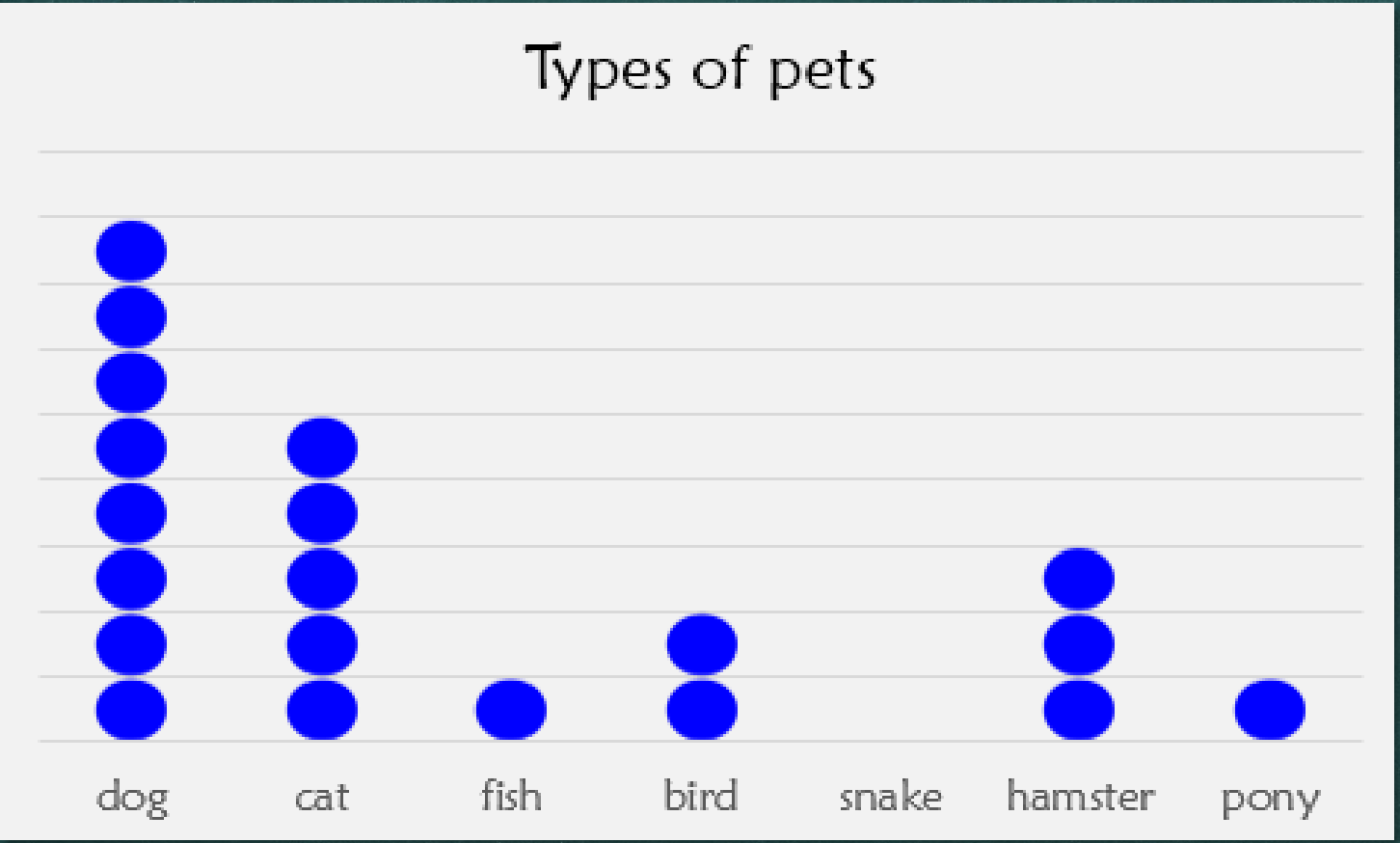
Dot plots & Histograms



Preview

Dot plots and Histograms 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

Lesson Plans

10 days

Day	Activity	Day	Activity
1	• Book • Vocabulary activity • Label and id dot plots and histograms	6	• Book • Vocabulary activity • Read dot plots and histograms
2	• Book • Vocabulary activity • Hands on activity • Label and id dot plots and histograms	7	• Book • Vocabulary activity • Read dot plots and histograms
3	• Book • Vocabulary activity • Hands on activity • Create/draw dot plots	8	• Book • Vocabulary cut and paste • Sudoku puzzle
4	• Book • Vocabulary activity • Hands on activity • Create/draw dot plots	9	• Book • Vocabulary cut and paste • Close worksheets
5	• Book • Vocabulary activity • Hands on activity • Read dot plots and histograms	10	• Assessment

