

# Preparing a Scientific Presentation

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Operations Research Proposal  
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# Why Give a Presentation?

Communicate to

- inform
- motivate



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# Common Causes of Ineffective Presentations

- Failure to motivate audience
- Confusing structure
- Gaps in logic
- Excessive details
- Poorly designed slides
- Poor delivery



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# How Do You Prepare a Scientific Presentation?

1. Message
2. Organization
3. Visuals
4. Delivery



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# 1. What is Your Message?

- Why are you giving presentation?
- What is your desired outcome?
- What does the audience already know about your topic?
- What are their interests?
- What are key points?



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## 2. Organization

- Determine amount of time for delivery
- List the 1-3 key points first
- Match the audience's technical level





# Organizing a Presentation

- i. Outline
- ii. Problem and background
- iii. Design and methods
- iv. Major findings
- v. Conclusion and recommendations



# Organize your information

- Let your audience know up front what you have planned for them
- Use a top down structure for your presentation:
  - General to more specific



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# Making Slides

- Main points only
- One idea per slide
- Short words, few words (5 per line)
- Strong statements: active voice



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# Outline

- Let audience know what they are going to hear
- Let them know how the presentation will be organized





# Problem and background

- Context
- Study question
- Relevant knowledge on issue



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# Design and Methods

- Case study of ...
- Qualitative methods
  - Key informant interviews (n=10)
- Quantitative methods
  - Survey
  - Cost analysis



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# Major Findings

- Text and or table/graph
- One slide for each
- Message should be unambiguous



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# Conclusion and Recommendations

- Key points
- Implications
- One slide for each message



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# 3. Visuals: How Does it Look?

- Choose style that supports the tone
- Apply the same style to each slide

**Be consistent!**

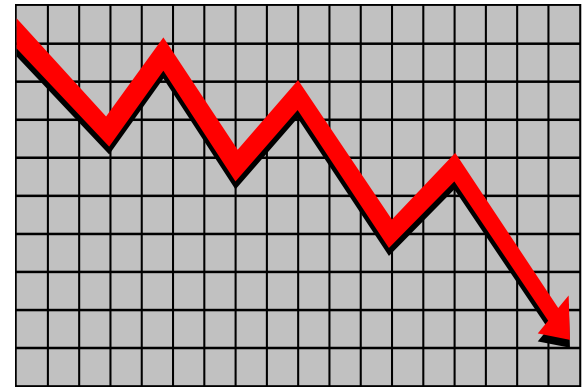
- Make sure font size is legible. Can you read 16 point?



# Don't Say It, Show It

Charts and graphs help you by:

- Increase understanding
- Save time
- Enhance attention
- Help control nervousness

