

Making A Scientific Presentation: Basic Principles

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History of Oration

- **Public forum**
- **Speaker on an elevated platform**
- **Need to project to entire audience**
- **Effective speakers told stories**
- **Importance of repetition**

Modern Scientific Oral Presentations

- **Starting point**
 - Accepted scientific abstract**
 - Review of topic—no abstract**
- **Speaking in a conference room**
 - Blackboard**
 - Flip Chart**
 - Overhead projector**
 - Videoconference**
 - Powerpoint**
- **Video presentation**

Speaker Aids

- **Podium**
- **Microphone**
 - Fixed**
 - Portable**
- **Pointer**
 - Mouse**
 - Laser pointer**
- **Computer used for powerpoint**
- **Your personal notes**
- **Water for dry mouth of cough**

Organization of a 10 Minute Scientific Oral Presentation

- **Title slide (1 slide)**
 - Title of presentation**
 - Your name**
 - Collaborators for project**
 - Institutions represented**
- **Conflict of interest disclosure (1 slide)**
- **Background (1-2 slides)**
- **Population and Methods (2-3 slides)**
- **Images/Photos (0-3 slides)**
 - Equipment, lab, environment, subjects**
- **Results (2-3 slides)**
- **Summary (1 slide)**
- **Limitations (1 slide)**
- **Backup slides (0 to 3 slides)**

General Rules for Giving a Talk

•Slides

Not more than 1 slide per minute

Keep visual content simple

Try to avoid too many lines of text

Do not “read” the slides

High contrast background color

Arial (or similar) text is preferred

Animation not usually needed

Speaking with Style (1)

You

- Clothing
- Jewelry
- Makeup
- Awareness of the total you
 - Head
 - Eyes
 - Torso
 - Hands
 - Feet

Speaking with Style (2)

At the Podium

- Walk slowly to the podium**
- Thank moderator(s) and sponsor(s)**
- Talk to the different sections of audience**
- Talk slowly**
- Vary your rhythm**
- Use pauses for emphasis**
- Don't use jargon**
- Be careful with use of "humor"**
- Define uncommon words at time of first use**
- Repeat your important findings**
- Signal when close to finishing**
- Finish within allotted time**

Speaking with Style (3)

Emphasizing Key Findings

- **Repetition Approach**

 - Tell audience what you are going to say**

 - State the finding**

 - Repeat the finding**

- **Socratic Approach**

 - Ask a question**

 - Answer the question with your study data**

 - Repeat findings with different phrasing**

Speaking with Style (4)

Questions

- **Questions from the audience**
 - Thank person for asking the question**
 - Briefly repeat or paraphrase the question**
 - Ensures you understand the question**
 - Gives info on question to rest of audience**
 - Provide “short” answer**

Speaking with Video

- **Personal appearance is very important**
- **Face makeup and powder if available**
- **Usually you relate to an interviewer**
- **Act relaxed**
- **Know what the camera is viewing**
- **Behave as though camera is always “on”**
- **Be aware of your facial expression(s)**

Fluent Communication

- **Speak at average speed**
- **Vary speed and pitch**
- **Use pauses effectively**
- **Avoid filler expressions**
Examples: “um” , “uh” “you know”
- **Use appropriate vocabulary**
- **Pronounce words correctly**

Behaviors and Communication

- **Stuttering**
Focus on smoothness, rate and tone
- **Physical movements**
Especially eyes, forehead, breathing, frowning
- **Large muscle movements**
- **Verbal repetition**



