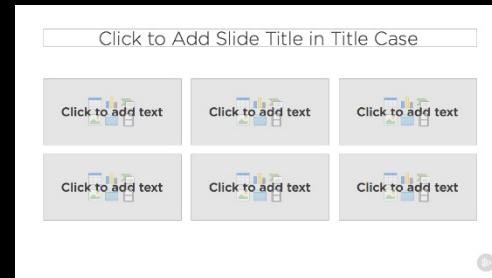
If you have more than six points to discuss, you may want to use a standard bullet list.



Four Text Chunking



Five Text Chunking



Six Text Chunking

We have provided some **example uses** of these layouts in the next few slides.



# Text Chunking Two Items

## Talking point one

Be concise and keep the text  
to four lines or fewer

## Talking point two

Be concise and keep the text  
to four lines or fewer

# Text Chunking Three Items

## Talking point one

Be concise and keep  
the text to four lines  
or fewer

## Talking point two

Be concise and keep  
the text to four lines  
or fewer

## Talking point three

Be concise and keep  
the text to four lines  
or fewer

# Text Chunking Four Items

This is the first talking point  
that should be kept to three  
lines or fewer

This is the second talking  
point that should be kept to  
three lines or fewer

This is the third talking point  
that should be kept to three  
lines or fewer

This is the fourth talking point  
that should be kept to three  
lines or fewer

# Text Chunking Five Items

## Talking point one

Keep the text to  
three lines or fewer

## Talking point two

Keep the text to  
three lines or fewer

## Talking point three

Keep the text to  
three lines or fewer

## Talking point four

Keep the text to  
three lines or fewer

## Talking point five

Keep the text to  
three lines or fewer

# Today's Mobile World

iPhone

Nexus 5

Lumia 950 XL

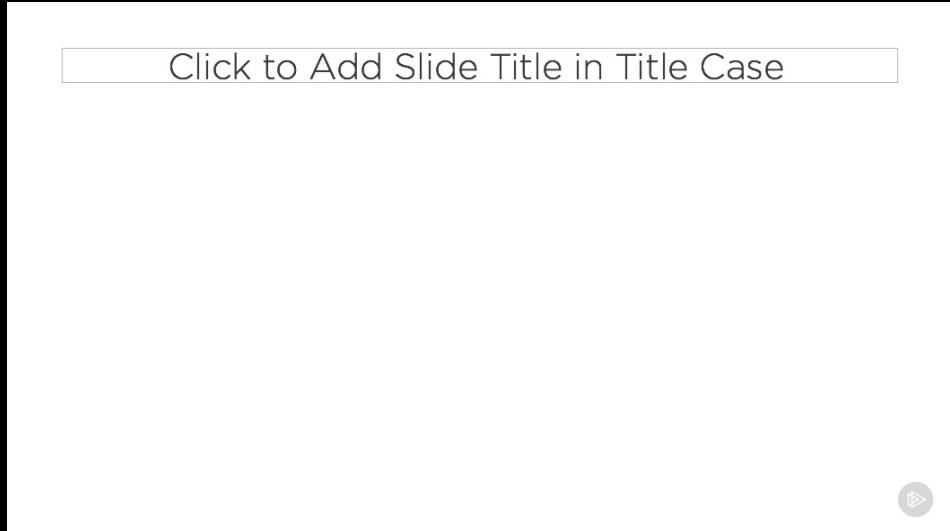
iPad

Nexus 7

Surface



# Using the **Title Only Slide**



Title Only

This is the slide you'll want to use when you just need a big space for a diagram, chart, or graphic.

Make sure you check out the training videos available on the **Author Kit** for design best practices.

If you need help bringing your ideas for this space to life, contact your Editor about getting help from one of our **Content Graphic Designers**. In most cases, you just need to submit a rough outline and let our designers work their magic. However, in some special cases, your Editor can get you in touch with a designer directly.

We included some possible starting points for you in the next few slides.



Remember, we are here to help!



