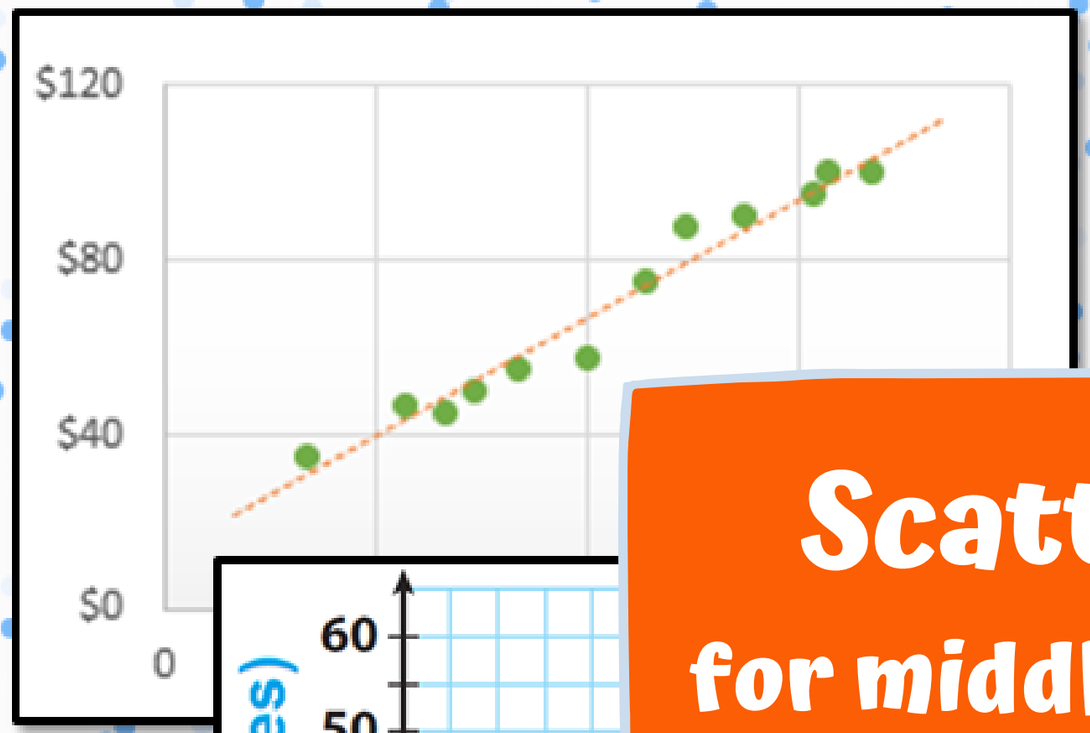
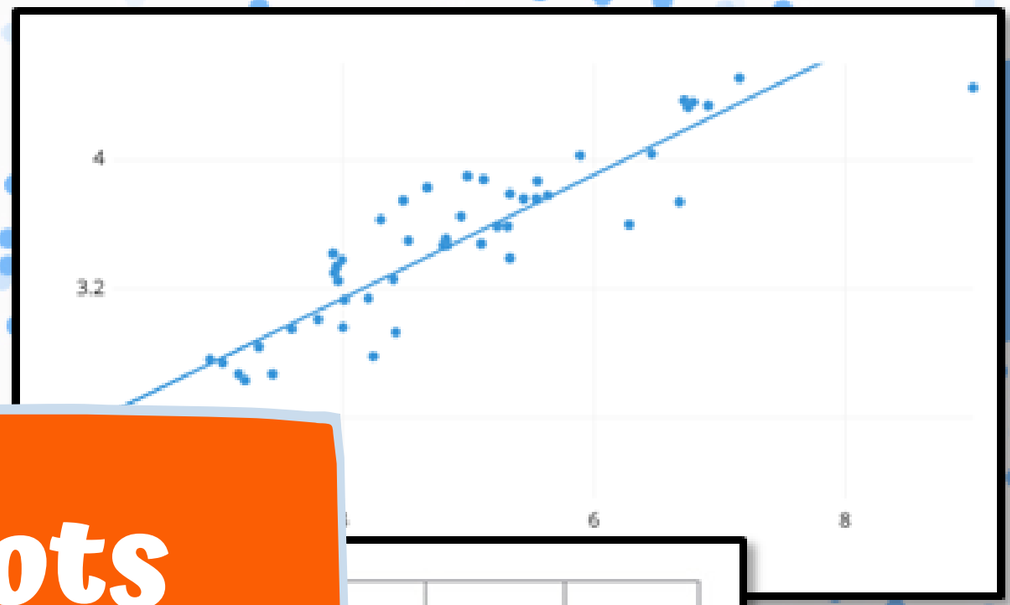
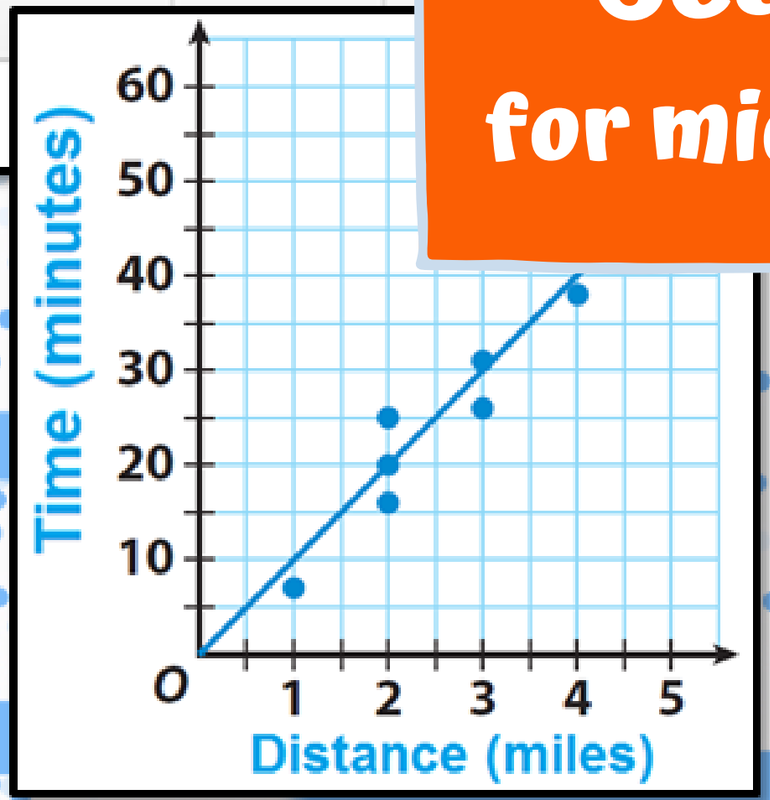
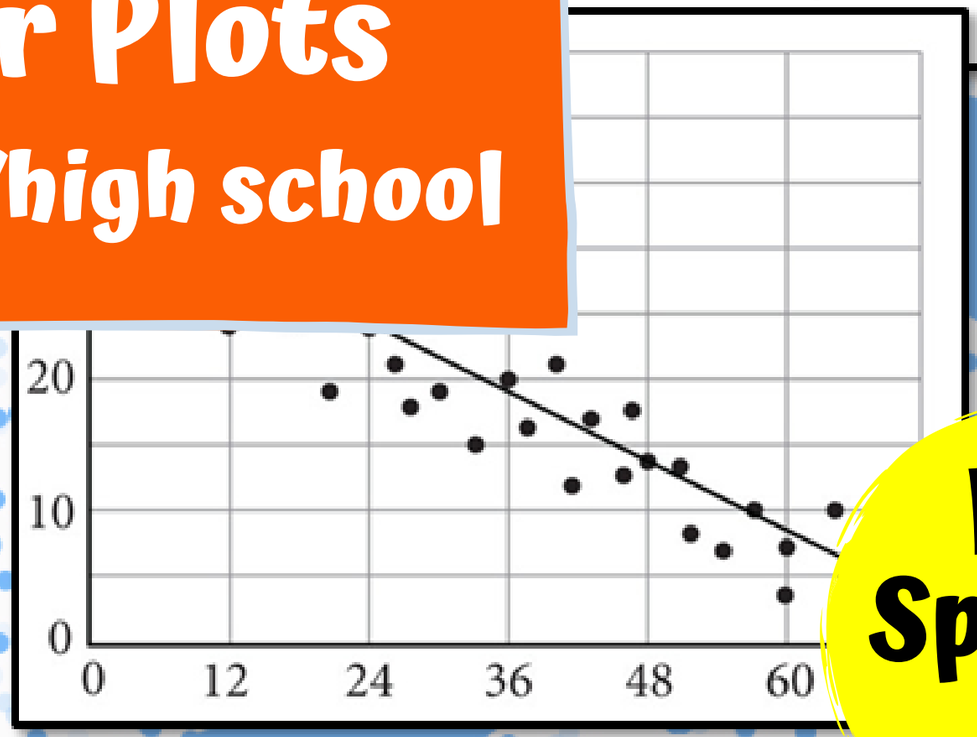




