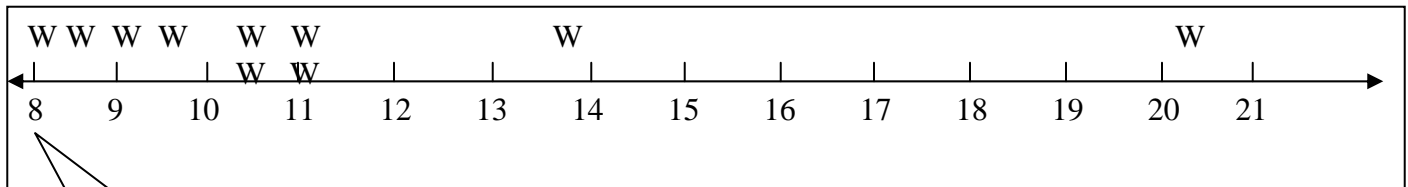


LINE PLOT EXAMPLES

1. Statistical data can be organized and presented on a number line. Numerical information displayed on a number line is called a “**line plot**.”
2. The hourly wages earned by the principal wage earner in ten families is shown in the chart at the right. The data range from \$8.00 per hour to \$20.25 per hour. In order to represent each on a number line, the scale shown must include these values. A “W” is used to represent each hourly wage. If more than one “W” has the same location on the number line, additional “W’s” will be placed one above the other. A line plot on hourly wages is shown below.

Family	Hourly Wage
A	\$8.00
B	\$10.50
C	\$20.25
D	\$9.40
E	\$11.00
F	\$13.75
G	\$8.50
H	\$10.50
I	\$9.00
J	\$11.00



Point out that graphs do not have to start with “0.”

3. Have the students discuss what information can be gained from the line plot. For example, what is the usual wage? Are any wages very different from the rest?

Usual wage → around \$10.50-\$11.00
\$20.25 extremely high in comparison to other wages

4. Discuss the possibility of using different symbols to distinguish between sets of data on the same line plot or to differentiate between values within the same set.

Data can be represented in many different ways: different letters for various data, color code data to make it stand out, and different symbols such as triangles and squares (legends will be useful to describe what the symbols stand for). Have students suggest various symbols they can use.

5. **EXAMPLE:** The number of takeoffs and landings of the busiest airports in the United States for a one-year period are listed below. Make a line plot of the data.

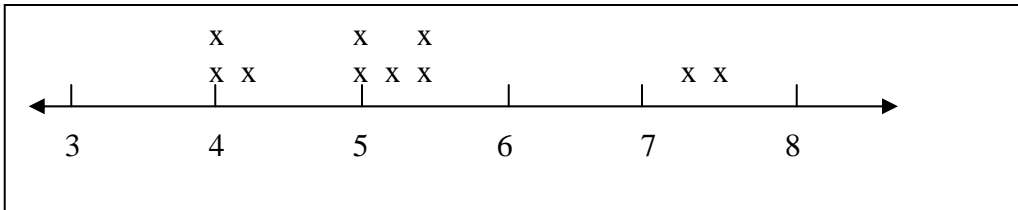
Airport	Takeoffs/Landings
Chicago O'Hare	768,079
Atlanta	749,909
Dallas/Fort Worth	547,901
Los Angeles	545,973
Santa Ana	521,360

Airport	Takeoffs/Landings
Van Nuys	503,488
Denver	502,897
St. Louis	411,268
Boston	402,695
Newark	400,204

Since the numbers are too large to represent on a number line, change each number to represent the number of 100,000 takeoffs and landings. Round each number to the nearest tenth. Since $768,079 = 7.68079 \times 100,000$ you would plot 7.7 for Chicago O'Hare.

Airport	Takeoffs/Landings	Plot
Chicago O'Hare	768,079	7.7
Atlanta	749,909	7.5
Dallas/Fort Worth	547,901	5.5
Los Angeles	545,973	5.5
Santa Ana	521,360	5.2

Airport	Takeoffs/Landings	Plot
Van Nuys	503,488	5.0
Denver	502,897	5.0
St. Louis	411,268	4.1
Boston	402,695	4.0
Newark	400,204	4.0



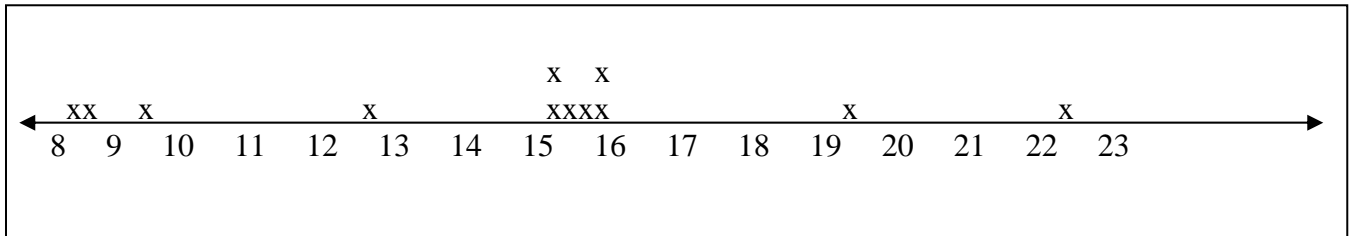
6. The line plot shown above enables you to analyze the given data. For example, there are five airports with approximately 500,000 takeoffs and landings in one year. How many airports have a much greater number of takeoffs and landings than other airports? **TWO**