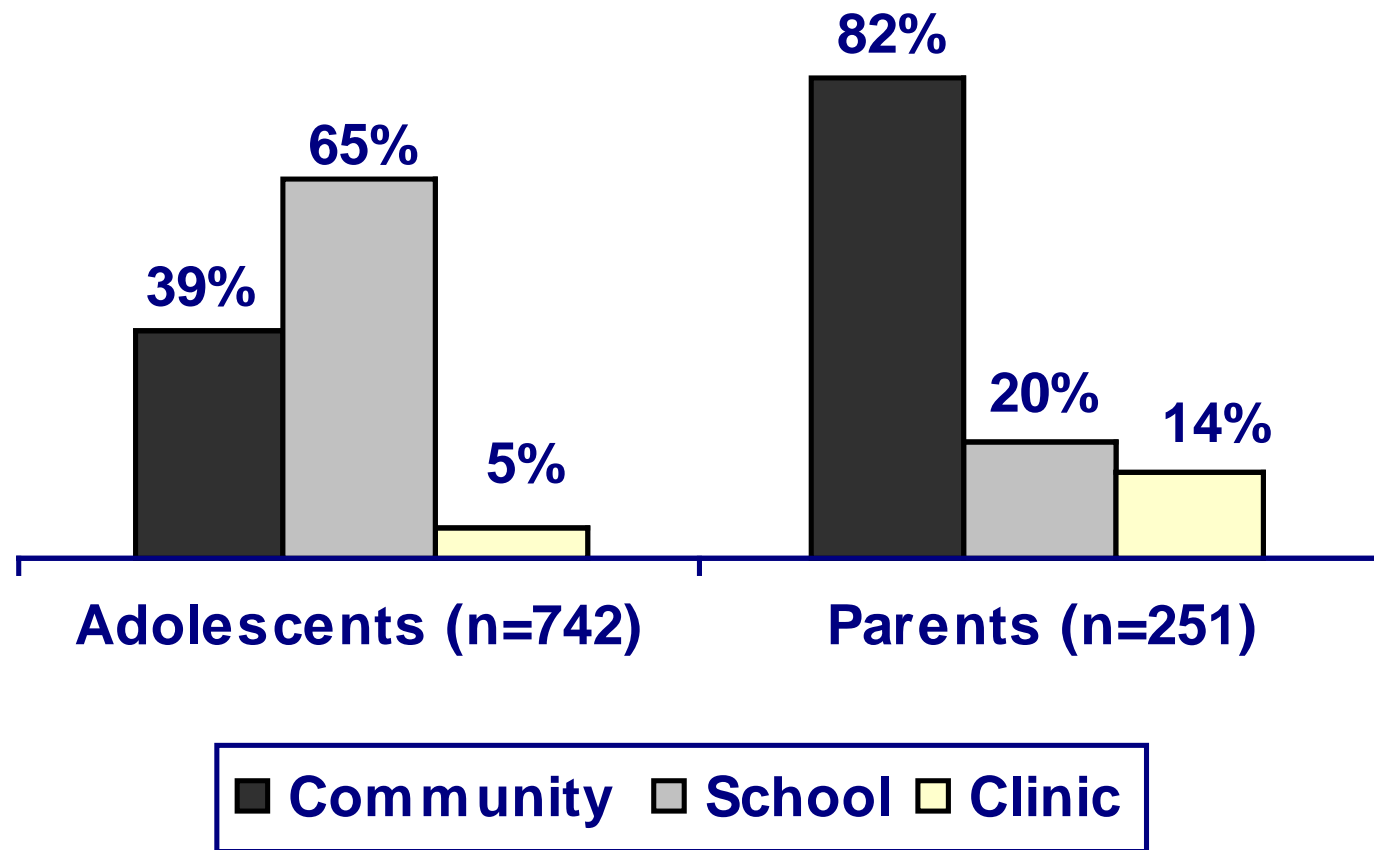


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# Participation in Community, School and Clinic Activities by Parents and Adolescents in Kenya



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# 4. Tips for Delivery

Preparation is key!

- Know the material well
- Prepare an outline and notes
- Practice your presentation out loud with coworkers
- Respect your time limits



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# Time Yourself

Outline	1	
Problem/Background	2	
Design/Methods	1	4 min
Major findings	3-5	Impact
Conclusion and Recommendations	1-2	Impact

# Good Public Speaking

- Speak slowly and clearly
- Project to the back of the room
- Do not read entire presentation
- Pause for emphasis...
- Do not fidget



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# Remember to...

- Relax
- Smile
- Breathe!



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# Preparing a Scientific Presentation

1. Message
2. Organization
3. Visuals
4. Delivery



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The following slides are from an unknown source but are also useful in understanding what is needed for an effective presentation.

# PowerPoint Presentation Guidelines

- The following 37 slides present guidelines and suggestions for the use of fonts, colors, and graphics when preparing PowerPoint presentations for Sessions and Seminars.
- This media (PPT) is designed to **ENHANCE** your presentation, not **BE** the presentation.
- Remember, only you can prevent *“Death by PowerPoint”*





# PowerPoint Slide

- Highlight key points or reinforce what the facilitator is saying
- Should be short and to the point, include only key words and phrases for visual, reinforcement
- In order for your presentation to fit on most screens, text and images should be placed within 95% of the PowerPoint slide. This “**action safe**” area is seen in the next slide.

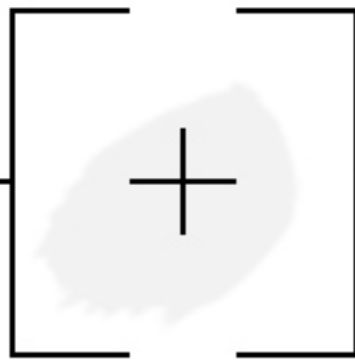
95%

90%

85%

VERDANA 22 PT.  
 VERDANA 20 PT.  
 VERDANA 18 PT.  
 VERDANA 16 PT.  
 VERDANA 14 PT.  
 VERDANA 12 PT.  
 VERDANA 10 PT.  
 VERDANA 08 PT.  
 VERDANA 06 PT.