Scatter Plots

for middle/high school





Special Needs for Special Kids

For Special Ed

This unit was created with this guy in mind. He has autism and an intellectual disability. He is a non-reader and counts to 20, but he is able to do this unit, and enjoys the challenge. He is my tester!!

Table of Contents

This unit contains over 150 pages of material. But, don't worry!! I have included a 15 day lesson plan to help you make the most of everything packed in this unit.

Scatter Plots Lesson Plan

Preparation

- Print out a vocabulary board for each student to use throughout unit
  - Laminate or place in page protector
- Book
  - Print out, laminate, and bind
  - OR your students can listen to the pre-recorded version
- Vocabulary cards
  - Print out a set of cards onto cardstock and laminate
  - Make one set for each student and also one for the teacher to use in I Spy games

Preassessment (do day 1 before starting lesson)

- Choose the form of the assessment that best fits the learning level of your students
- Give the assessment to assess what your students may already know
- I cannot emphasize enough how important this step is. If you want to see growth, this preassessment is so important!!

Teaching Tips

1. *Color Coding*: this is a really easy way to add more structure to a matching activity. Outline or color in an empty box or sorting label. Outline or color in the corresponding picture symbols the same colors. Becomes a color matching task.
   a. For more info, read more here: https://specialneedsforspecialkids.org/2015/09/05/using-color-coding-for-differentiation/
   b. I also have a blog post on differentiating one activity 3 ways: https://specialneedsforspecialkids.org/2018/10/22/differentiating-1-activity-3-ways-easily-and-effectively/
2. *Make you own copies of the activities*: Every day I review the activity we did yesterday. For that reason:
   a. I often complete the activity myself and often laminated it for easy review that I could use year after year.
   b. My copies were also helpful as either a model for students who needed more support or as a way for more advanced students to self-check their work.

The lesson plans contain:

Overall tips for teaching students with significant needs

Quick Look

Day	Activity	Day	Activity
1	• Book • Vocabulary activity • Identify linear and non-linear examples	8	• Book • Vocabulary activity • Ordering correlation by strength examples
2	• Book • Vocabulary activity • Identify linear and non-linear examples	9	• Book • Vocabulary activity • Labeling scatter plots
3	• Book • Vocabulary activity • Identify +, - and no correlation examples	10	• Book • Vocabulary activity • Labeling scatter plots
4	• Book • Vocabulary activity • Identify +, - and no correlation examples	11	• Book • Vocabulary activity • Real-life examples
5	• Book • Vocabulary activity • Identify strong and weak correlation examples	12	• Book • Vocabulary cut and paste • Real-life examples
6	• Book • Vocabulary activity • Identify strong and weak correlation examples	13	• Book • Vocabulary cut and paste • Sudoku puzzles
7	• Book • Vocabulary activity • Ordering correlation by strength examples	14	• Book • Vocabulary activity • Close worksheets
		15	• Review if needed (plenty of extra worksheets) • Assessment

The lesson plans contain:

A quick look at what you will do each day

Day 3

Activity	Notes	Materials
Read or listen to a recording of the book (10 minutes)	• Read through the story, asking lots of questions • Continue to make connections between book and vocabulary board	• Book • Vocabulary board

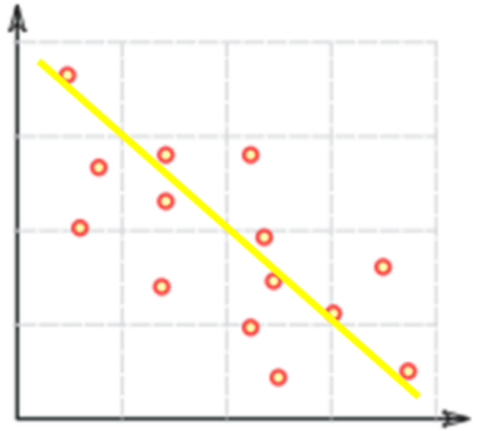
Vocabulary cards I Spy Game (10 minutes)	• To play this game see description on day 2
	• Today, try to give clues about the card your student needs to find
	  ○ Read definition
	  ○ Show real photo that relates to card from book (if applicable)
	  ○ Describe the picture
	• Discuss relevant points on the card
	  ○ You can also play this game in this manner having them find the symbol on their vocabulary board
		• Vocabulary cards (student set and teacher set)
		• Vocabulary board

Id linear and non-linear worksheet review (5 minutes)	• Review the worksheet completed yesterday	• worksheet yesterday
Id examples of +, -, and no correlation (10 minutes)	• Do 1-2 of the worksheets where students identify examples of scatter plots that have positive, negative, and no correlation • Differentiated version included.	• Worksheet
Sharing (10 minutes)	• Each student shares one of their finished worksheets with the group using the communication method of their choice	• Completed worksheets • Communication devices

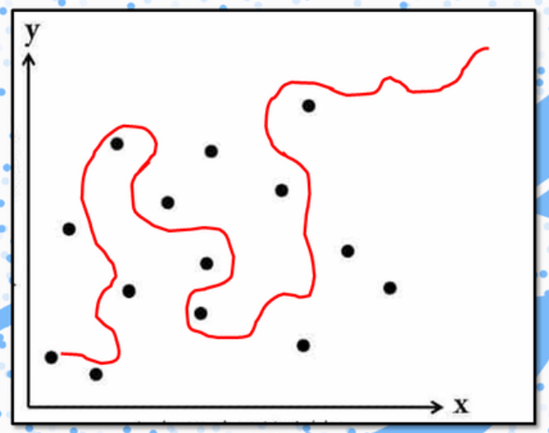
The lesson plans contain:

Detailed instructions on how that day's lesson should run

This scatter plot shows there is a weak, negative linear correlation. The line goes down left to right, but the dots are not really that close to the line.

