

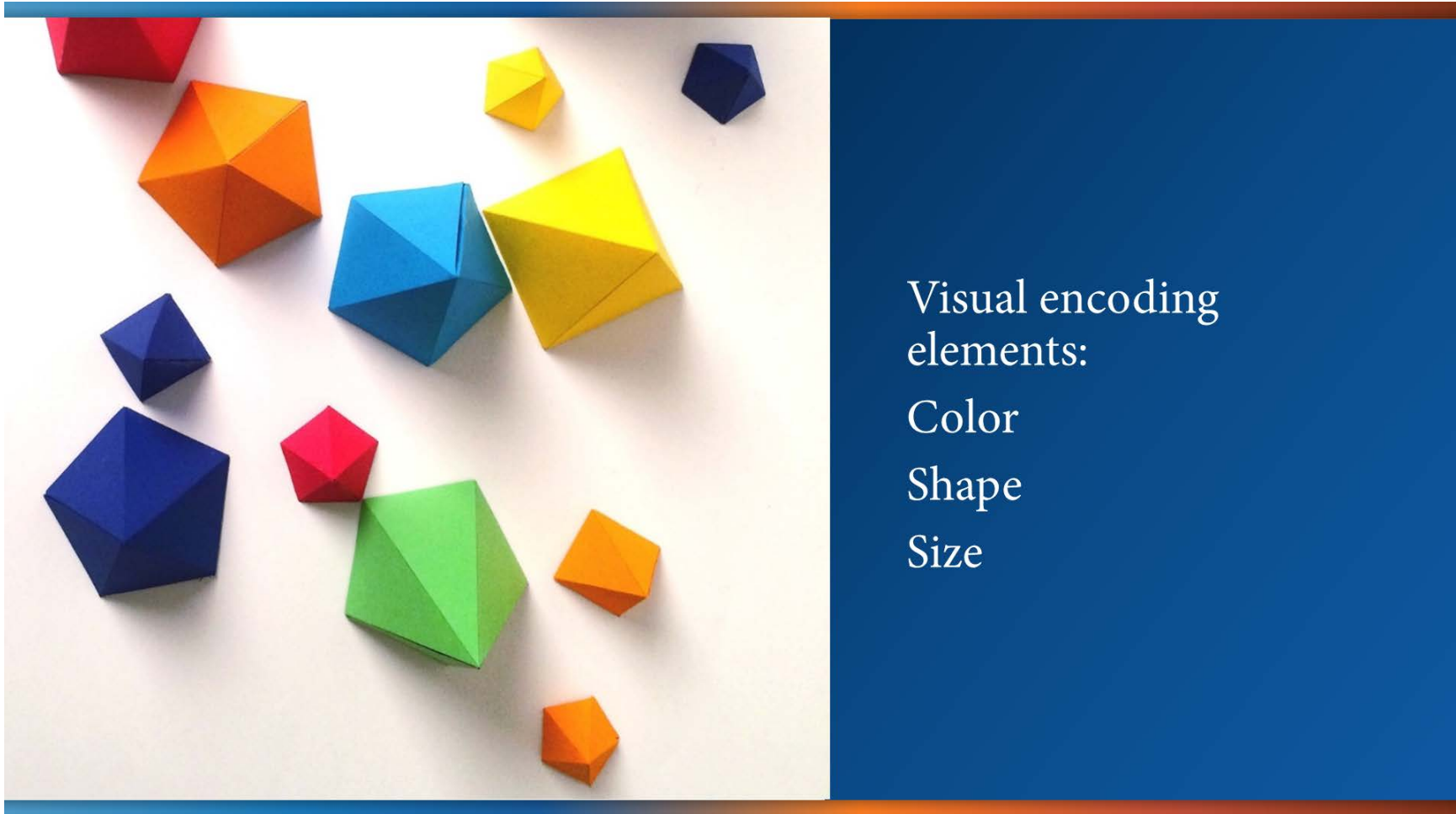


# Essential Design Principles for Tableau

*Design for Understanding Introduction*



Think of yourself as a data architect



Visual encoding  
elements:

Color

Shape

Size

Assemble visual encoding elements to leverage user's perceptual abilities



Consider  
your materials:



Context

Audience(s)

Uses of visualizations

Sales appear to  
be going up!

Sales are  
going up!