7. Greg's Department Store kept a record of total transactions that transpired for each month for the 2001 calendar year. Make a line plot of the data.

Month	Transaction	Month	Transaction
January	8,243	July	15,327
February	8,268	August	15,489
March	9,450	September	15,635
April	12,676	October	15,687
May	15,422	November	19,213
June	15,318	December	22,955

Since the numbers are too large to represent on a number line, change each number to represent the number of 1,000 transactions. Round each number to the nearest tenth. Since $8,243 = 8.243 \times 1,000$ you would plot 8.2 for January

Month	Transaction	Plot	Month	Transaction	Plot
January	8,243	8.2	July	15,327	15.3
February	8,268	8.3	August	15,489	15.5
March	9,450	9.5	September	15,635	15.6
April	12,676	12.7	October	15,687	15.7
May	15,422	15.4	November	19,213	19.2
June	15,318	15.3	December	22,955	23.0



Name: _____

Date: _____

Class: _____

Line Plot WORKSHEET

State the scale you would use to make a line plot for the following data.

1. 4.2, 5.3, 7.8, 9.1, 7.3, and 6.9
2. 123, 234, 734, 456, 111, 482, and 379
3. 30, 30, 30, 40, 50, 10, and 20
4. 7890, 3875, 9879, 1267, 4444, 6754, 5555, 3791, 7956, and 9347

Use the table to complete Exercises 5 – 10.

5. Make a line plot of the data.
6. Identify any points that seem to stand out.
7. What fish was the largest?
8. What fish was the smallest?
9. Are the weights of any fish clustered? If so, which ones?
10. Find similar data on a subject of interest to you and make a line plot.

Fish	Weights
Bass, largemouth	22 lb 4 oz
Bluegill	4 lb 12 oz
Carp	57 lb 13 oz
Catfish, blue	97 lb
Catfish, channel	58 lb
Muskellunge	69 lb 15 oz
Perch, white	4 lb 12 oz
Pike, northern	46 lb 2 oz
Salmon, Atlantic	79 lb 2 oz
Salmon, coho	31 lb
Salmon, pink	12 lb 9 oz
Trout, brown	35 lb 15 oz
Trout, rainbow	42 lb 2 oz
Walleye	25 lb

The players with the most runs batted in (RBI) for the National League (1967 – 1988) are listed below. Use the data to complete Exercises 11- 15.

Year	Name	RBI	Year	Name	RBI
1967	Orlando Cepeda	111	1979	Dave Winfield	118
1968	Willie McCovey	105	1980	Mike Schmidt	121
1969	Willie McCovey	126	1981	Mike Schmidt	91
1970	Johnny Bench	148	1982	Dale Murphy	109
1971	Joe Torre	137	1983	Dale Murphy	121
1972	Johnny Bench	125	1984	Mike Schmidt	106
1973	Willie Stargell	119	1985	Dave Parker	125
1974	Johnny Bench	129	1986	Mike Schmidt	119
1975	Greg Luzinski	120	1987	Andre Dawson	137
1976	George Foster	121	1988	Will Clark	109
1977	George Foster	149			
1978	George Foster	120			

11. Make a line plot of the data.
12. What is the greatest number of RBI's during a season?
13. What is the least number of RBI's in a season?
14. Identify the heaviest cluster of data for any 10-unit span on the scale.
15. What is the most common number of RBI's per season since 1967?

LINE PLOT WORKSHEET KEY

State the scale you would use to make a line plot for the following data.

1. 4.2, 5.3, 7.8, 9.1, 7.3, and 6.9

From 4 to 10, intervals of 1

2. 123, 234, 734, 456, 111, 482, and 379

From 100 to 800, intervals of 100

3. 30, 30, 30, 40, 50, 10, and 20

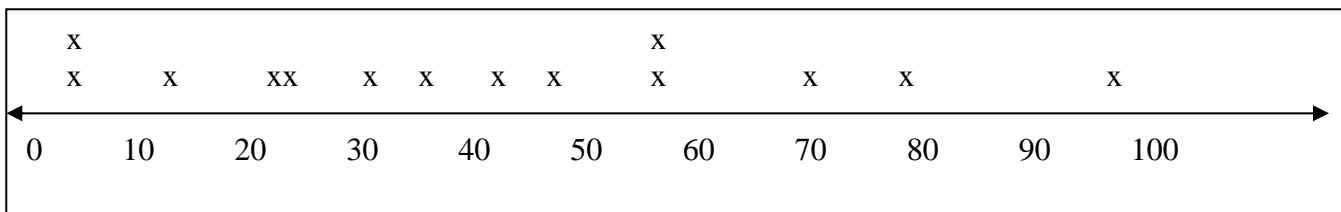
From 10 to 50, intervals of 10

4. 7890, 3875, 9879, 1267, 4444, 6754, 5555, 3791, 7956, and 9347

From 1000 to 10,000, intervals of 1000

Use the table to complete Exercises 5 – 10.