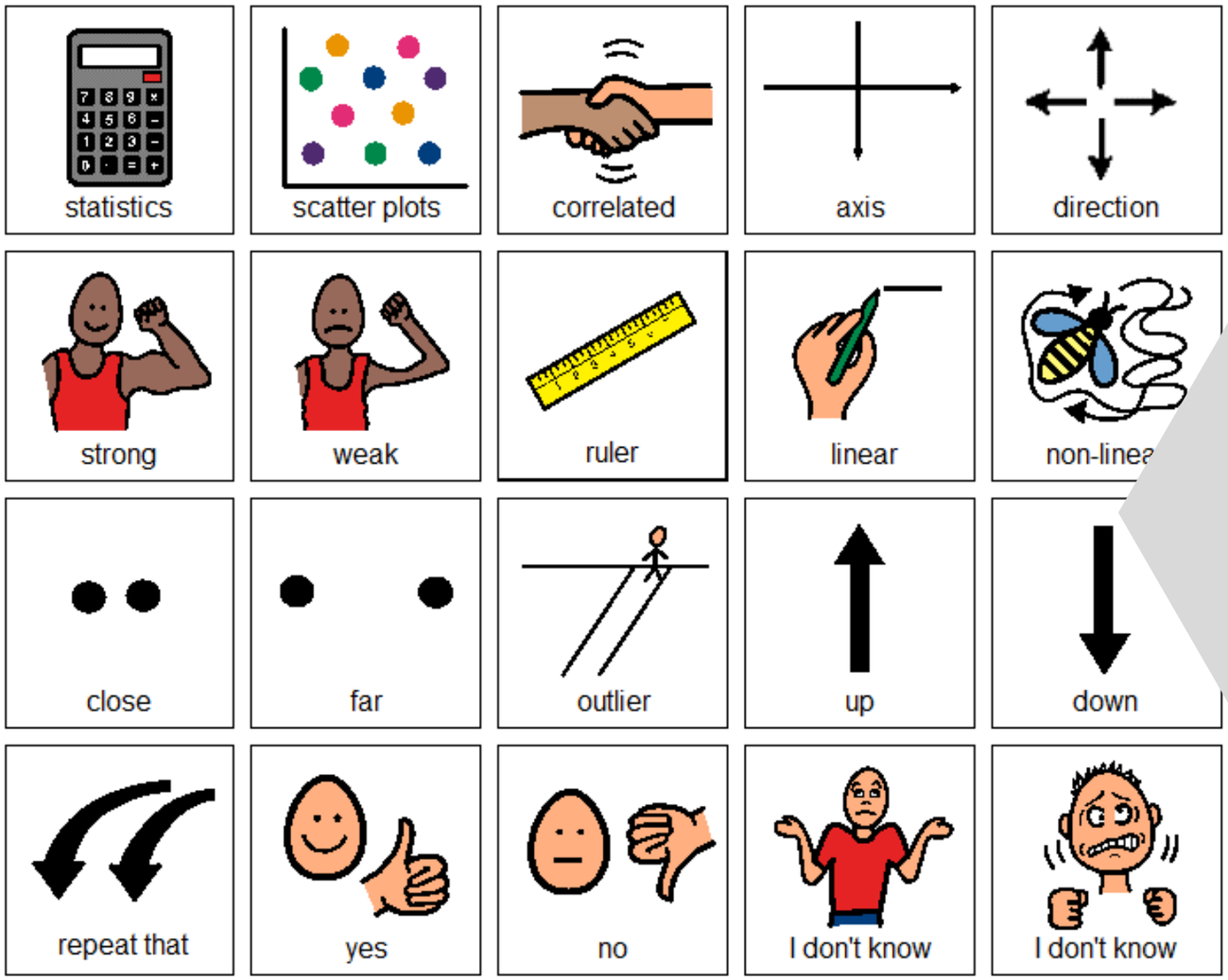


And, if there is no line that can be drawn, then we say there is no correlation. Next, let's look at the shape.



This unit contains a book that is 35 pages to introduce the topic.

It comes in a pdf version as well as a voice recorded powerpoint (so you don't have to print it out.)



Also in black and white

This unit comes with a vocabulary board.

Vocabulary boards are great for ALL students to assist with participation and engagement in group discussions.

Tips on how to use in the unit!!

scatter plots

Graph that uses dots to display data from 2 different variables.

correlation

Relationship between 2 variables. Can be positive or negative.

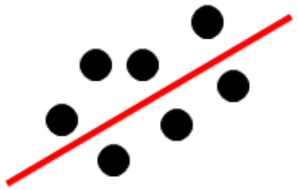
variable

Something that can be measured.

1 2

trend line

Line drawn in scatter plot t
the general position of mos
dots.



This unit comes with 14 vocabulary cards.

Every day students will do a group activity using these cards to get more familiar with words that are likely new to them.

Also in black and white

linear

Able to draw a straight line through most of the dots.

non-linear

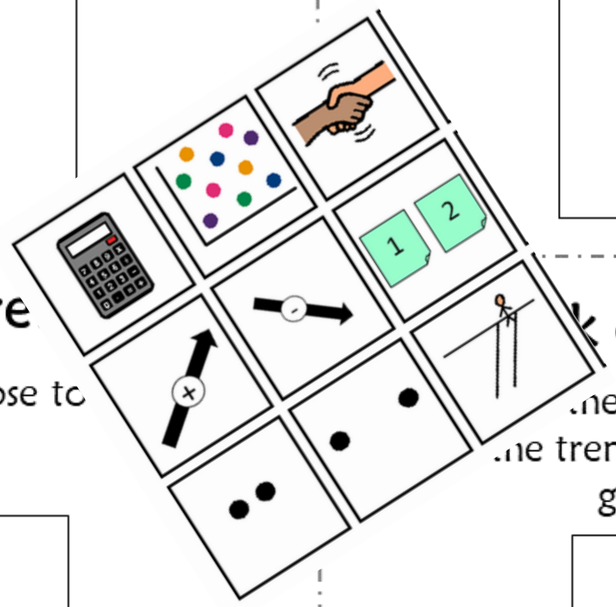
Able to draw a curved line through most of the dots.

strong corre

Most of the dots are close to line.