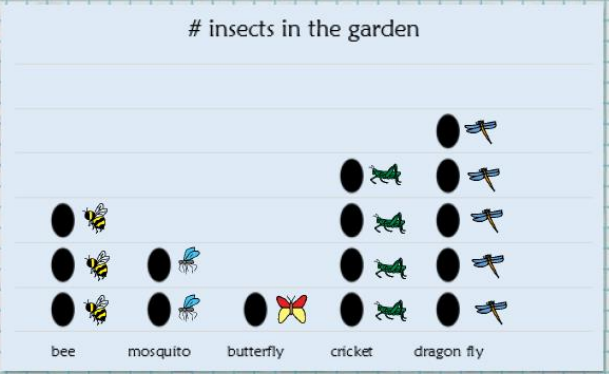
Day 2

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

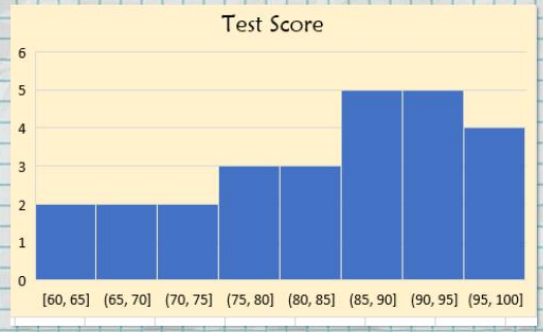
Vocabulary cards I Spy Game (10 minutes)	• I play this game, or variations of it the first few days
	  ○ Determine how many cards your students can handle in front of them. This can vary, some students may be able to have all the cards, so may only be able to handle a field of 3-5
	• Since this is the first time playing this game, I make it easy. Hold up a card, and have students find the matching one and hold it up
	• 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

Hands on Activity (10 minutes)	• Choose a dot plot for students to create using various manipulatives • Directions included in the packet	• Laminated blank dot plot • Manipulatives (such as play-do)
Worksheet review (5 minutes)	• Review the worksheet completed yesterday	• worksheet from previous day
Label and id dot plots and histograms (10 minutes)	• Do the worksheets where students id and label histograms. • There are 2 versions. One is differentiated. Choose the best option for your students.	• Worksheet • Scissors • glue
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

Usually, one dot equals the count of one thing being counted.

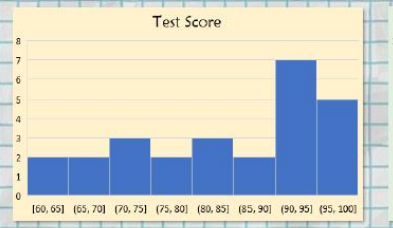


A histogram is a great way to display a large amount of data, like the test score of every student in the class.

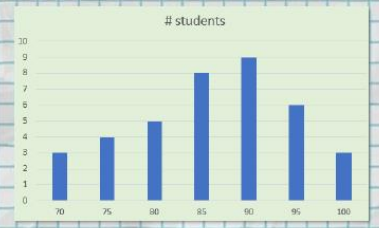


Histograms look a lot like bar graphs, but the bars in histograms touch each other. The bars do not touch with bar graphs. See the difference?

histogram

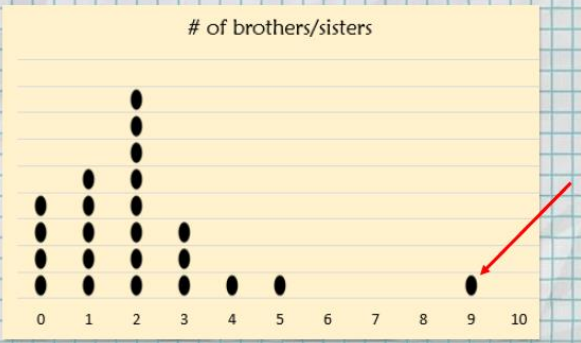


bar graph

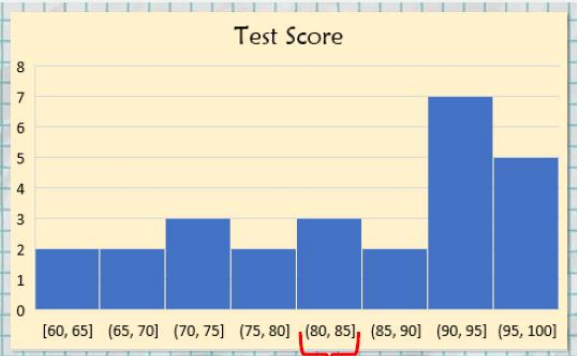


20 page book

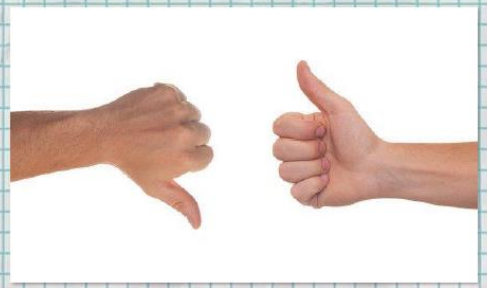
Dot plots are also good at identifying outliers that could mess up your data, especially if you are looking for general trends.