HELVETICA 22 PT.  
 HELVETICA 20 PT.  
 HELVETICA 18 PT.  
 HELVETICA 16 PT.  
 HELVETICA 14 PT.  
 HELVETICA 12 PT.  
 HELVETICA 10 PT.  
 HELVETICA 08 PT.  
 HELVETICA 06 PT.



85%

90%

95%

TITLE SAFE

ACTION SAFE

# PowerPoint Layout

- Layout continuity from frame to frame conveys a sense of completeness
- Headings, subheadings, and logos should show up in the same spot on each frame
- Margins, fonts, font size, and colors should be consistent with graphics located in the same general position on each frame
- Lines, boxes, borders, and open space also should be consistent throughout

# Fonts

- Font Style Should be Readable
  - Recommended fonts: Arial, Tahoma, Veranda
- Standardize the Font Throughout
  - This presentation is in **Tahoma**



**Do !**

# Font Size

- ★ **The larger, the better. Remember, your slides must be readable, even at the back of the room.**
- This is a good title size  
Verdana 40 point
- A good subtitle or bullet point size  
Verdana 32 point
- Content text should be no smaller than  
Verdana 24 point
- This font size is not recommended for content. Verdana 12 point.

# Font Size

★ Combining small font sizes with bold or italics is not recommended:

- ★ *What does this say? Garamond Font, Italic, Bold 12pt.*
- **This is very difficult to read. Times Font, Bold, 12pt.**
- This point could be lost. Century Gothic Font, Bold, Italic, 14pt.
- No one will be able to read this. Gill Sans Font, Condensed Bold, 12pt



**Don't !**

★ Small fonts are okay for a footer, such as:

# Fonts



Don't !

- *Don't Sacrifice Readability for Style*
- DON'T SACRIFICE READABILITY FOR STYLE
- *Don't Sacrifice Readability for Style*
- ❖ **DON'T SACRIFICE READABILITY FOR STYLE**

# Caps and Italics

- **DO NOT USE ALL CAPITAL LETTERS**
  - Makes text hard to read
  - Conceals acronyms
  - Denies their use for EMPHASIS
- Italics
  - Used for “*quotes*”
  - Used to *highlight* thoughts or ideas
  - Used for book, journal, or magazine *titles*



# Use a Template

- Use a set font and color scheme.
- *Different **styles** are DISCONCERTING to the audience.*
- You want the audience to focus on what you present, not the way you present.

Use the Same **Background**  
on Each Slide



**Do !!**

- Don't use multiple **backgrounds** in your presentation
- Changing the style is distracting



# Colors

- **Reds** and **oranges** are high-energy but can be difficult to stay focused on.
- **Greens**, **blues**, and **browns** are mellower, but not as attention grabbing.
- **Reds** and **Greens** can be difficult to see for those who are color blind.

# Avoid These Combinations

- Examples:

–Green on Blue

–Dark Yellow on Green

–Purple on Blue

–Orange on Green

–Red on Green



**Don't !**

# Colors

- White on dark background should not be used if audience is more than 20 ft away.
  - This set of slides is a good example.
  - You can read the slides up close.
  - The further away you get, the harder it is to read.
  - This is a good color combination if viewed on a computer.
  - A dark background on a computer screen reduces glare.