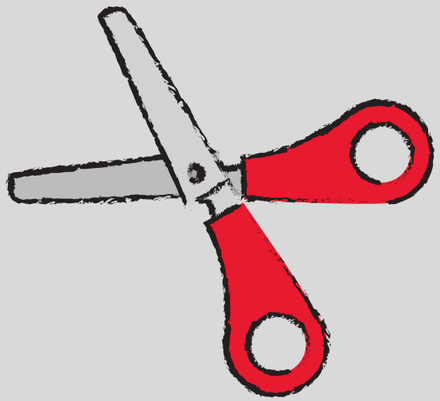
k correlatic

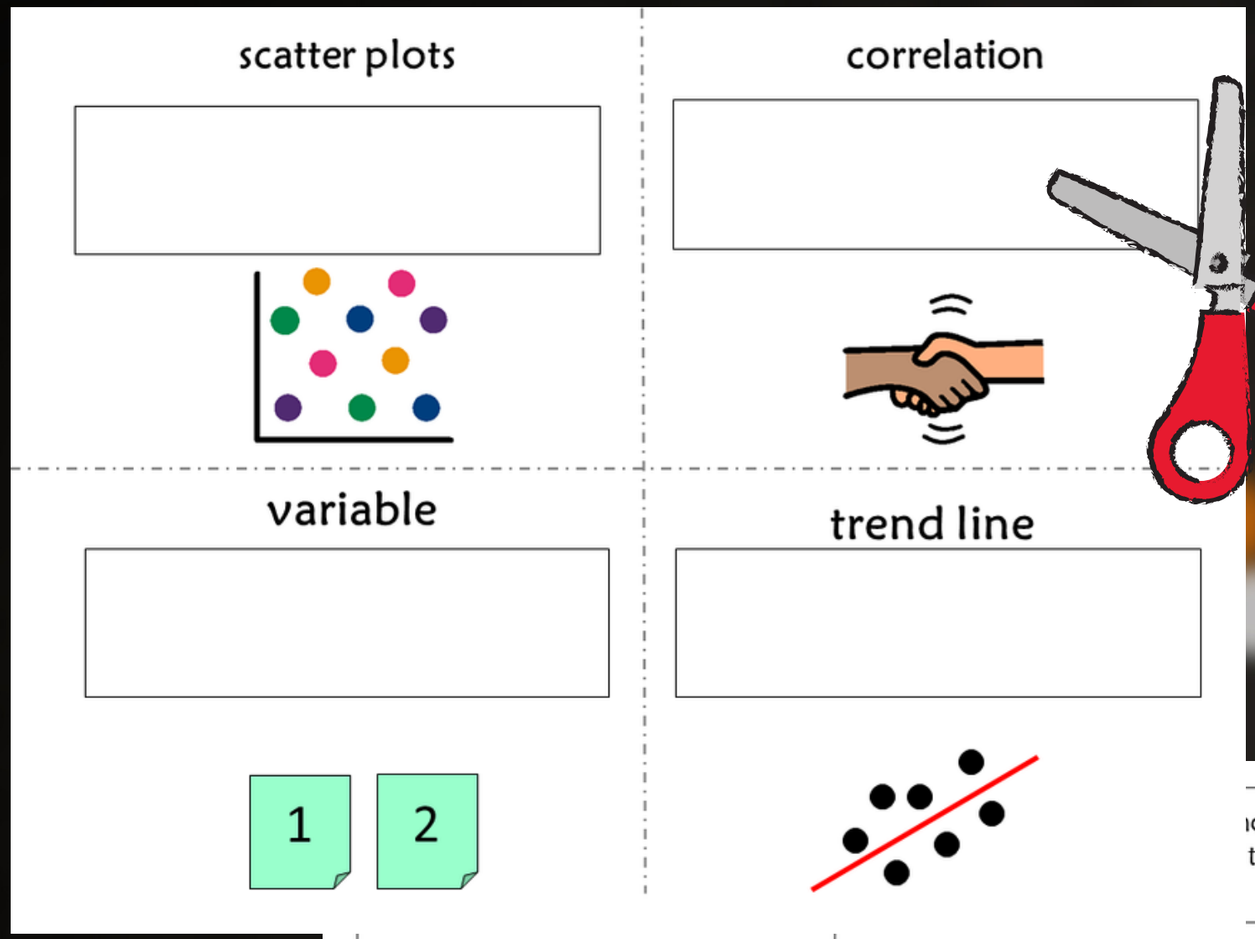
.ne dots are not tha.
.ne trend line but follow t
general path.



Also in black and white

Students will also test their knowledge of these new words and symbols with a cut and paste activity on days 12&13.





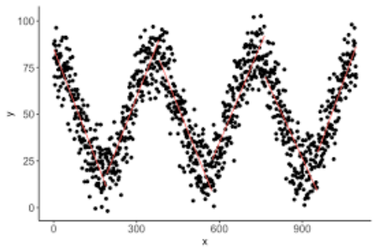
Most of the dots are close to the trend line.	Line that goes up and down the graph where one variable is plotted. It is the one being driven.
Graph that uses dots to display data from 2 different variables.	Data point that is really far away from the trend line.
Trend line goes down from left to right. As one variable increas other one decreases.	

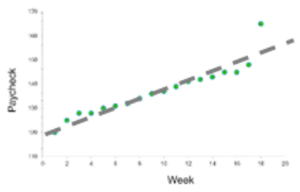
Also in black and white

You have 2 choices:

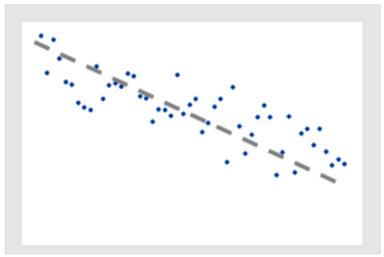
1. Students match the picture to the definition (easier).
2. Students match the definition to the picture (harder).

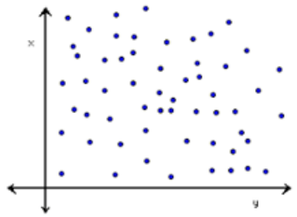
Circle all of the graphs that have a linear relationship. Trace the trend line if present.

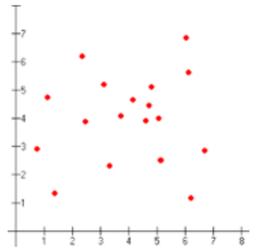


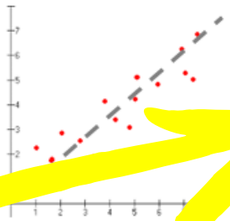


3 worksheets



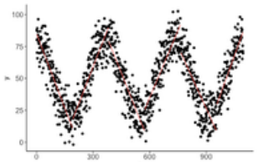


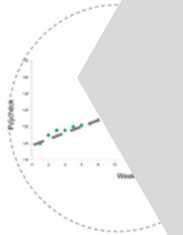


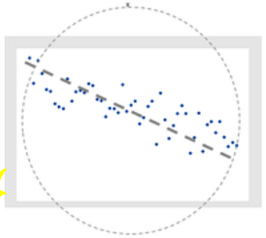


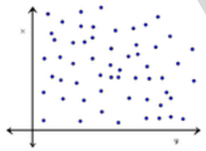
differentiated

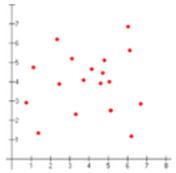
Circle all of the graphs that have a linear relationship. Trace the trend line if present.