Basic Components of a Table

Stub Head	Column Spanner		
	Column A	Column B	Column C
Stub 1			
Stub 2			

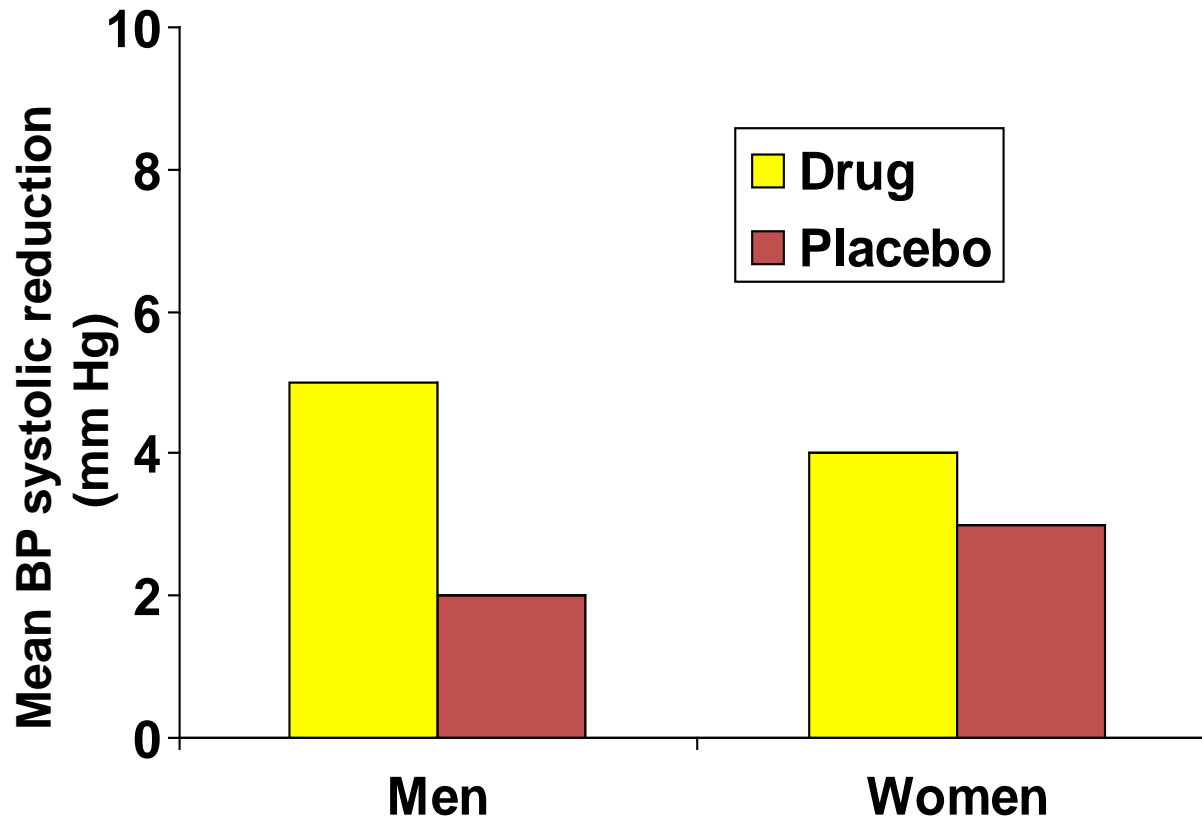
Table Composition

- **Title**
 - Should be meaning
 - Keep it short if possible
- **Column and Row Heads**
 - Avoid repeating words
 - Make the order logical
 - Keep text short
 - Try to have columns with equal spacing
- **Column Spanner**
 - Use spanners if you can
- **Numbers**
 - Fewer decimals is generally preferred
 - Standard Deviation vs Standard Error of Mean
- **Abbreviations**
 - Explain in text or in a footnote