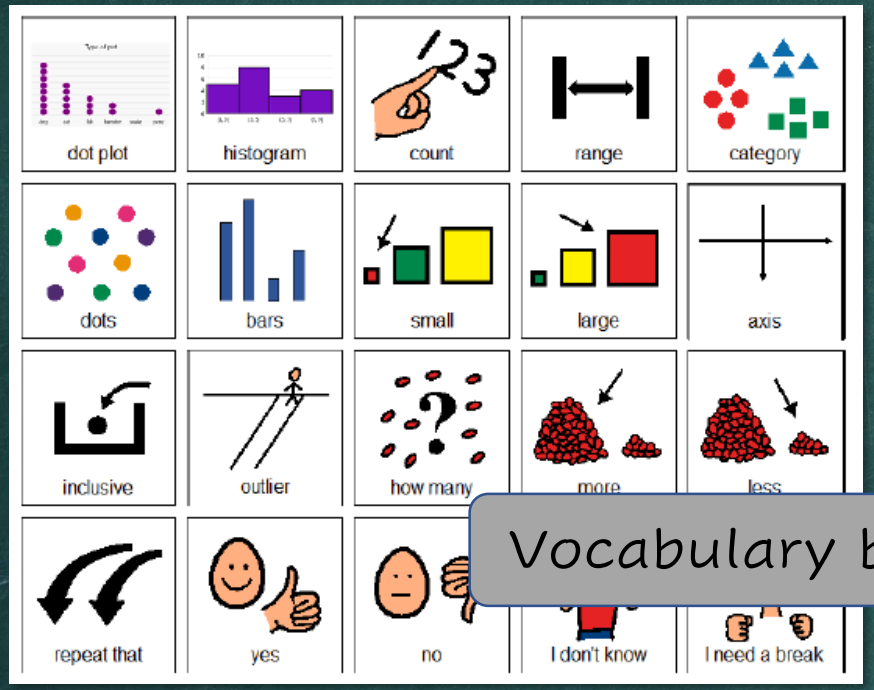


The range includes all the numbers between those 2 numbers. It also usually includes the *first number*. This is called the inclusive value.

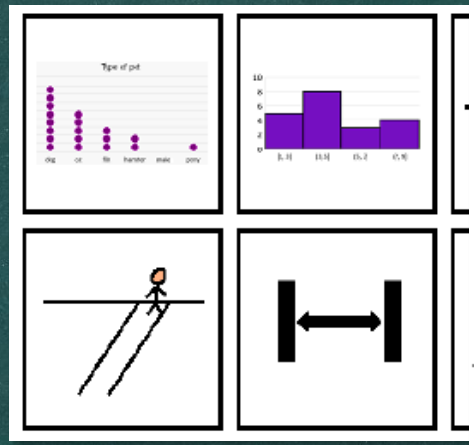


The good thing about histograms is that you can see a large amount of data at once. The bad thing is you cannot get exact values, just ranges.





Vocabulary board



dot plot

Graph that shows how many of each type using dots.

histogram

Graph that gives a range of values using bars.

range

Values included in a bar on a histogram.

outlier

Value that is very different than most of the other values.

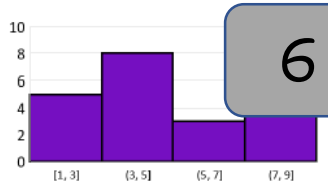
Cut & paste

dot plot

Graph that shows how many of each type using dots.

histogram

Graph that gives a range of values using bars.

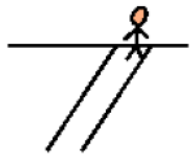


range

Values included in a bar on a histogram.

outlier

Value that is very different than most of the other values.