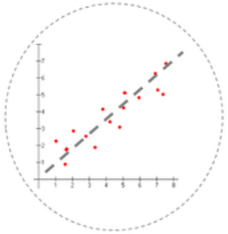






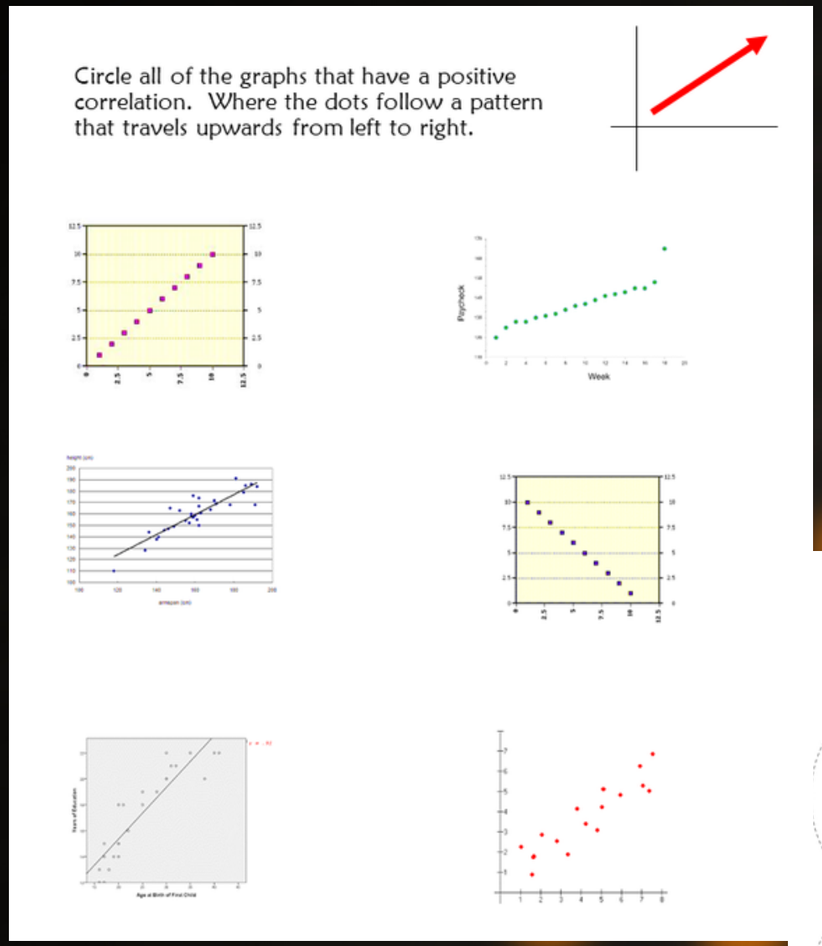




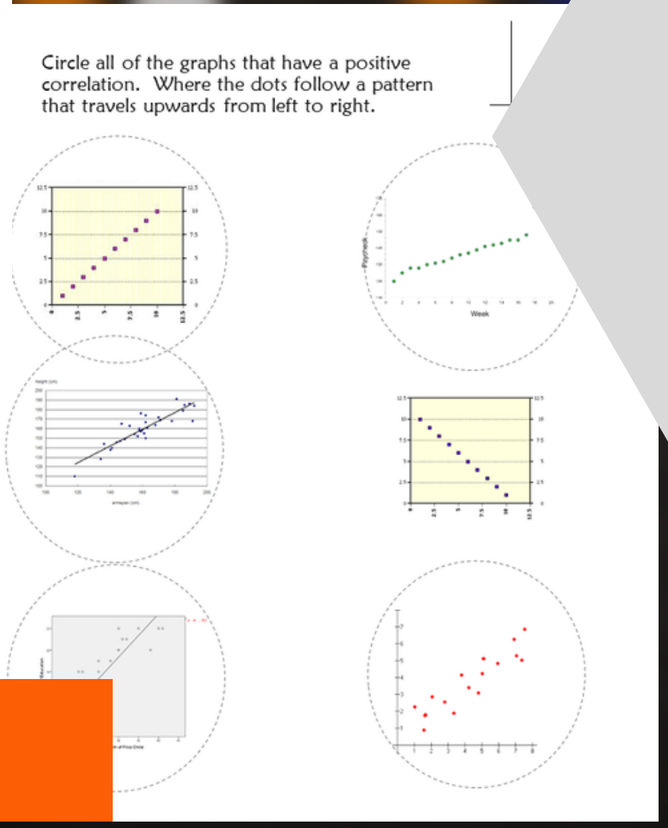


This unit contains a lot of worksheets. Almost all of them come in a differentiated version.

This set has students identify those that are and are not linear.



