About the Presenter

Jane Eslinger is a Senior Technical Support Analyst at SAS World Headquarters in Cary, North Carolina. She supports SAS customers using ODS and Base SAS procedures, with an emphasis on PROC REPORT.
The Dynamic Duo: ODS Layout and the ODS Destination for PowerPoint

Jane Eslinger, SAS Institute Inc.
Today’s Lineup

▪ Game Plan

▪ Playing the Game

▪ Final Stretch
Game Plan: Understanding Default Behavior

Objects accumulate before being sent to PowerPoint
  ▪ Might place titles and footnotes unexpectedly

Layout container size varies
  ▪ Might span multiple slides
  ▪ Might fill just a portion of one slide
Game Plan: Triggering a New Slide

- Fill the entire slide
- Use a DATA _NULL_ step 9.4TS1M3 (and earlier)

```plaintext
ods layout gridded;
    proc print;
    run;
ods layout end;
```

```plaintext
data _null_;  
    dcl odsout obj();
    run;
ods layout gridded;
    proc sgplot;
    run;
ods layout end;
```
Game Plan: Triggering a New Slide

- Fill the entire slide

- Use a DATA _NULL_ step 9.4TS1M4 (and later)

```sas
ods layout gridded;
  proc print;
  run;
ods layout end;

ods powerpoint startpage=now;

ods layout gridded;
  proc sgplot;
  run;
ods layout end;
```

#SASGF
Game Plan: Setting Output Object Size

Graph Size

- Set size in GOPTIONS statement
- Set size in ODS GRAPHICS statement
- Change axis labels and legend

Table Size

- Choose best procedure: REPORT, MEANS, TABULATE
- Use multiple tables in slide
- Remove header rows or change labels
proc sort data=sashelp.baseball
   out=baseball;
   by league division;
run;
Using the ODS LAYOUT GRIDDED ROWS= option

ods powerpoint file='twobytwo1.pptx'
   nogtitle nogfootnote;
title 'Graphs in a 2x2 Pattern';
ods graphics on / height=2.25in width=3in;
ods layout gridded columns=2 rows=2
   advance=bygroup;
ods region;
Using the ODS LAYOUT GRIDDED ROWS= option

```
proc sgplot data=baseball;
  by league division;
  vbar team / response=nruns;
  label league='League'
    division='Division';
run;
ods layout end;
ods powerpoint close;
```
Playing the Game: ODS LAYOUT ROWS=

Graphs in a 2x2 Pattern

League=American Division=East

League=American Division=West

League=National Division=East

League=National Division=West
Using the ODS REGION HEIGHT= option

ods powerpoint file='twobytwo2.pptx'
    nogtitle nogfootnote;
title 'Graphs in a 2x2 Pattern';
ods graphics on / height=2.25in width=3in;
ods layout gridded columns=2
    advance=bygroup;
ods region height=47%;
Using the ODS REGION HEIGHT= option

```
proc sgplot data=baseball;
  by league division;
  vbar team / response=nruns;
  label league='League'
        division='Division';
run;
ods layout end;
ods powerpoint close;
```
Playing the Game: ODS REGION HEIGHT=

Graphs in a 2x2 Pattern

League=American Division=East

League=American Division=West

League=National Division=East

League=National Division=West
Multiple Layout Containers One Slide

Table Shows Total Runs and Hits for Each League

The Graph Contains One Bubble for Each Player. The Size of Each Bubble Represents the Magnitude of the RBIs.

<table>
<thead>
<tr>
<th></th>
<th>Runs in 1986</th>
<th>Hits in 1986</th>
</tr>
</thead>
<tbody>
<tr>
<td>American</td>
<td>9,761</td>
<td>18,845</td>
</tr>
<tr>
<td>National</td>
<td>7,053</td>
<td>14,449</td>
</tr>
</tbody>
</table>
Playing the Game: Multiple Containers

ods layout gridded rows=1 columns=1;
ods region;
proc odstext;
p 'Table Shows Total Runs and Hits for Each League';
p 'The Graph Contains One Bubble for Each Player. The Size of Each Bubble Represents the Magnitude of the RBIs.';
run;
ods layout end;
ods layout gridded columns=2
column_widths=(47% 47%) column_gutter=1pct;
ods region;
proc tabulate data=sashelp.baseball;
class league;
var nruns nhits nrbi;
tables league='',
    sum='Totals'*(nruns nhits)*f=comma12.;
run;
Playing the Game: Multiple Containers

ods region;
    proc sgplot data=sashelp.baseball;
        bubble x=nhits y=nruns size=nrbi/
            group=league transparency=.3;
    run;
ods layout end;
Playing the Game: Multiple Containers

Multiple Layout Containers One Slide

Table Shows Total Runs and Hits for Each League

The Graph Contains One Bubble for Each Player. The Size of Each Bubble Represents the Magnitude of the RBIs.

<table>
<thead>
<tr>
<th></th>
<th>Runs in 1986</th>
<th>Hits in 1986</th>
</tr>
</thead>
<tbody>
<tr>
<td>American</td>
<td>9,761</td>
<td>18,845</td>
</tr>
<tr>
<td>National</td>
<td>7,053</td>
<td>14,449</td>
</tr>
</tbody>
</table>

League at the End of 1985

#SASGF
Final Stretch

Predefined Layouts
- Are specified in ODS POWERPOINT LAYOUT= option
- Are not the same as an ODS LAYOUT
- Do not use on the same slide as ODS LAYOUT

Possible Values
- TitleSlide
- TitleAndContent
- TwoContent
Jane Eslinger
SAS Institute Inc.
Email: support@sas.com
Web: support.sas.com