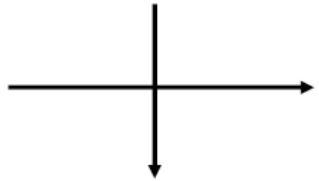


28

6 vocab cards

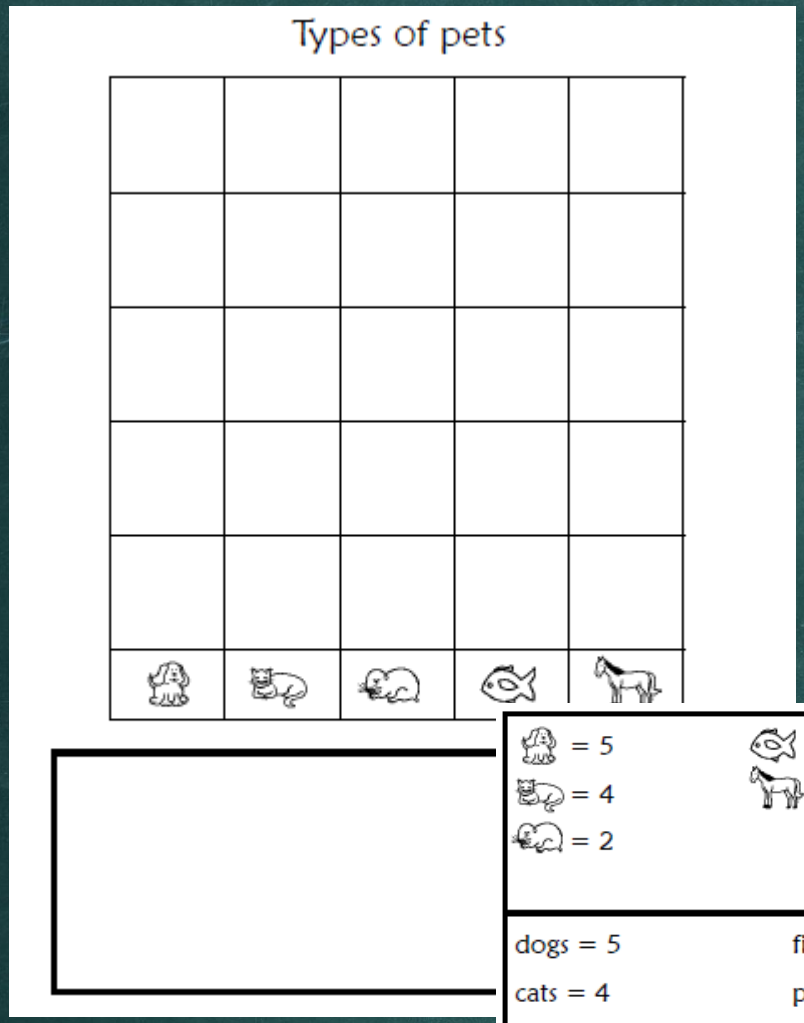
Values included in a bar on a histogram.
Value included in the range; usually the first number.
Graph that gives a range of values using bars.