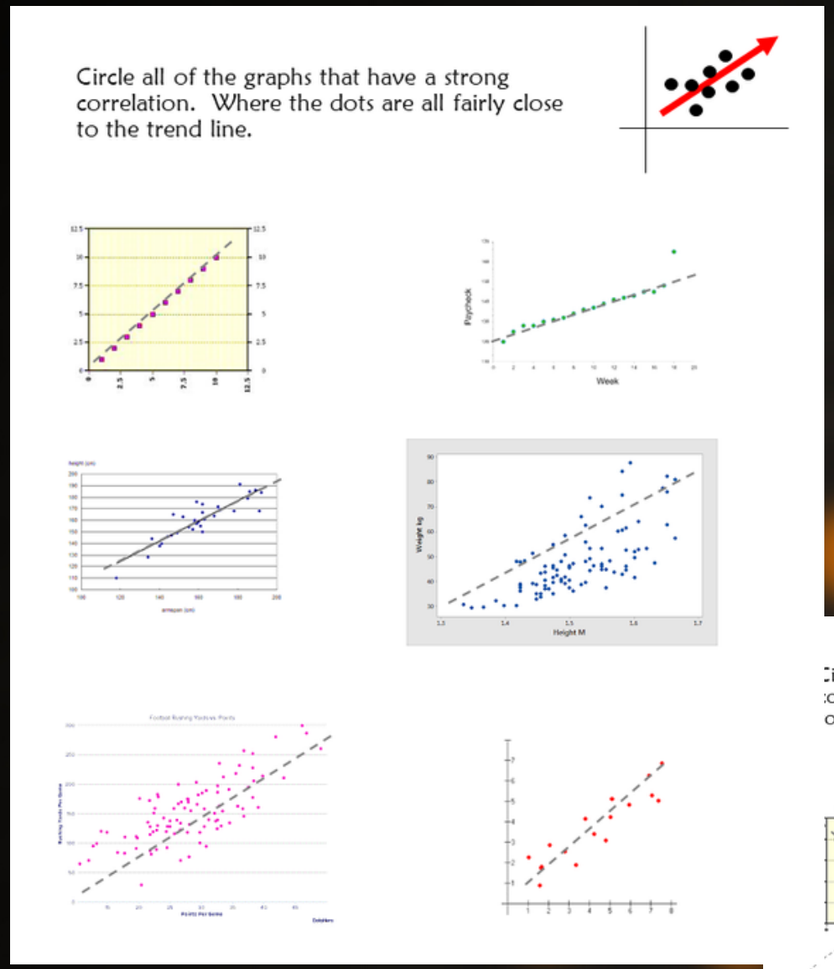
3 worksheets



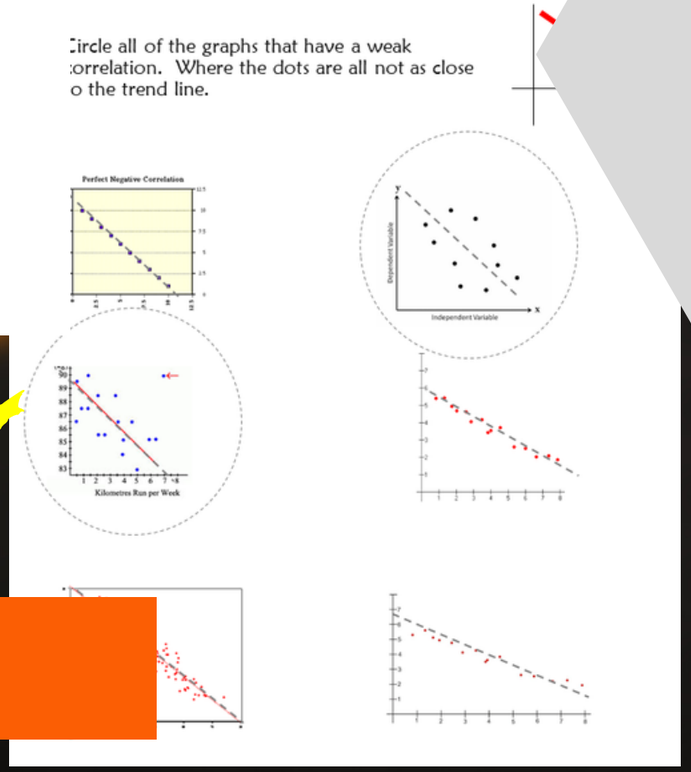
differentiated

This set has students identify those with positive, negative, or no correlation.

Differentiated versions have circles for students to trace.



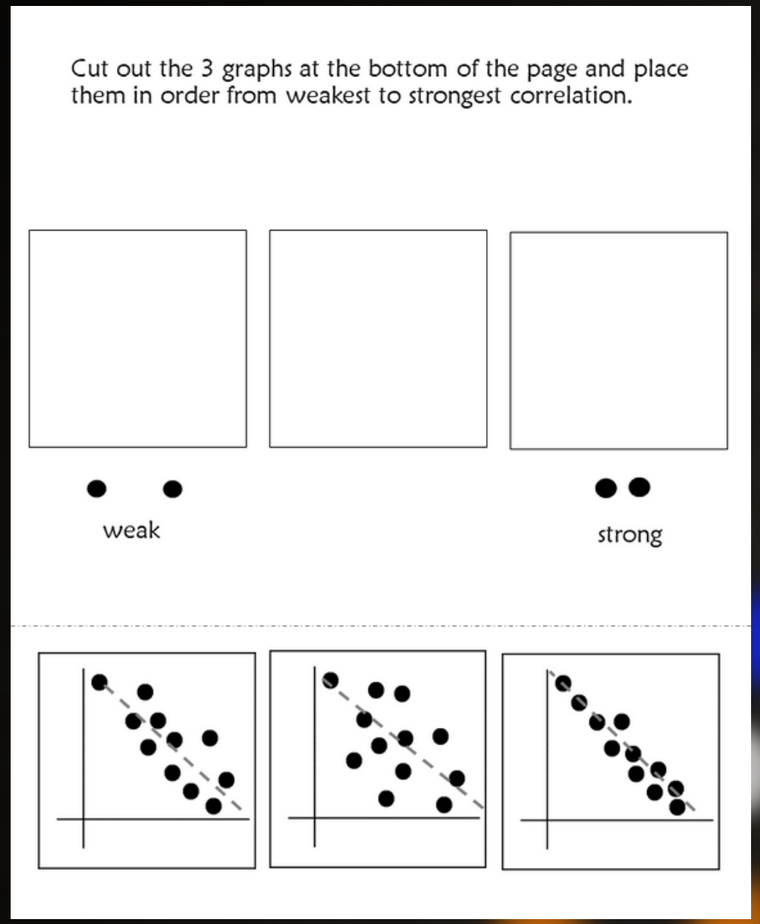
2 worksheets



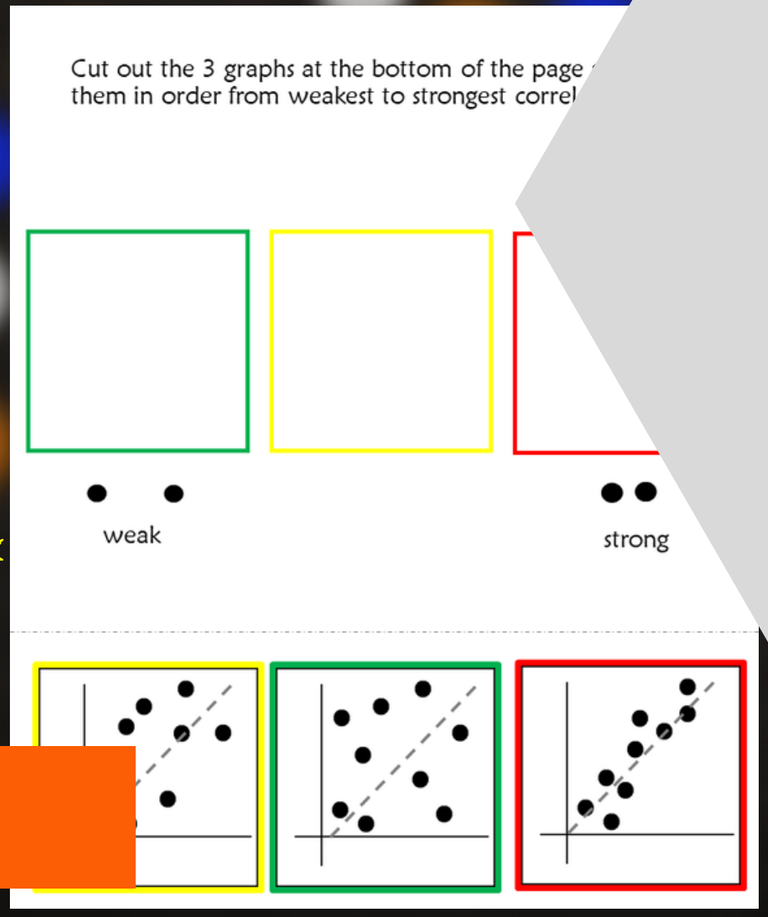
differentiated

This set has students identify graphs with strong or weak correlations.