# Colors

- Large Hall Events



**Don't**

- Avoid **White** Backgrounds

- The white screen can be **blinding** in a dark room

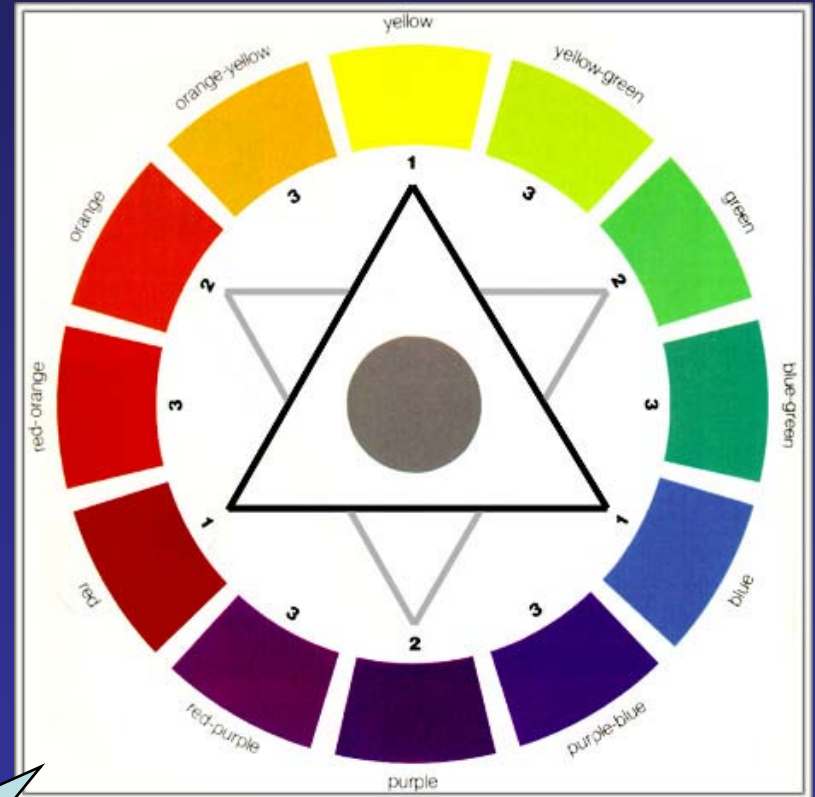
- **Dark Slides** with **Light Colored Text** Work Best

# The Color Wheel

- Colors separated by another color are contrasting colors (complementary)
- Adjacent colors harmonize with one another (Green and Yellow)
- Colors directly opposite one another are said to CLASH