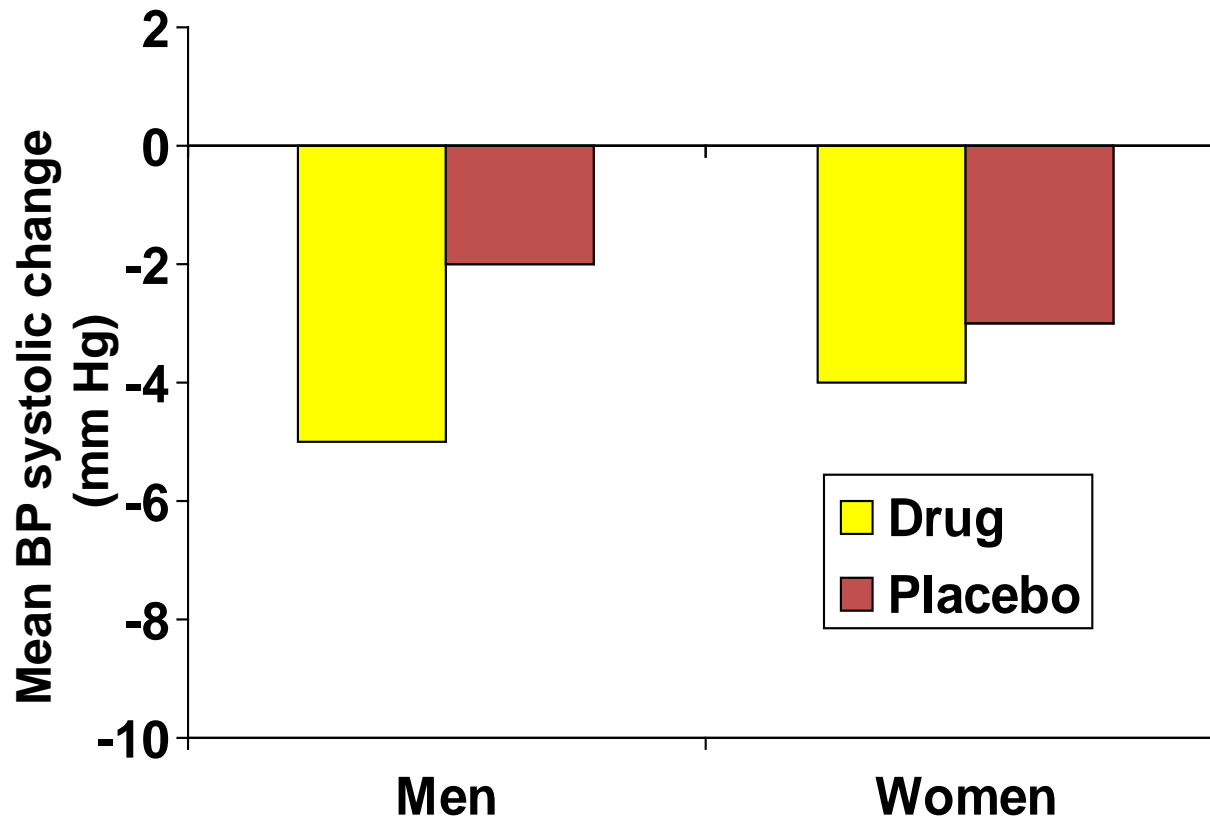
Examples of Slides

- **Slides are shown using the same data**
- **Different formats are used for each slide**
- **Each presentation type has its merits**

Blood Pressure Change in the ABC Trial



Blood Pressure Change in the ABC Trial



Correlation Table

Measure	Factor 1	Factor 2	Factor 3
Factor 1	--		
Factor 2	0.24	--	
Factor 3	0.30	0.55	--

Correlation* Table

Measure	Factor 1	Factor 2	Factor 3
Factor 1	--		
Factor 2	0.24	--	
Factor 3	0.30	0.55	--

* Values shown are r-squared

Correlation* Table

Measure	Factor 1	Factor 2	Factor 3
Factor 1	--	0.28	0.35
Factor 2	0.24	--	0.60
Factor 3	0.30	0.55	--

