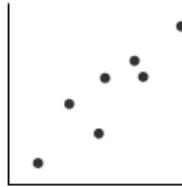


Scatter plots Features

What do you DISCUSS in CONTEXT

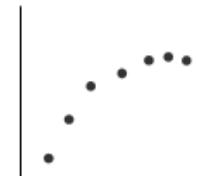
Trend

Do you see: a **linear** trend...



or a **non-linear** trend?

"This means...



Association

Do you see: a **positive** association...

as one variable gets
bigger, so does the
other



or a **negative** association?

as one variable gets
bigger, the other gets
smaller

"This means that..."



Relationship

Do you see: look at the r-value on your graph with the regression line.

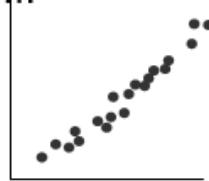
In **statistics**, the correlation coefficient r measures the strength and direction of a linear relationship between two variables on a **scatterplot**. The value of r is always between $+1$ and -1 . To interpret its value, see which of the following values your correlation r is closest to:

- **Exactly -1 .** A perfect downhill (negative) linear relationship
- **-0.70 .** A strong downhill (negative) linear relationship
- **-0.50 .** A moderate downhill (negative) relationship
- **-0.30 .** A weak downhill (negative) linear relationship
- **0 .** No linear relationship
- **$+0.30$.** A weak uphill (positive) linear relationship
- **$+0.50$.** A moderate uphill (positive) relationship
- **$+0.70$.** A strong uphill (positive) linear relationship
- **Exactly $+1$.** A perfect uphill (positive) linear relationship

Scatter strength

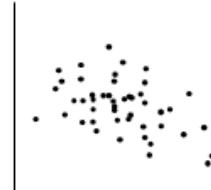
Do you see: a **strong** relationship...

little scatter



or a **weak** relationship?

lots of scatter

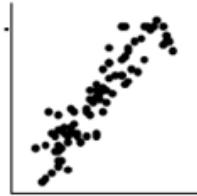


"This means that..."

Scatter

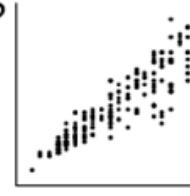
Do you see: **constant** scatter...

roughly the same amount
of scatter as you look
across the plot



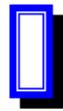
or **non-constant** scatter?

the scatter looks
like a "fan" or
"funnel"



Other Features?

"I notice that... This could be due to..."



Groups

Do you see any **groupings**?

"I notice that... This could be due to..."



Unusual Values

Do you see any **unusual values**?

Is the outlier an error or just different?

Do NOT remove unusual values unless they are errors

Could there be a reason for the unusual values?

"I notice that... Maybe this is..."