- Clashing colors provide **readability**

– **Orange** on **Blue**

**Do !**





# Background Colors

Remember: Readability! Readability! Readability!

This is a good mix of colors. Readable!

This is a bad mix of colors. Low contrast. Unreadable!

This is a good mix of colors. Readable!

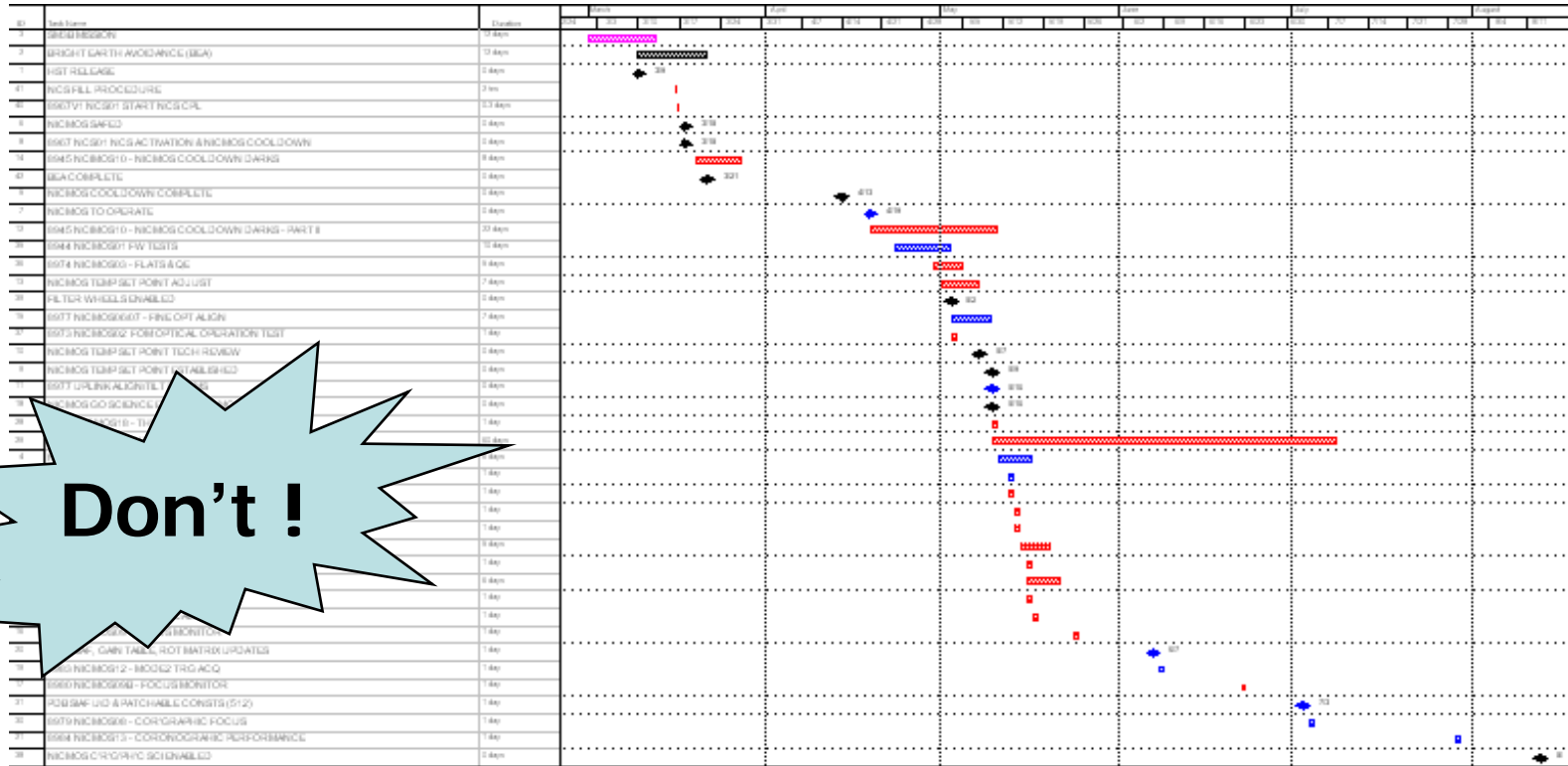
This is a bad mix of colors. **Avoid bright colors on white.** Unreadable!