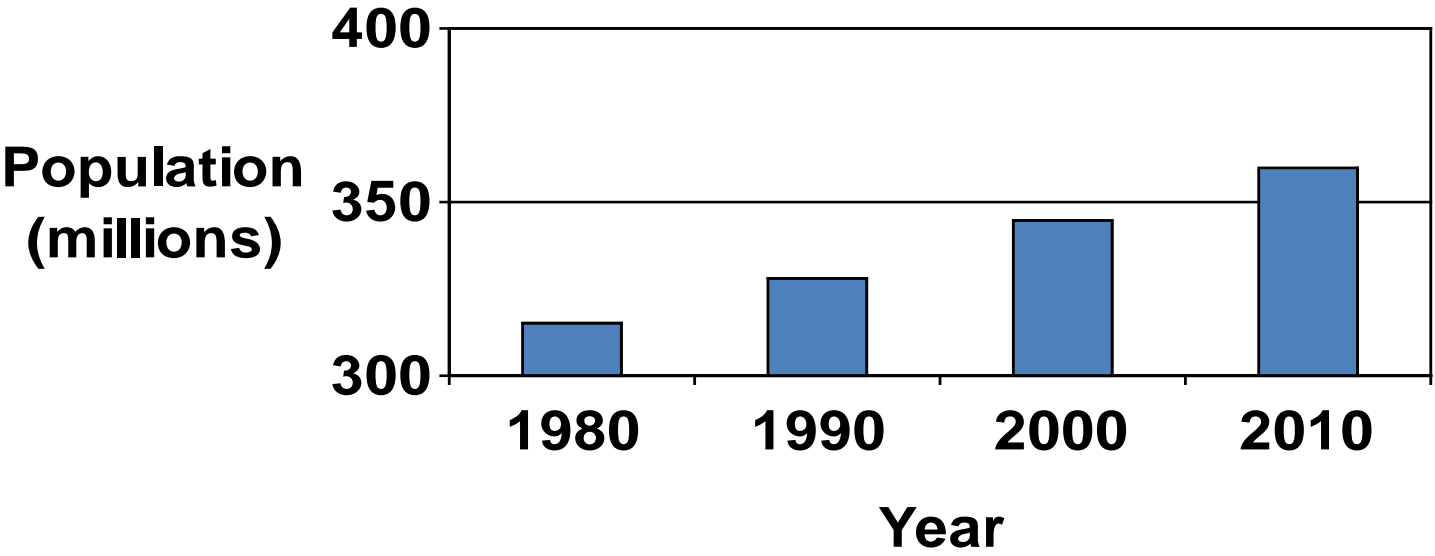
 Group A

 Group B

* Values shown are r-squared

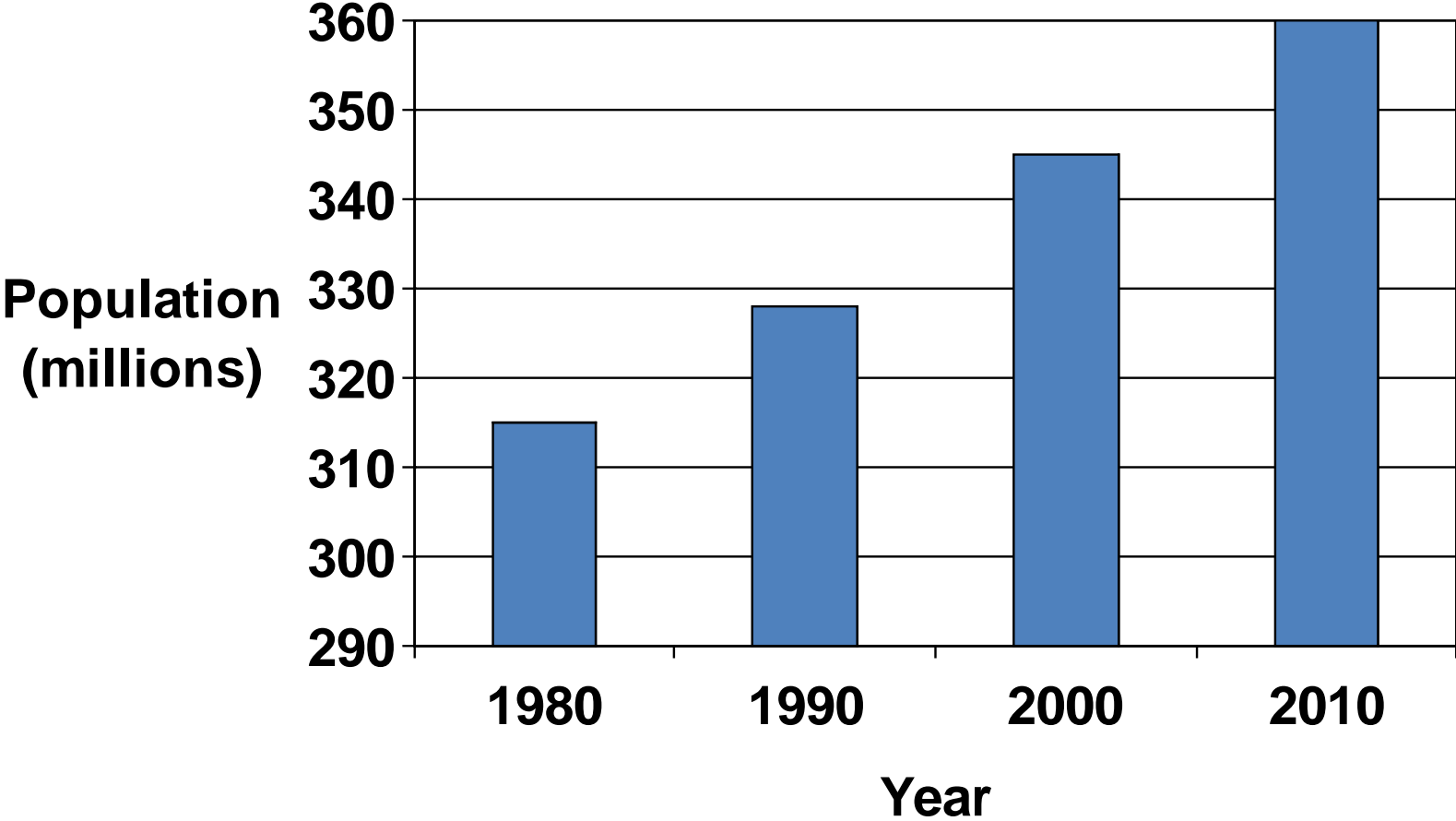
Graphing Data Over an Interval (1)