# Customer Acquisition and Loyalty

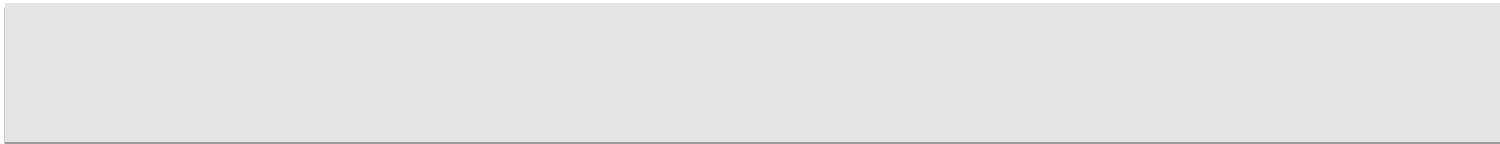
Observed higher sales



42%

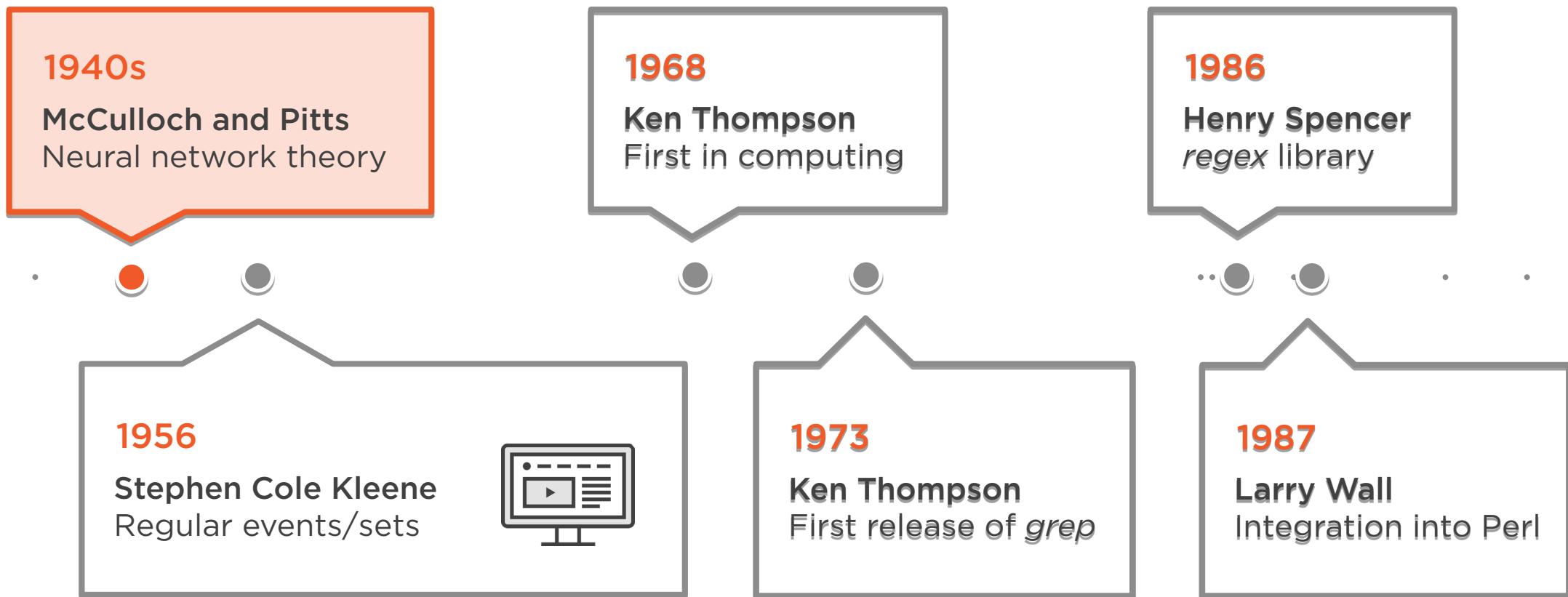
.. .. .. ..