# **Graphs and Charts**

**Make sure the audience  
can read them!**

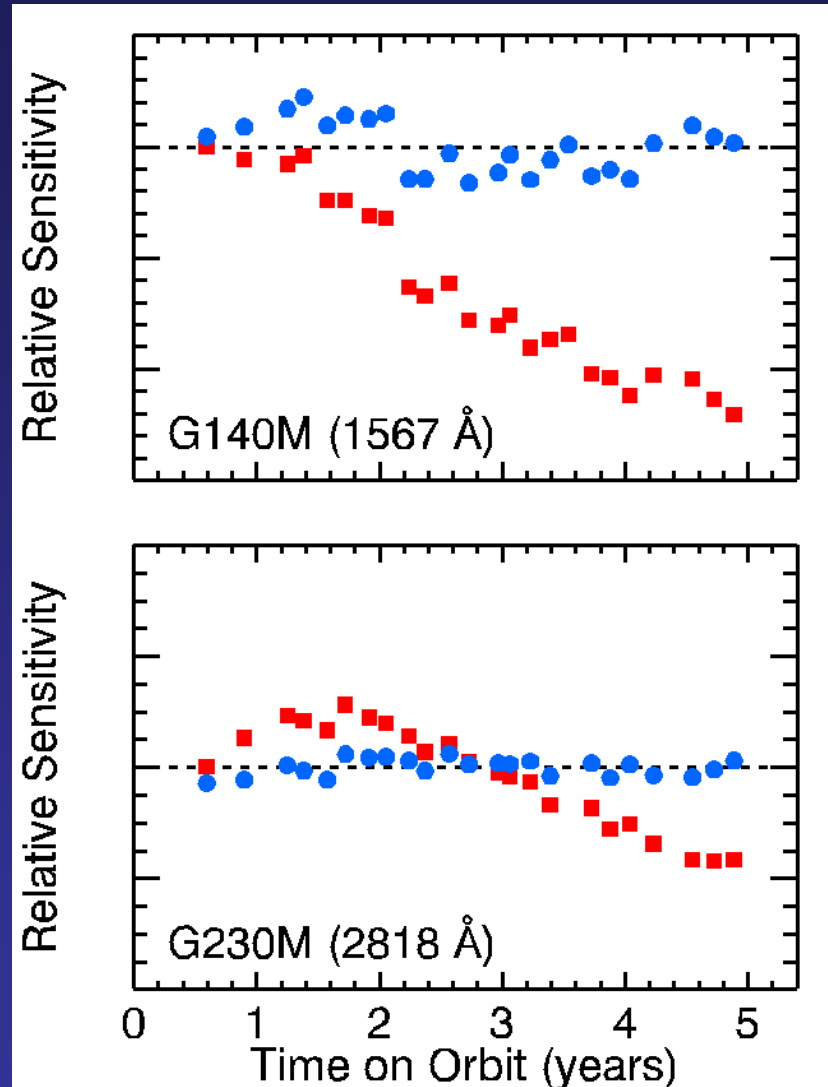


This graph contains too much information in an unreadable format.

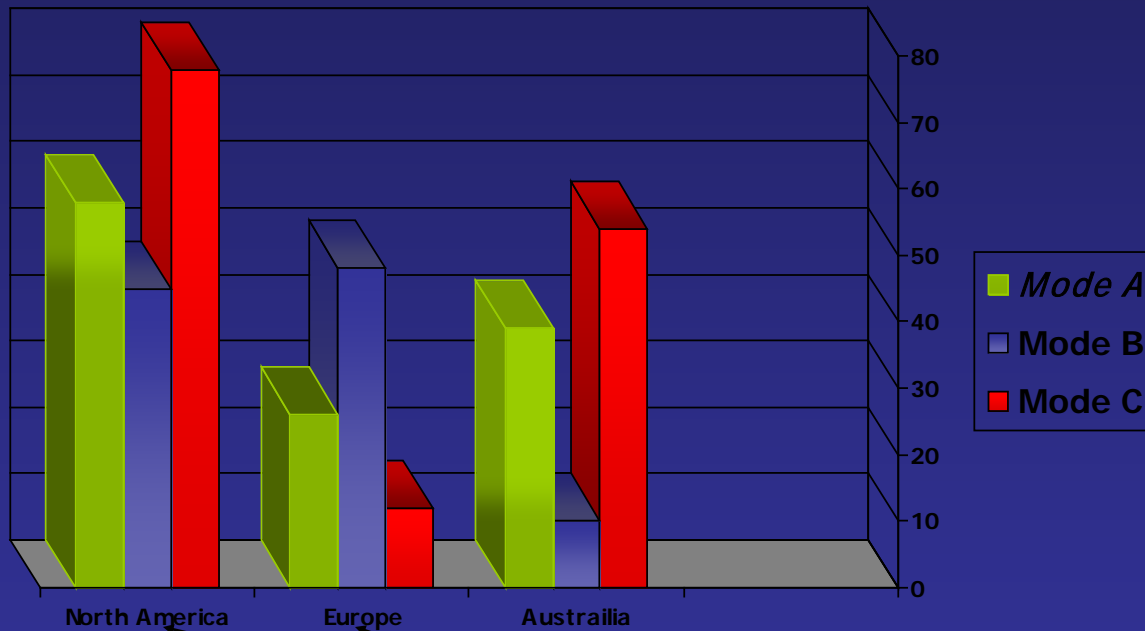


# Good Graph

These are examples of good graphs, with nice line widths and good colors.