Powerpoint Vertical Bar Plot



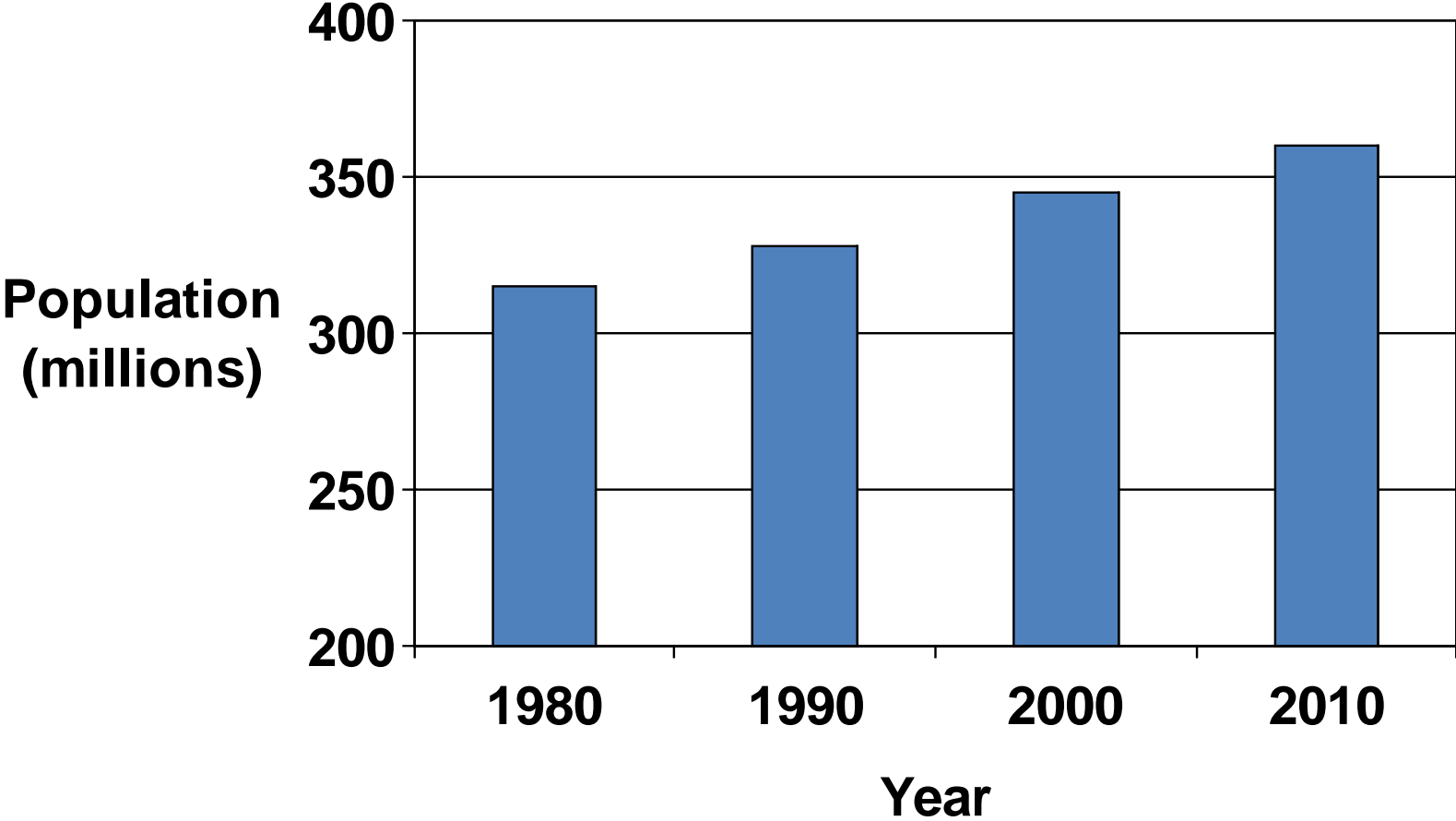
Graphing Data Over an Interval (2)