Observed more loyal customers

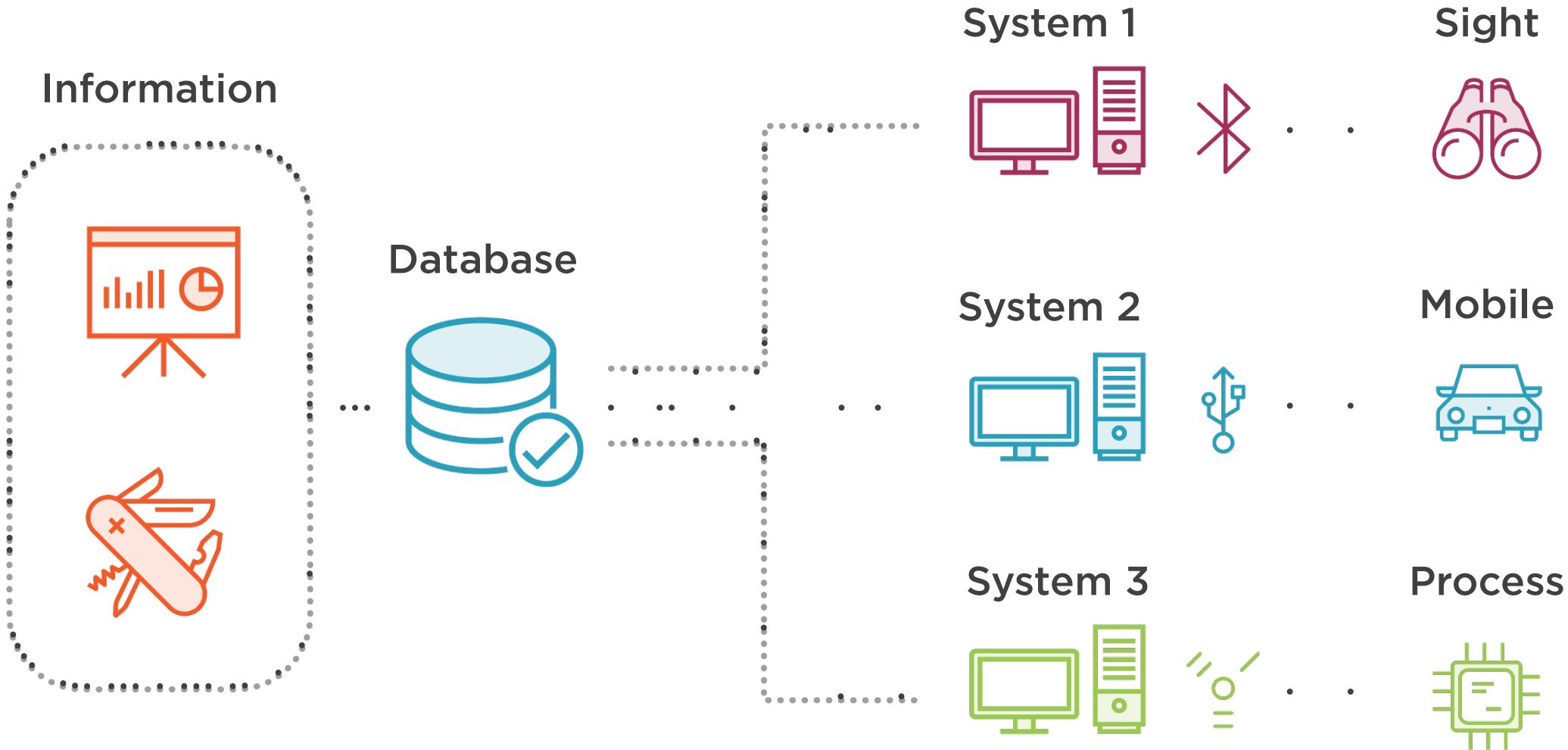


70%

# Timeline of Events



# Title Only Layout Example





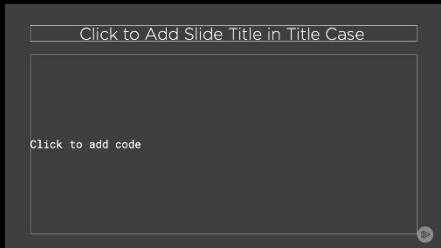
# Using the **Code Slides**



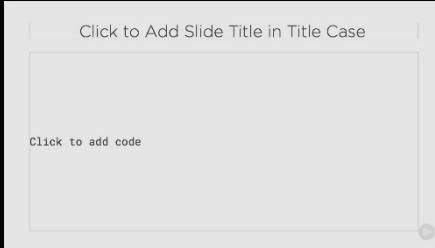
Code Top (Dark)



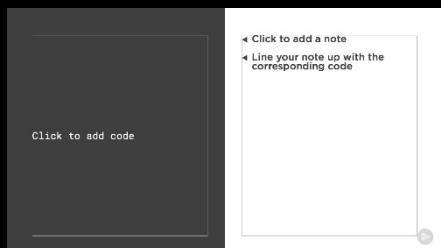
Code Top (Light)



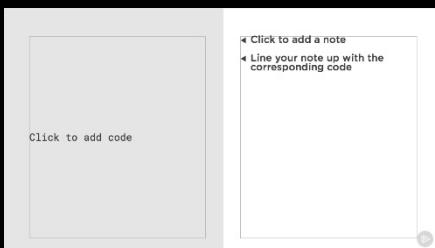
Code (Dark)



Code (Light)



Code Notes (Dark)



Code Notes (Light)

## Code Top Layouts

Use when you need a slide title and info about your code



Make use of the color palette to highlight code.

We recommend using the **Roboto Mono** typeface for your code slides. However, if you use a different font for code in your demos, feel free to use that instead to reinforce a consistent look.

## Code Layouts

Best for larger code snippets

## Code Left Layouts

Great for annotating code structure



```
<div class="row carousel-indicators">  
    <div style="background-color:red;" class="col-md-4" data-target="#homeCarousel" data-slide-to="0" class="active">  
<div class="row carousel-indicators">
```

Slide Title in Titlecase

**Information about the code above**

```
<div class="row carousel-indicators">  
    <div style="background-color:red;" class="col-md-4" data-target="#homeCarousel" data-slide-to="0" class="active">  
<div class="row carousel-indicators">
```

---

Slide Title in Titlecase

**Information about the code above**

# Code Snippet on Dark

```
<div class="row carousel-indicators">
    <div style="background-color:red;" class="col-md-4" data-target="#homeCarousel" data-slide-to="0" class="active">
        </div>
        <div style="background-color:green;" class="col-md-4" data-target="#homeCarousel" data-slide-to="1">
            </div>
```

# Code Snippet on Light

```
<div class="row carousel-indicators">  
    <div style="background-color:red;" class="col-md-4" data-target="#homeCarousel" data-slide-to="0" class="active">  
        </div>  
    <div style="background-color:green;" class="col-md-4" data-target="#homeCarousel" data-slide-to="1">  
        </div>
```

Put code on this side

```
var proto = {  
  foo: 'Hello World'  
};
```

```
function Bar(){}  
Bar.prototype = proto;
```

```
var baz = new Bar();
```

```
console.log(baz.foo);
```