Start with a visual  
perception

Finish with a clear and  
accurate depiction  
of the data

## Visual encoding is both art and science

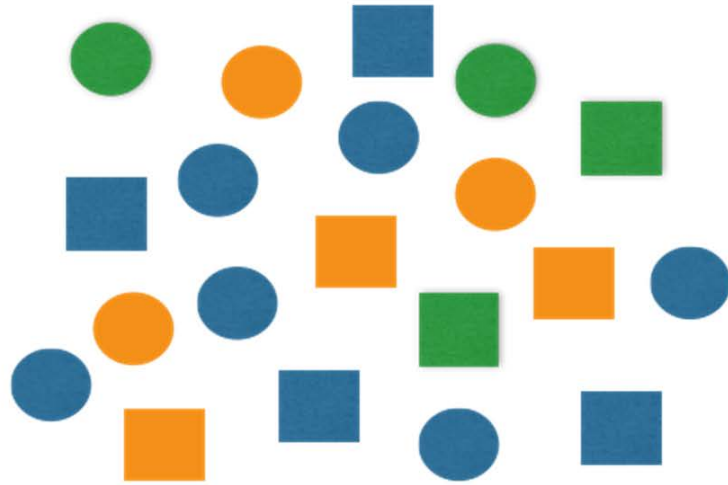


Primary groups  
differentiated by color

Sub-groups  
differentiated by shape

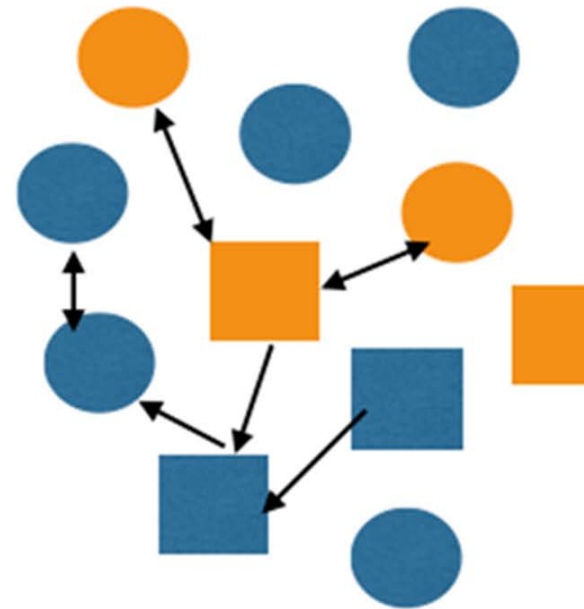






What more could  
be added without  
overloading the user?

Mix and match design elements to tell compact but detailed stories



Each design element has strengths and weaknesses



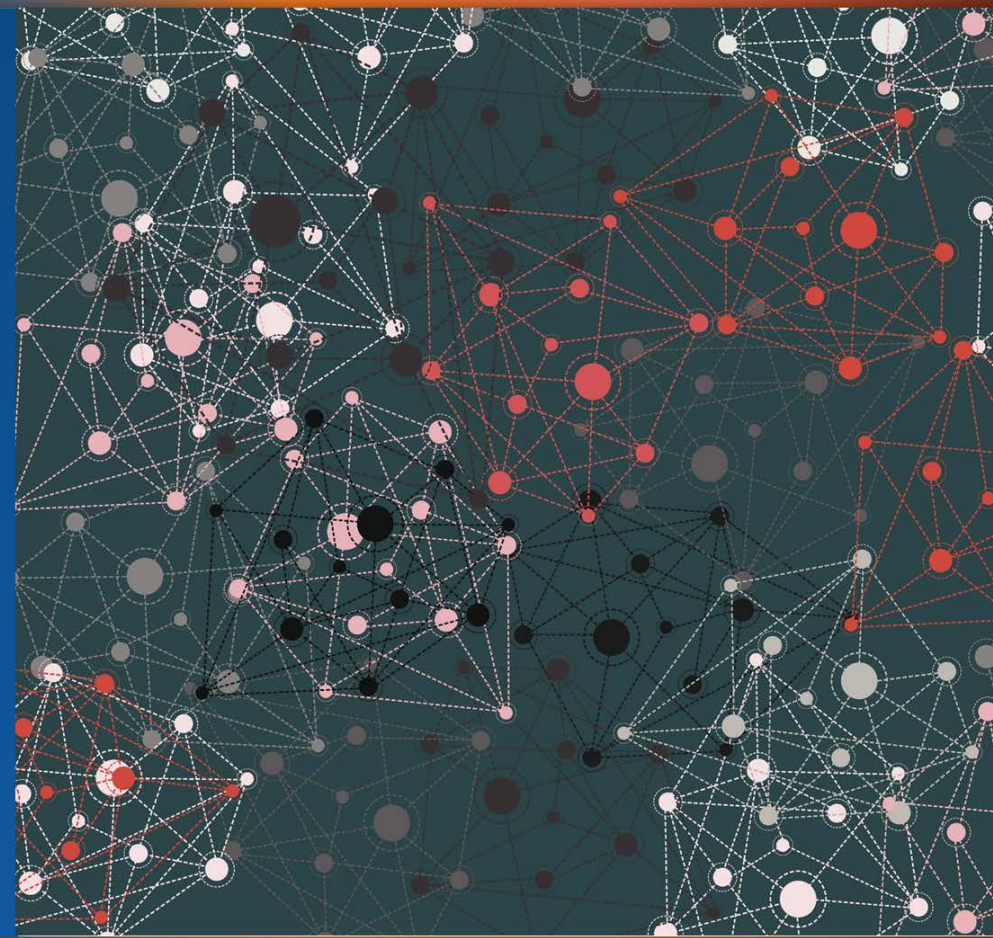


Color helps to make patterns stand out

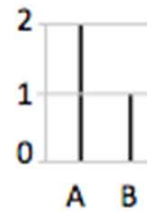
Color is not helpful for showing precision

Line length and 2D position are better choices for showing precision

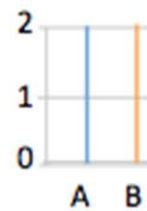
Color gives a qualitative sense in certain cases by contrasting darker and lighter colors to indicate levels of activity



Quantitative  
Length



Categorical  
Color



Quantitative  
2D Position



Qualitative  
Thickness



Lines can be used in many ways to express different aspects of data



Line length shows  
precise quantitative  
differences

Line thickness shows  
qualitative differences  
and relative strength  
between entities

Line color shows  
categories

2D position provides  
a quantitative  
representation  
of change over time





Attribute	Quantitative	Qualitative
Line Length	●	
2-D Position	●	
Orientation		●
Line Width		●
Size		●
Shape		●
Curvature		●
Added Marks		●
Enclosure		●
Hue		●
Intensity		●

How many visual attributes can you think of for showing either quantitative or qualitative measures?



Think about how to combine and use encoding elements  
for different target audiences