Powerpoint Vertical Bar Plot



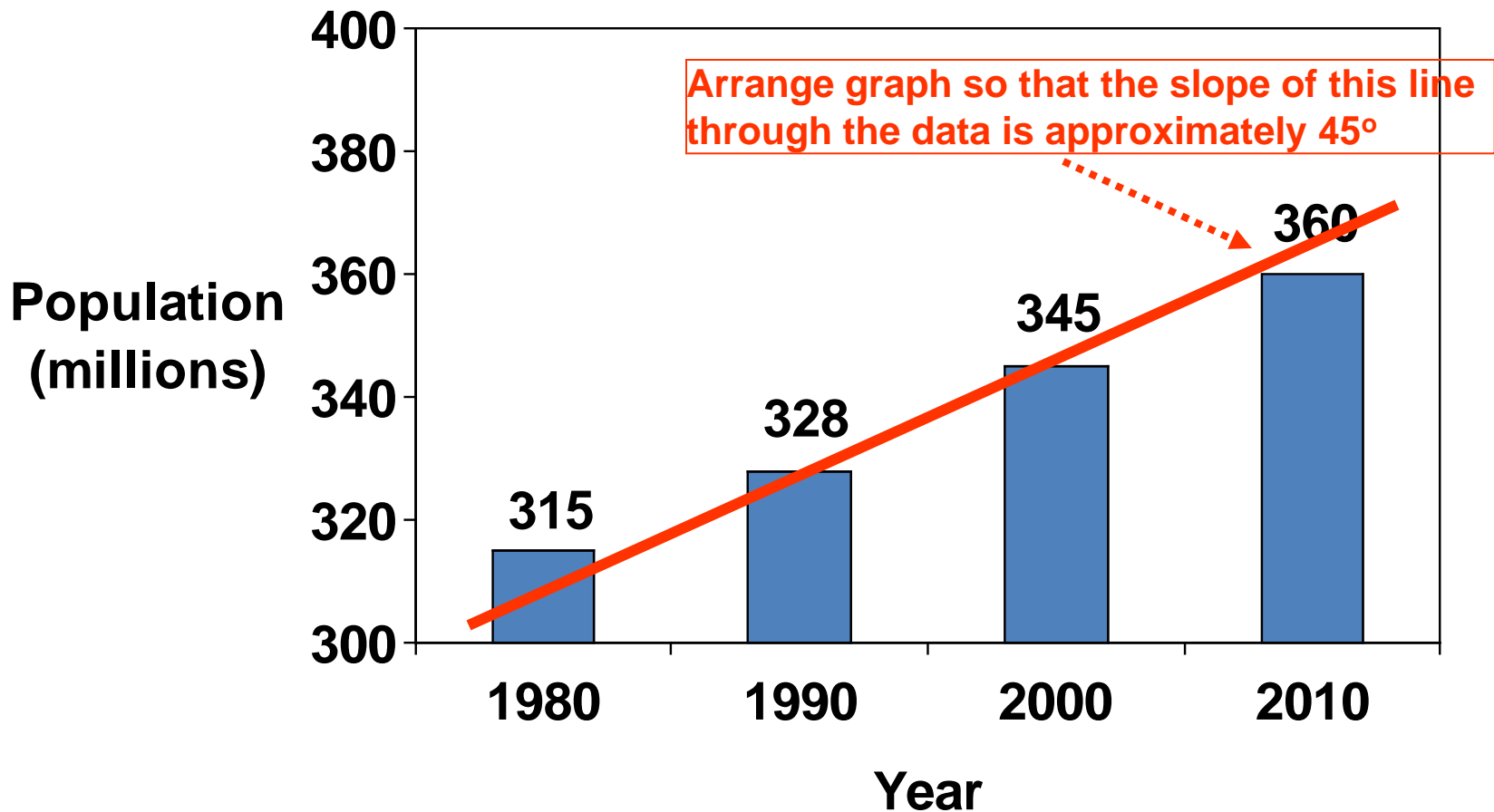
Graphing Data Over an Interval (3)