◀ Line up with these notes

◀ Set up prototype object

◀ Constructor function  
and set prototype property

◀ Create instance

◀ Call inherited member

Put code on this side

```
var proto = {  
  foo: 'Hello World'  
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function Bar(){}  
Bar.prototype = proto;
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var baz = new Bar();
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```
console.log(baz.foo);
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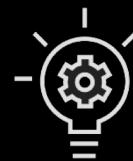
◀ Line up with these notes

◀ Set up prototype object

◀ Constructor function  
and set prototype property

◀ Create instance

◀ Call inherited member



# Using Bullet List Slides

We've provided some bullet list layouts to accommodate various quantities of information.

## Content left | Title/Image right

Intended for bullet text that is shorter and titles/images that are larger

This diagram shows a slide layout with two main sections. On the left, there is a large placeholder for content with a red border. Inside, it says "Click to add short text" and lists "Second level", "Third level", "Fourth level", and "Fifth level". To its right is another placeholder with a red border, containing the text "Click to Add Title or Click Icon to Add Graphic". A small circular navigation icon is at the bottom right.

Content | Image/Title

## Title/Image left | Content right

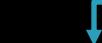
Intended for bullet text that is longer and titles/images that are smaller

This diagram shows a slide layout with two main sections. On the left, there is a placeholder for a title or image with a red border, containing the text "Click to Add Title or Click Icon to Add Graphic". To its right is a large placeholder for content with a red border, containing the text "Click to add longer text" and a bulleted list: "- Second level", "• Third level", "• Fourth level", and "- Fifth level". A small circular navigation icon is at the bottom right.

Image/Title | Content



Remember, you can use **text** or **images** in these placeholders.



**Animation built in**

**Bullet alternative**

**Sentence fragments**

**List of things**

**Procedure list**

**Talking points**

Title or Relevant Graphic

**Animation built in**

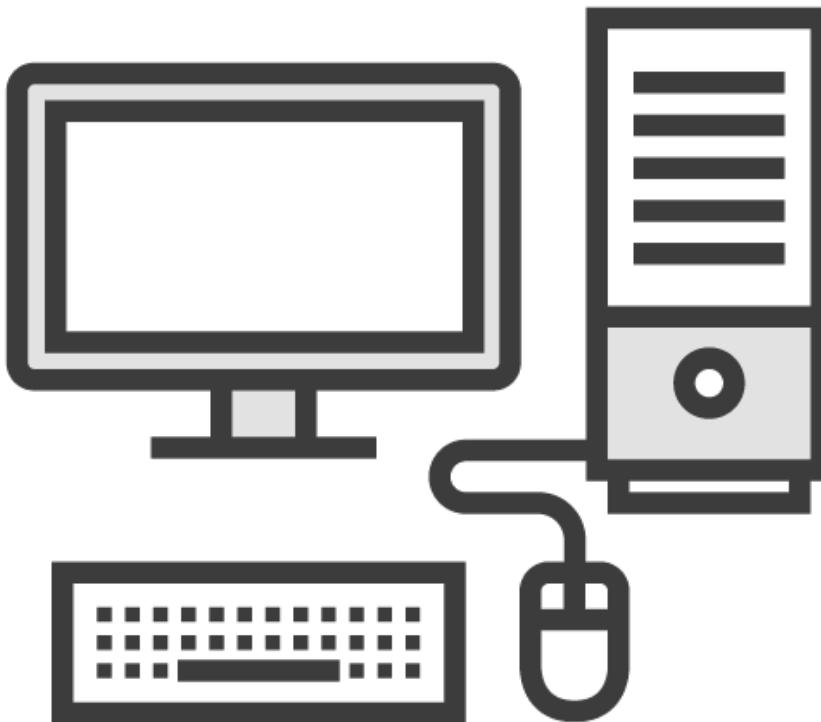
**Bullet alternative**

**Sentence fragments**

**List of things**

**Procedure list**

**Talking points**



## Title or Relevant Graphic

**Animation built in**

**Bullet alternative**

**Room for a bit more text**

**Use this layout for**

- Longer sentence fragments
- List of things
- Procedure list
- Talking points



**Animation built in**

**Bullet alternative**

**Room for a bit more text**

**Use this layout for**

- Longer sentence fragments
- List of things
- Procedure list
- Talking points

# Title Space with Image



**Animation built in**

**Bullet alternative**

**Room for a bit more text**

**Use this layout for**

- Longer sentence fragments
- List of things
- Procedure list