Differentiated versions have circles for students to trace.



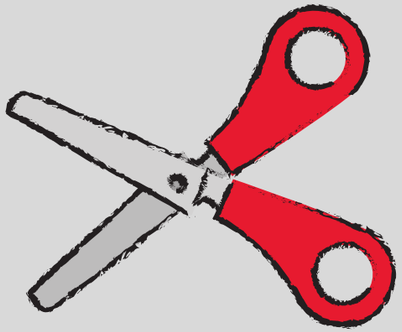
4 worksheets



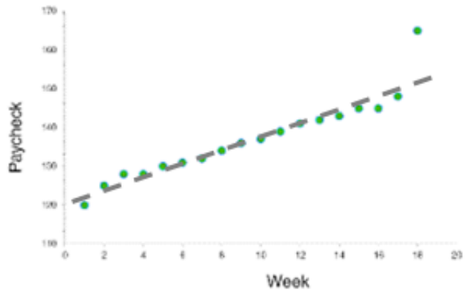
differentiated

This set have students place the scatter plots in order by strength.

Differentiated versions are color coded.

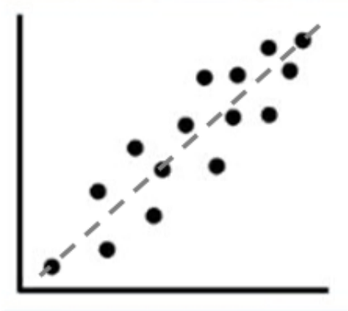


Look at each graph. Find the best words to describe the graph.



This graph is: [ ] with a [ ] [ ] correlation.

(linear/non-linear) (strong/weak) (positive, negative, no)



This graph is: [ ] with a [ ] [ ] correlation.

(linear/non-linear) (strong/weak) (positive, negative, no)

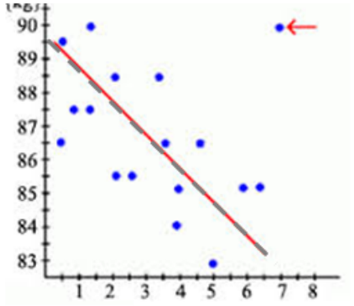
10 problems

This set has students labeling the trends in the scatter plot.

There is a page of answers students cut apart and paste in boxes.

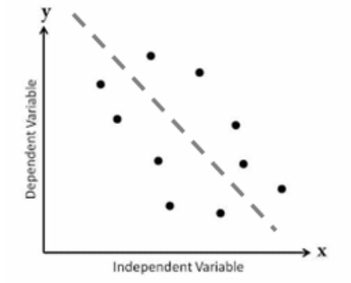
Answer key is included.

Look at each graph. Find the best words to describe the graph.



This graph is: ☐ with a ☐ ☐ correlation.

(linear/non-linear) (strong/weak) (positive, negative, no)



This graph is: ☐ with a ☐ ☐ cor

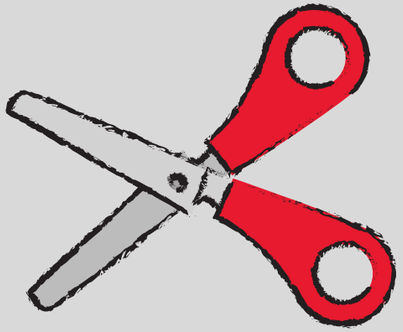
(linear/non-linear) (strong/weak) (positive, negative

10 problems

differentiated

This set is differentiated with A LOT of color.

I found Jimmy did better with this if I only gave him 3 answers to paste in at a time.



Watching the weather

The weatherman said the chance of rain today was 90%. It is cloudy outside and most people in your neighborhood walk to school. How many kids do you think will be carrying an umbrella?

1. Circle the 2 variables:

2. Do you think the variables are correlated?

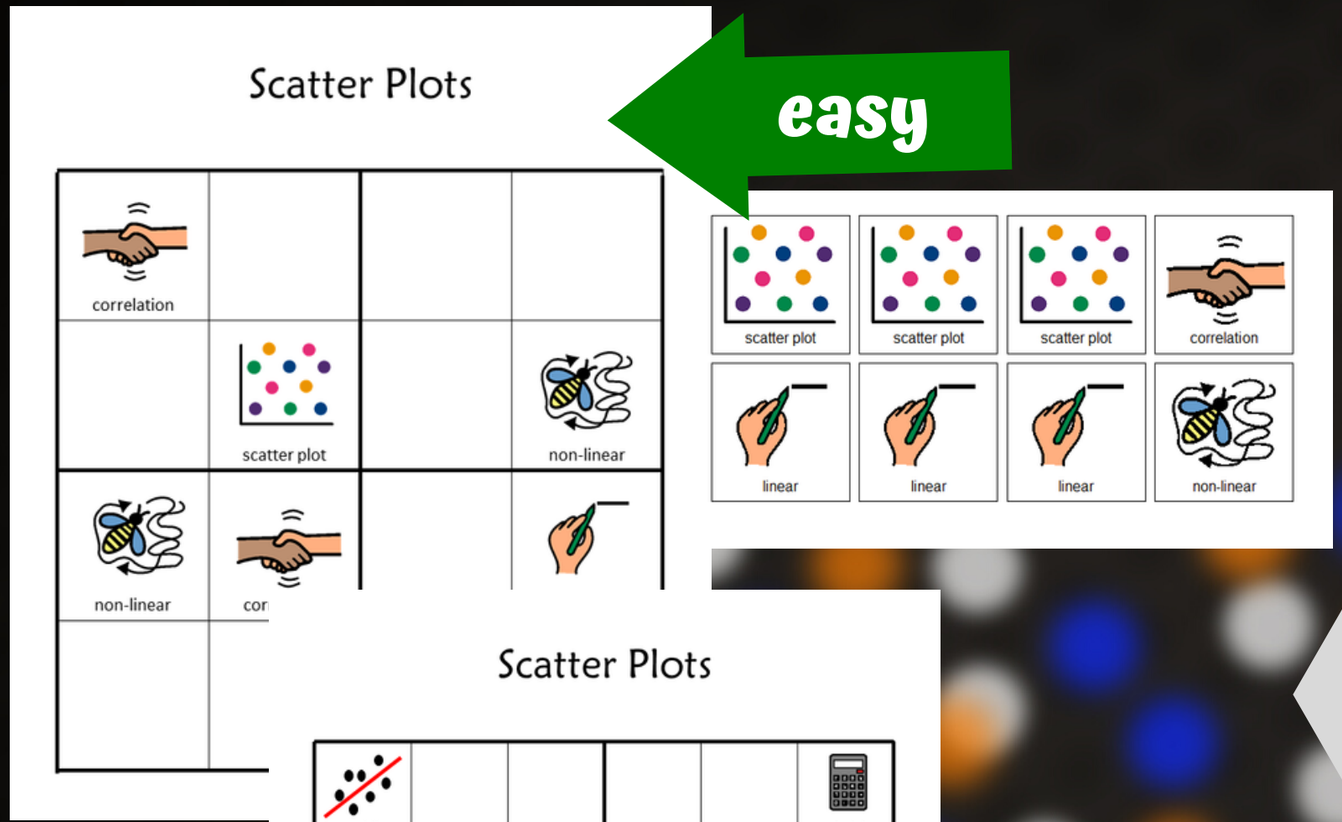
3. As the chance of rain increases what will happen to the number of kids carrying umbrellas?