axis



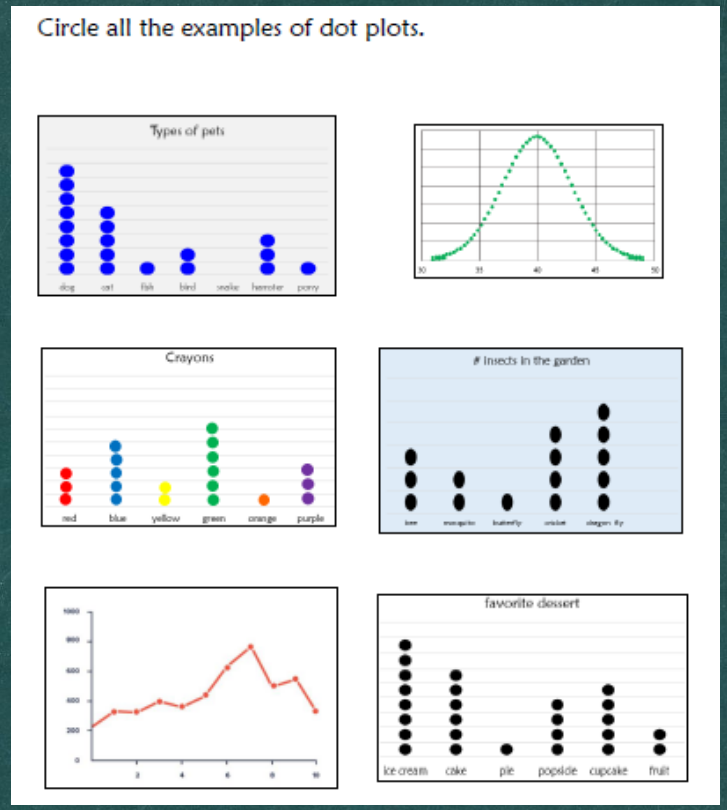
inclusive value

Hands on activities



= 5
= 4
= 2
= 3
= 1

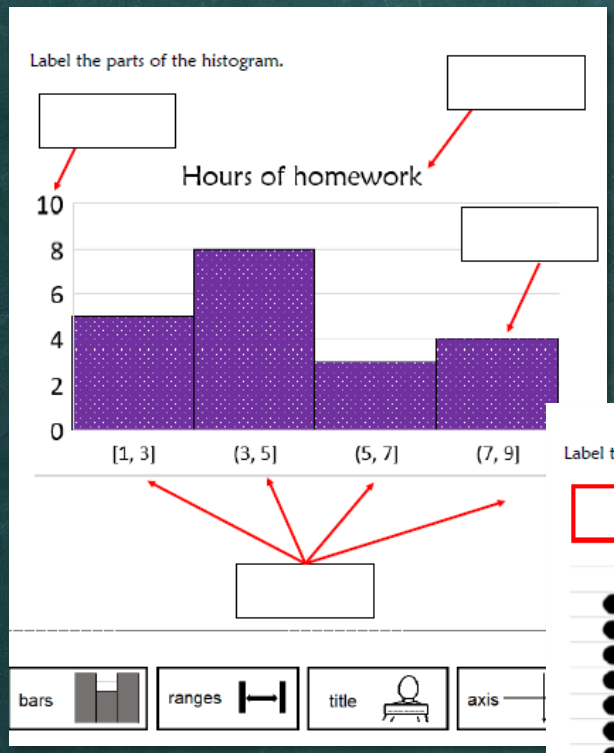
dogs = 5
cats = 4
hamster = 2
fish = 3
pony = 1