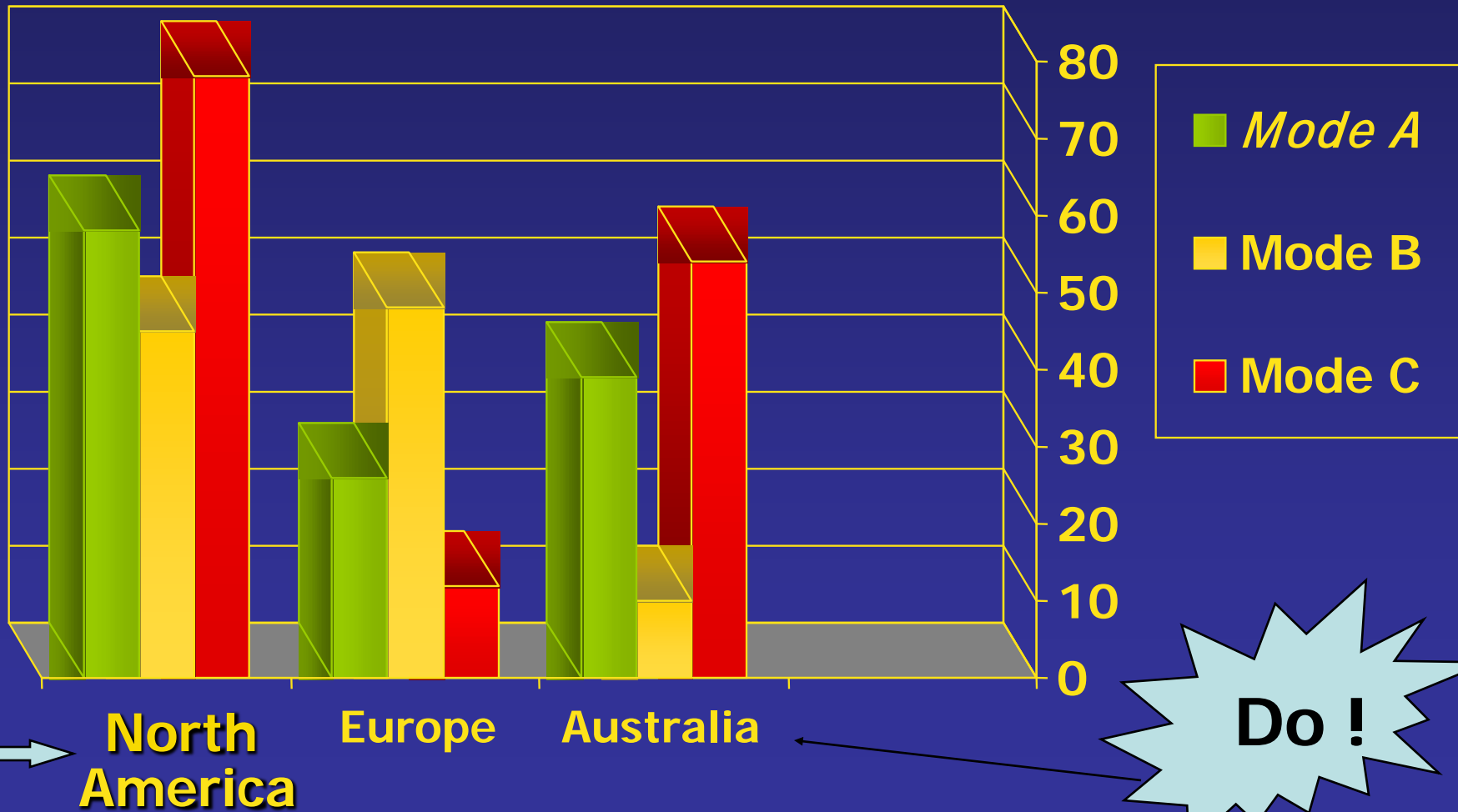


# Charts and Graphs




**Don't**

# Charts and Graphs



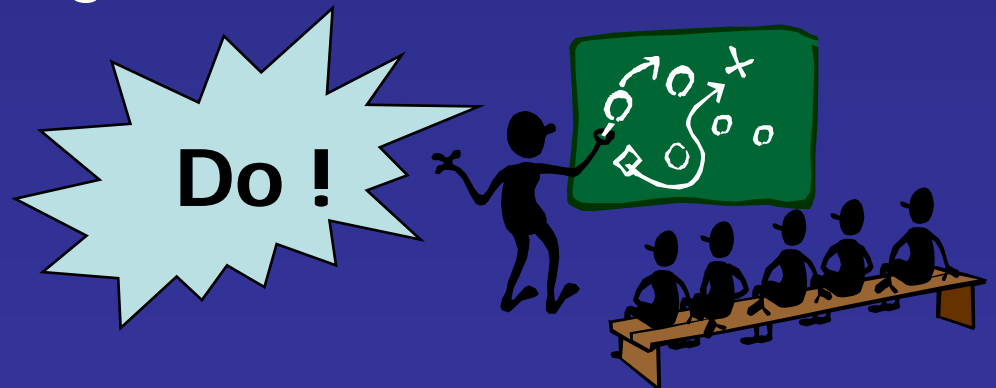
This is a good, readable table. Tables, especially large ones, should be placed on a separate slide.