Powerpoint Vertical Bar Plot

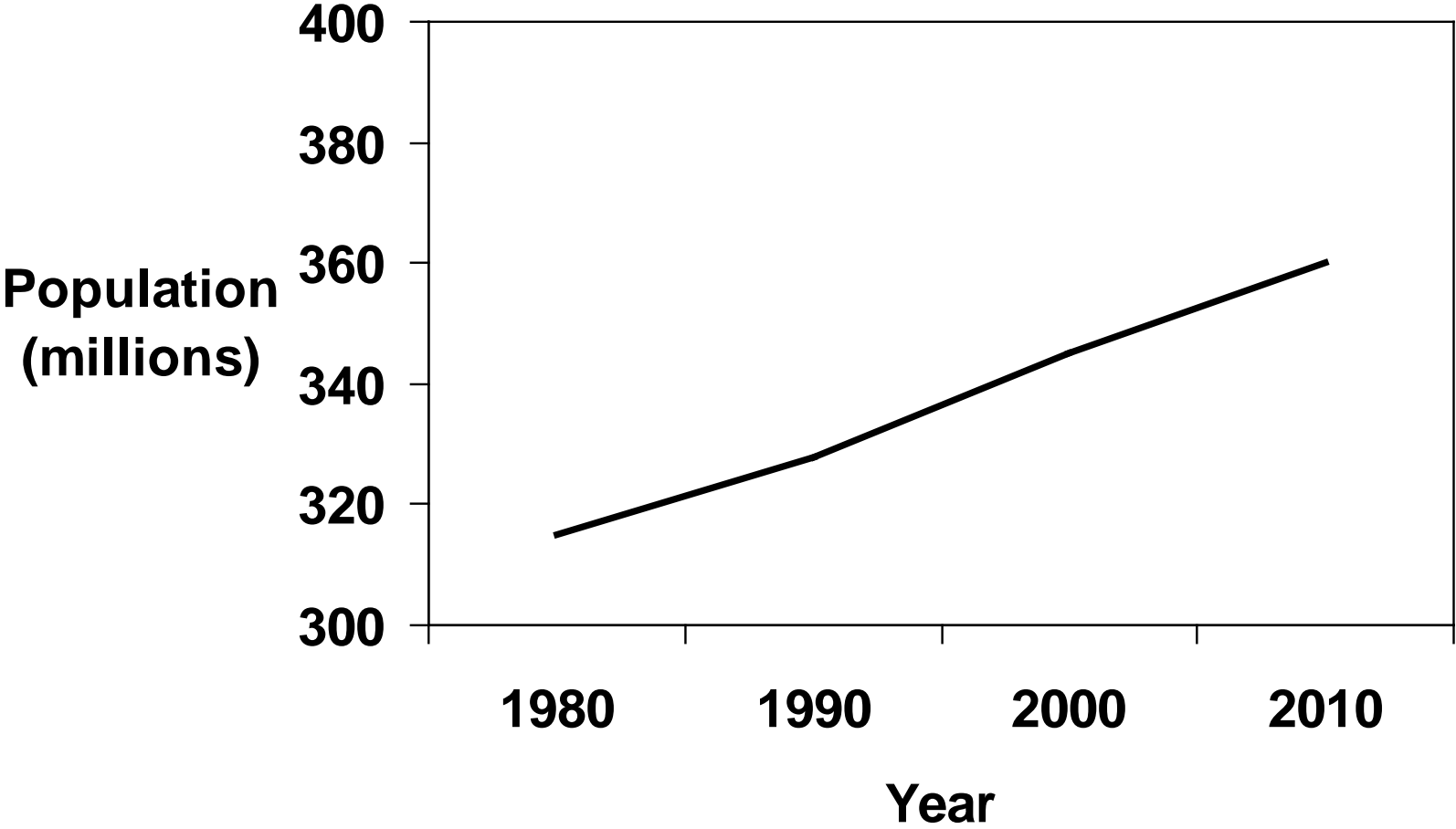


Graphing Data Over an Interval (4)