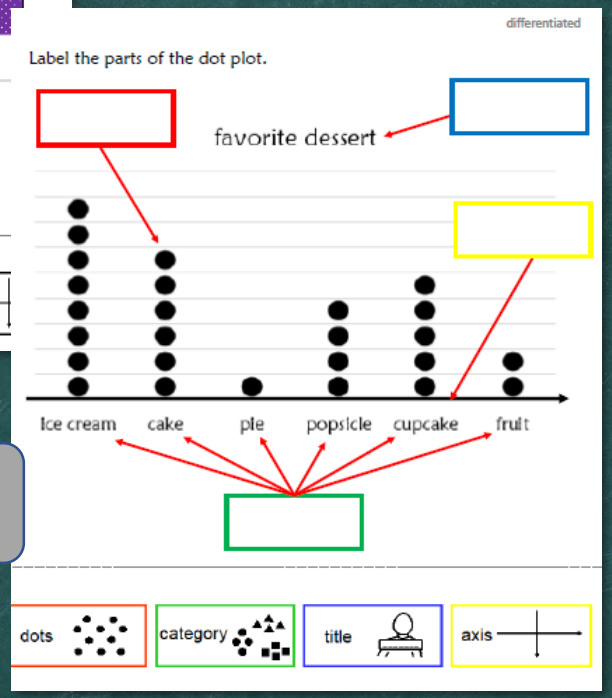


Id graphs

differentiated

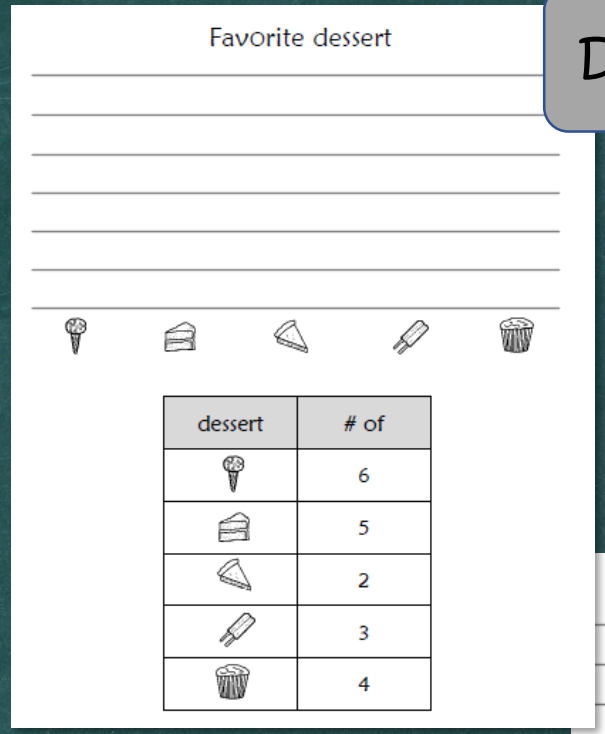
Label graphs

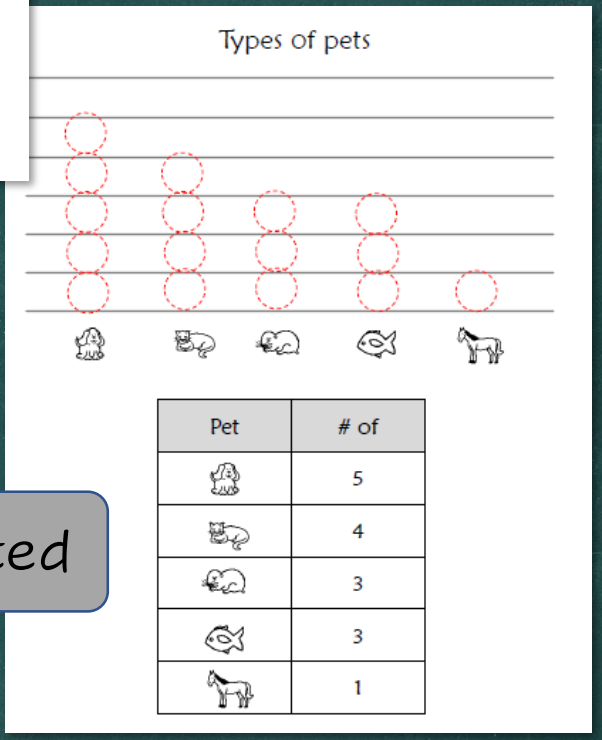




differentiated

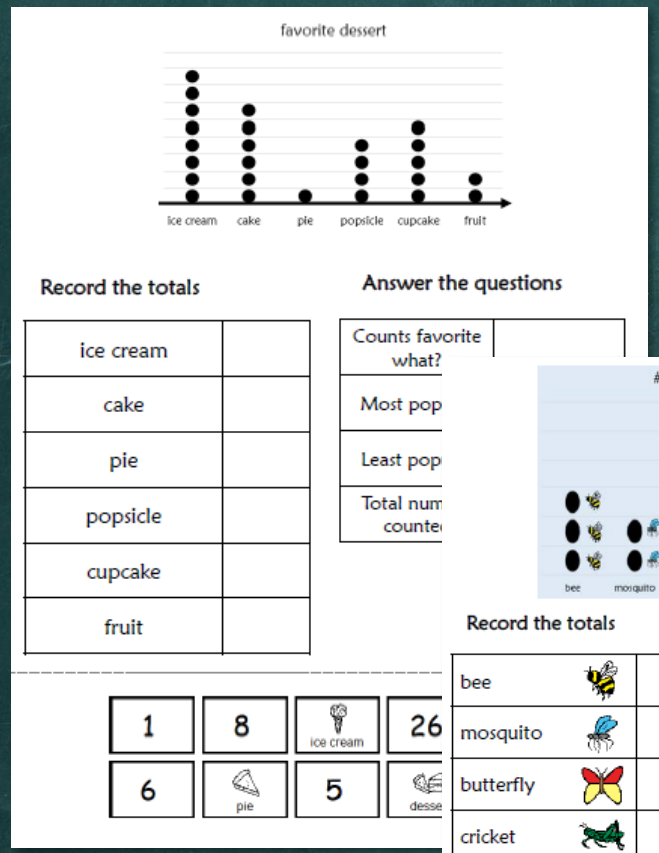
Draw dot plots

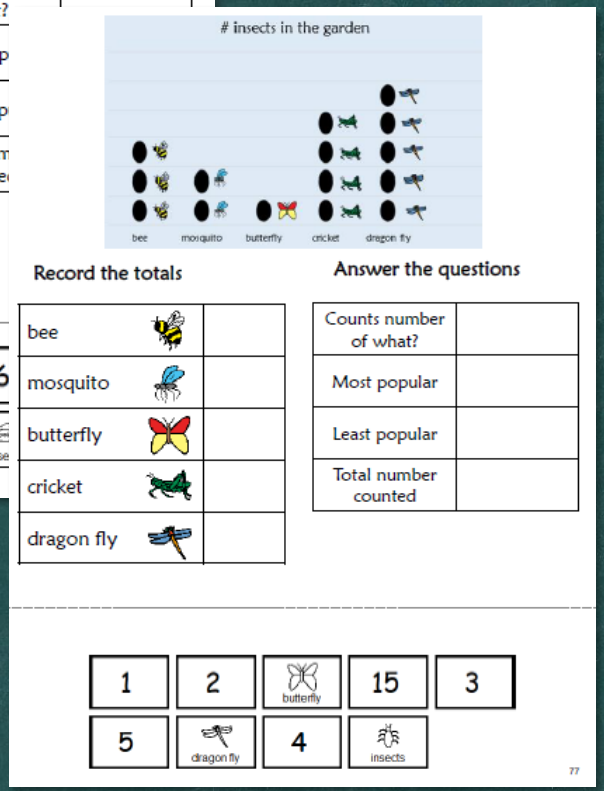


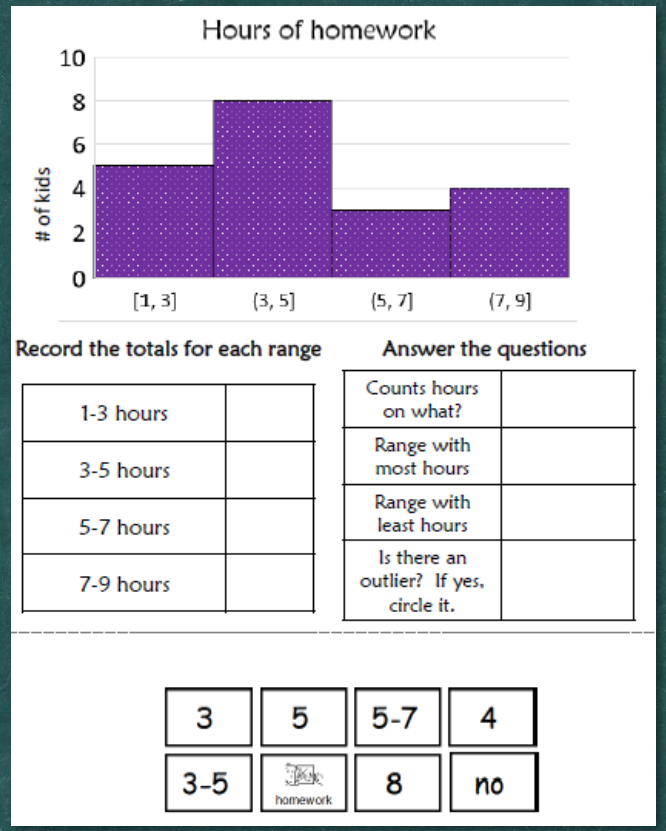


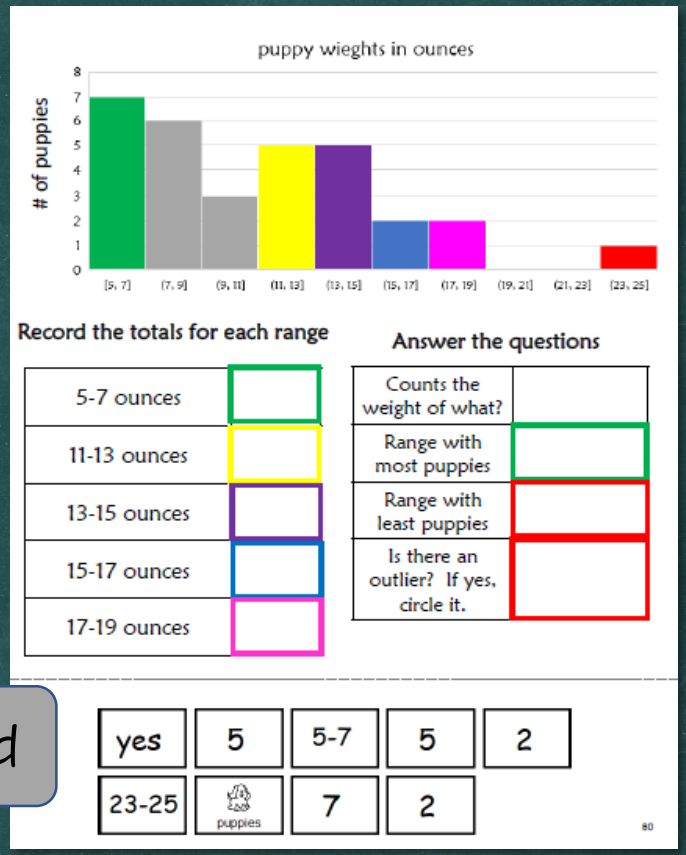
differentiated

Reading graphs





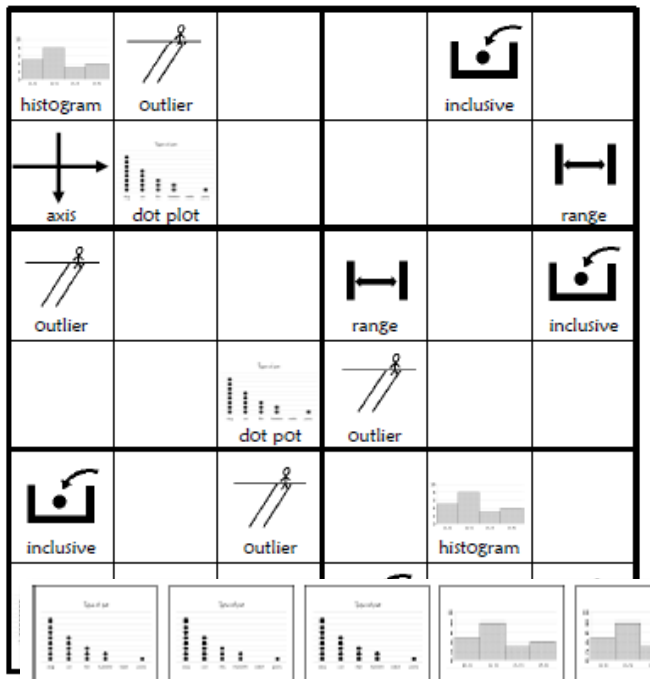




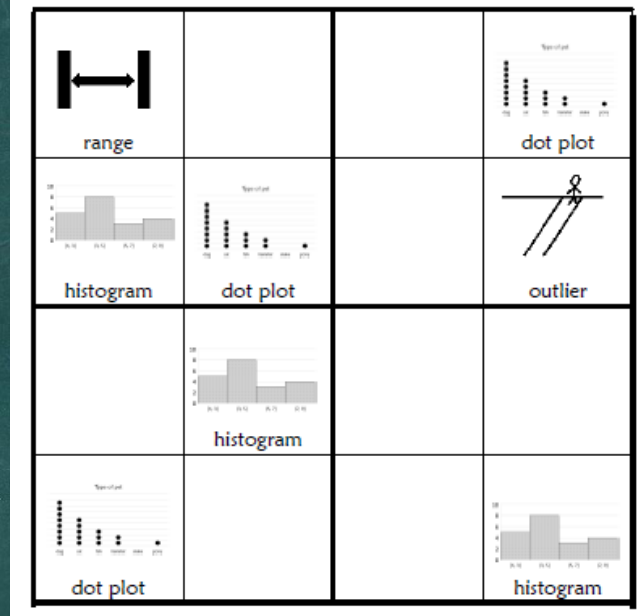
differentiated

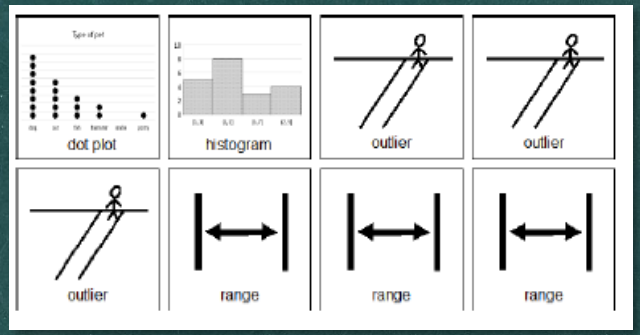
Sudoku Puzzles