<b>4/19 Fri</b>	<b>109</b>	<b>NICMOS restarted, Ne-loop control continues</b>
<b>4/22 Mon</b>	<b>112</b>	<b>Change to mount  control</b>
<b>4/23 Tue</b>	<b>134</b>	<b>Return to Ne control, Filter wheel test begins</b>
<b>4/24 Wed</b>	<b>155</b>	<b>Increase control temperature to allow for +2 K variations</b>
<b>4/25 Thur</b>	<b>165</b>	<b>Begin darks every 3<sup>rd</sup> orbit</b>
<b>4/26 Fri</b>	<b>174</b>	<b>DQE test visit 1; Control temp +0.5 K</b>



# Illustrations

- Use only when needed, otherwise they become distracters instead of communicators
- They should relate to the message and help make a point
- Ask yourself if it makes the message clearer
- Simple diagrams are great communicators



# Tips for Preparing PowerPoint Presentations

## Points To Remember:

**Limit each slide to one idea.**

**Use the same background for each slide.** Presentations do not flow as smoothly if the slide background changes throughout.

**Limit animation.** Too much animation can be distracting. (Be consistent with animation and have all text and photos appear on the screen the same way each time. There are many animation modes to choose from, but it is best to use just one throughout.)

In large hall events, dark slides with light colored text work the best. Especially avoid white backgrounds or PowerPoint templates that have too many graphics that may make the text unclear.

## Use Contrasting Colors:

Yellow on Black

White on Black

Yellow on Blue

White on Green

Orange on Black

White on Blue

Orange on Blue

White on Red

## Font Size And Selection:

Standardize the font throughout and use bold face characters. As a rule, never use smaller than a 28 font; the bigger, the better.

Don't use all capitals, as lower case letters are more legible.

Make sure you choose a font style that is readable from a distance. Don't sacrifice readability for style.



**Don't !**

# Limit Each Slide to One Idea

- Use **Bullet Points** to Cover Components of Each Idea

# Bullets

- Keep each bullet to 1 line, 2 at the most
- Limit the number of bullets in a screen to 6, 4 if there is a large title, logo, picture, etc.
  - This is known as “**cueing**”
  - You want to “**cue**” the audience on what you’re going to say
    - Cues are a a brief “**preview**”
    - Gives the audience a “**framework**” to build upon

# Bullets (con.)

- If you crowd too much text, the audience won't read it
  - Too much text looks busy and is hard to read
  - Why read it, when you're going to tell them what it says?
  - Our reading speed does not match our listening speed; hence, they **confuse** instead of **reinforce**

# Points to Remember

**Do not do this!**  
**Limit Bullet Points**  
**To a few words**

- Limit each slide to 1 idea
- Limit each bullet point to only a few words to avoid long sentences that go on and on!
- Limit animation – Too much animation can be distracting. Be consistent with animation and have all text and photos appear on the screen the same way each time. There are many animation modes to choose from, but it is best to use just one throughout.

# Points to Remember

- Keep bullet points brief
- Use the same background for each slide
- Use dark slides with light colored text in large hall events



**Do!**



Don't

## Avoid the “All Word” Slide

Another thing to avoid is the use of a large block paragraph to introduce your information. Attendees **do not like** to have what is on the screen, **read to them** verbatim. So, please use short, bulleted statements and avoid typing out your whole presentation on to the slides. Also, it is difficult for some to listen and read a large amount of text at the same time.



# Attention Grabber

- **TO MAKE A SLIDE STAND OUT, CHANGE THE FONT, BACKGROUND, OR ADD ANIMATION.**

# Limit Animation!

- Use the same animation throughout the entire presentation
- Using more than one can be very distracting
  - The audience will only see the animation and not the message you're trying to get across



# Limit Animation!

- Use the same animation throughout the entire presentation
- Using more than one can be very distracting
  - The audience will only see the animation and not the message you're trying to get across

**Do!**



# YOU



- Do not use the media to hide you
- The audience came to **SEE** you
- The media should **ENHANCE** the presentation, not **BE** the presentation
- If you're only going to read from the slides, then just send them the slides!
- Remember, only you can prevent

*“Death by PowerPoint”*