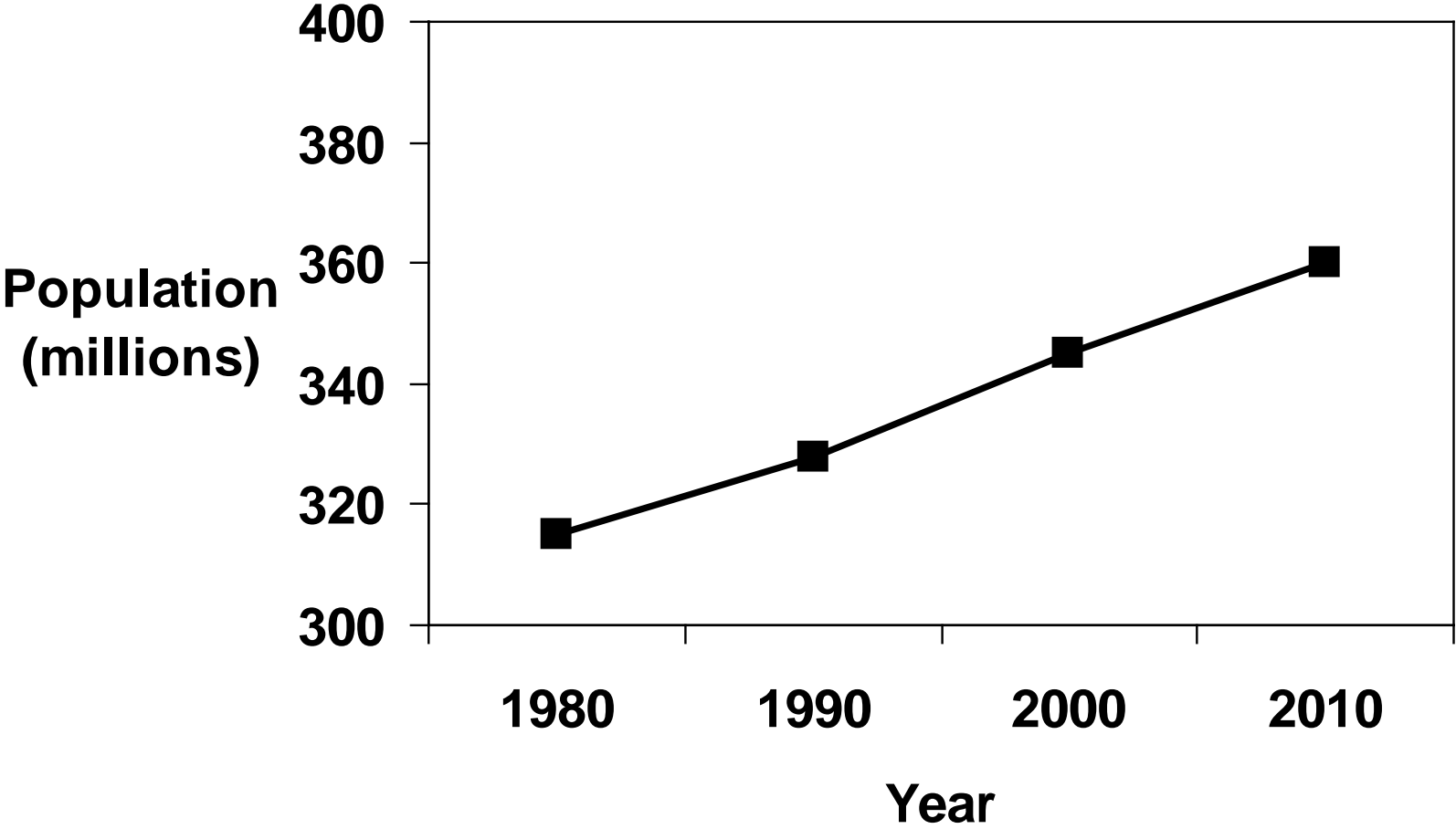
Powerpoint Vertical Bar Plot



Graphing Data Over an Interval (5)



Graphing Data Over an Interval (6)



Summary

Speaker Tips from Toastmaster's International

- **Know your material**
- **Practice, Practice, Practice!**
- **Know the audience**
- **Know the room**
- **Relax**
- **Visualize yourself giving your speech**
- **Realize that people want you to succeed**
- **Don't apologize**
- **Concentrate on the message**
- **Gain experience**
- **Try to keep your visual aids simple**