- Talking points



**Graphic on left should fill the entire space**

- Graphic must be high quality and royalty free

**Graphic and text animation is built in**



## Photo Circle with Text

**Move the text boxes to keep the text aligned with the image**

**Photos works better than an icons**

**Photos permitted for commercial use**



# Comparison Slide

Use this slide if you need to compare single items or groups of items.

Click to Add Slide Title in Title Case

Compare item one	Compare item two
Click to add text	Click to add text



# Comparison Example

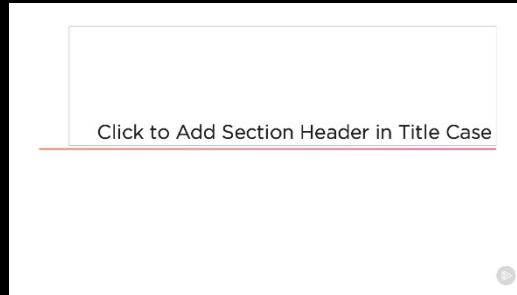
Functional group	Objectives
Configure and administer security	Manage vSphere storage virtualization
Configure advanced networking	Configure software-defined storage
Configure advanced storage	Configure vSphere storage multipathing and failover
Administer and manage resources	Perform advanced VMFS and NFS configurations and upgrades
Configure availability solution	
Deploy and consolidate vSphere	



# Other Slides

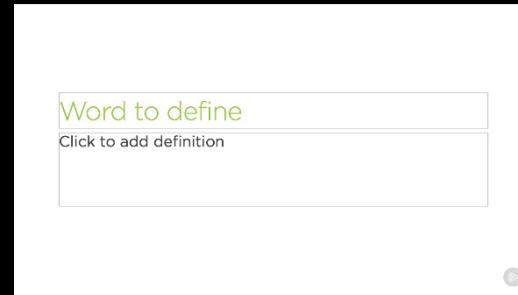
The following self-explanatory slides are a good way of adding diversity into the flow of your course.

Use them purposefully.



A slide template with a white background and a thin black border. Inside, there is a large white rectangular area for content. At the top left of this area, the text "Click to Add Section Header in Title Case" is displayed in a small, dark font. A thin red horizontal line is positioned just below the text. In the bottom right corner of the slide area, there is a small circular icon with a dot inside.

Section Header



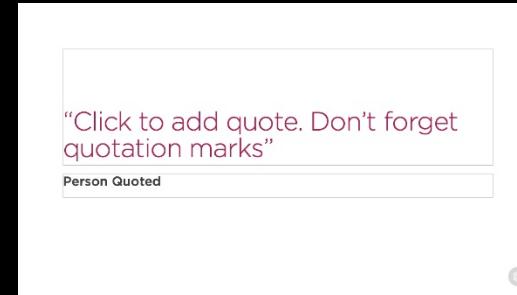
A slide template with a white background and a thin black border. It features a green header bar at the top with the text "Word to define" in white. Below this, a white rectangular input field is labeled "Click to add definition". In the bottom right corner of the slide area, there is a small circular icon with a dot inside.

Definition



A slide template with a teal background and a thin black border. Inside, there is a white rectangular area for content. The text "This is a short, important statement to bring attention to something." is centered within this area. In the bottom right corner of the slide area, there is a small circular icon with a dot inside.

Important Statement



A slide template with a white background and a thin black border. It features a pink header bar at the top with the text "Click to add quote. Don't forget quotation marks" in white. Below this, a white rectangular input field is labeled "Person Quoted". In the bottom right corner of the slide area, there is a small circular icon with a dot inside.

Quotation



# Section Heading

---

# Word Definition

Here is where you put the definition. This is one of the few places where complete sentences are appropriate. Be sure to cite your source.

This is a short, important  
statement to bring  
attention to something.

“Using quotes in your slides can be powerful if used sparingly.”

**Simone Garfunky**