4. What type or correlation is this?

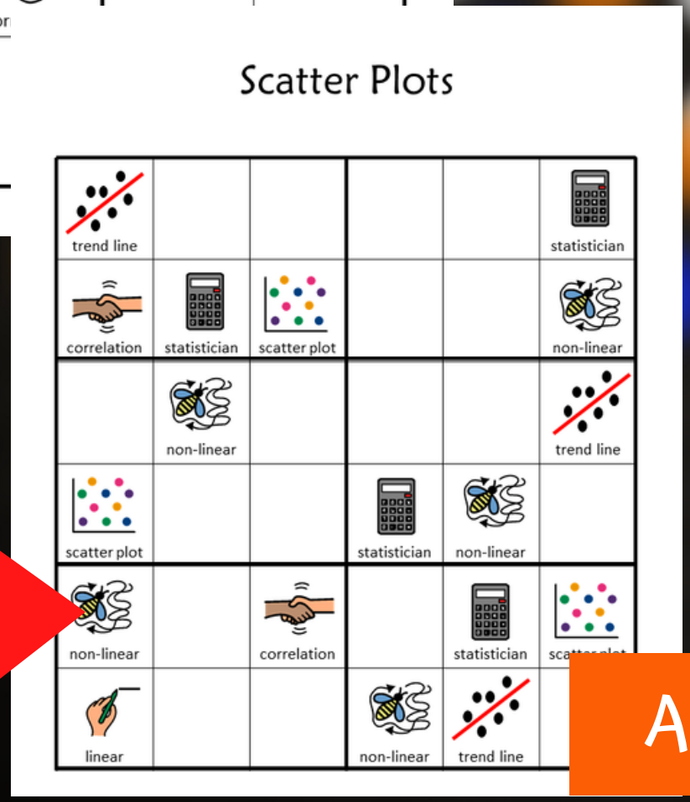
5 problems

This last worksheet set has students listen to a real-life situation about correlation.

This is the only set not differentiated. Because I was reading the problem, we talked through the answers.



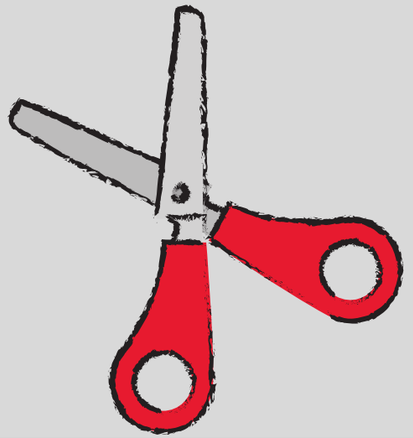
easy



hard

There is a Sudoku puzzle in this unit as well. This is a great way to work with the new vocabulary!!

There are 2 versions plus answer keys.



Also in black and white

Scatter plots

1. Scatter plots look at the relationship between two ____ .

2. A scatter plot has ____ axes.

3. A trend line is one that goes through ____ of the dots.

4. A positive correlation goes ____ from left to right.

5. A negative correlation goes ____ from left to right.

Scatter Plots

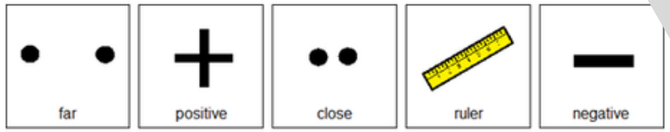
5. If you can draw a line through the dots with a ____ linear.

7. A strong correlation means the dots are ____ line.

3. A weak correlation means the dots ____

9. The amount of time you study and yo ____ is an example of a ____

10. As it gets warmer, the layers of clothes you wear ____ is an example of a ____



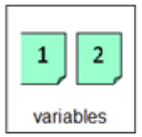
Also in black and white

Close worksheet are a great informal assessment. This unit has 2 of them, for a total of 10 fill-in-the-blank questions.

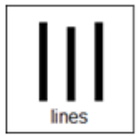
Answer key included.

Version 1

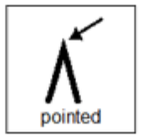
1. Scatter plots tell you if there is a relationship between 2:

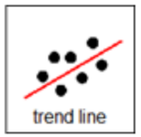


2. What do scatter plots use to graph the data?

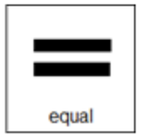


3. This is drawn with a ruler through the dots to see if it is linear?





4. If the dots are close to the trend line, then the correlation is:



5. If the dots are far from the trend line, then the correlation is:

FINALLY the assessment!! There are 3 versions. This version has 10 questions with 3 picture choices for each question.

Answer key included.

Also in black and white

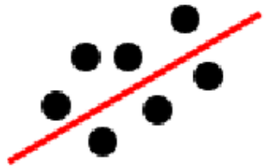
Version 2

Print onto cardstock or mount on index cards. Cut pictures apart and show student answer choices for each question.

Q 3

bumpy

pointed



trend line

Q 4,5

strong

weak

With this version, you cut out the answer choices and glue them on index cards. Ask the student the question, and they point to the correct answer.

Also in black and white

Version 3

1. Scatter plots tell you if there is a relationship between 2:
   A. friends
   B. variables
   C. hands
2. What do scatter plots use to graph the data?
   A. lines
   B. bars
   C. dots
3. This is drawn with a ruler through the dots to see if it is linear?
   A. bumpy
   B. pointed
   C. trend line
4. If the dots are close to the trend line, then the correlation is:
   A. strong
   B. weak
   C. equal
5. If the dots are far from the trend line, then the correlation is:
   A. strong
   B. weak
   C. equal
6. When you cannot find a line that goes through most of the dots, it is said to be:
   A. linear
   B. non-linear
   C. bumpy

This is your traditional multiple choice version. It can also be used as a recording sheet if your students are using the version with index cards.

I realize there will be some students out there unable to do cutting activities. I have a blog post with ways to complete activities without a pair of scissors!!

Click Here to read more!!