Dot plots and Histograms

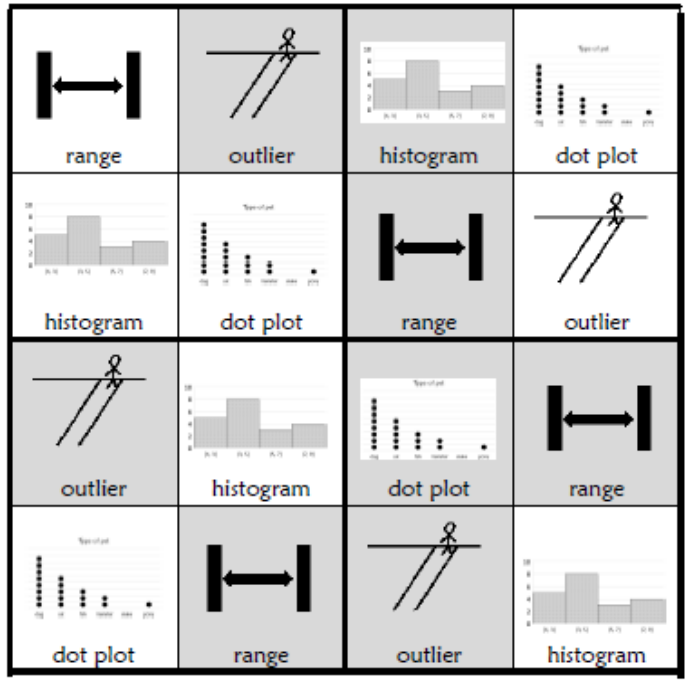


Dot plots and Histograms





Answer Key



Close worksheets

Dot plots

1. Dot plots use ☐ to display data.

2. Each dot counts as ☐ object in the data set.

3. The dots are spaced ☐ and ☐ .

4. Dot plots use ☐ numbers.

5. An outlier is one that is ☐ from the other dots.

Dot plots

Assessments

1. This type of graph uses dots to show how many in each group:

2. This type of graph uses bars to show a range in each group:

3. Dot plots use large or small sets of data?

4. Dot plots have how many axes?

5. In a dot plot, each dot represents how many of each ol

7. This data point is one that is not like the others:
   A. turned around
   B. negative
   C. outlier

8. If you had test scores for 100 students, which graph would be better to use?
   A. dot plot
   B. scatter plot
   C. histogram

9. True or false. You can find an exact value of a data point on a histogram.
   A. true
   B. false
   C. I don't know

10. True of False. Dot plots and histograms are a great way to display data.
   A. true
   B. false
   C. I don't know