5. Make a line plot of the data.



6. Identify any points that seem to stand out.

97 lb and 4 lb 12 oz

7. What fish was the largest?

Blue catfish

8. What fish was the smallest?

Bluegill, white perch

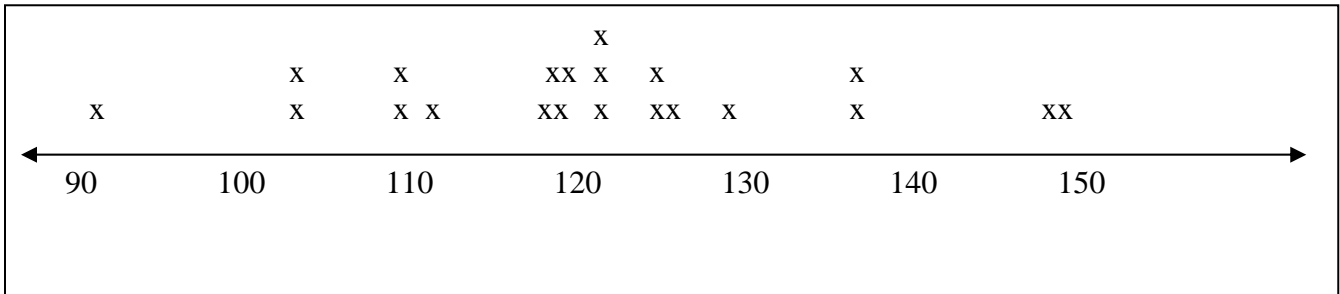
9. Are the weights of any fish clustered? If so, which ones?

Yes, bluegill and white perch; carp and channel catfish

10. Find similar data on a subject of interest to you and make a line plot.

See students work

11. Make a line plot of the data.



12. What is the greatest number of RBI's during a season?

149

13. What is the least number of RBI's in a season?

91

14. Identify the heaviest cluster of data for any 10-unit span on the scale.

119 - 129

15. What is the most common number of RBI's per season since 1967?

121

Student Name: _____

Date: _____

LINE PLOT CHECKLIST

1. On questions (1 – 4), did the student choose an appropriate scale for a line plot?
 - a. All four (20 points)
 - b. Three of the four (15 points)
 - c. Two of the four (10 points)
 - d. One of the four (5 points)

2. On question 5, did the student make a line plot of the data?
 - a. Yes (20 points)
 - b. Yes, but did not use an appropriate scale (15 points)
 - c. Yes, but line plot was confusing (10 points)
 - d. No, data did not match line plot (5 points)

3. On question 6, did the student identify any points that seem to stand out?
 - a. Yes (20 points)
 - b. Yes, but data did not substantiate any stand out data (15 points)
 - c. No, data chosen did not represent stand out data (10 points)

4. On question 7, did the student identify the largest fish?
 - a. Yes (20 points)
 - b. No but did select one of the largest fish in the data (15 points)
 - c. No, but did select a fish from the data (10 points)

5. On question 8, did the student identify the smallest fish?
 - a. Yes (20 points)
 - b. No but did select one of the smallest fish in the data (15 points)
 - c. No, but did select a fish from the data (10 points)

6. On question 9, did the student identify fish clusters?
 - a. Yes (20 points)
 - b. Yes but not all clusters (15 points)
 - c. No, fish chosen were not in clusters (10 points)

7. On question 10, did student make a line plot from chosen data?
 - a. Yes (20 points)
 - b. Yes, but did not use an appropriate scale (15 points)
 - c. Yes, but line plot was confusing (10 points)
 - d. No, data did not match line plot (5 points)

8. On question 11, did the student make a line plot of the data?
 - a. Yes (20 points)
 - b. Yes, but did not use an appropriate scale (15 points)
 - c. Yes, but line plot was confusing (10 points)
 - d. No, data did not match line plot (5 points)

9. On question 12, did the student identify the greatest number of RBI's during a season?
 - a. Yes (20 points)
 - b. No, but did choose one of the largest data points (15 points)
 - c. No, but did choose a data set from the line plot (10 points)

10. On question 13, did the student identify the least number of RBI's during a season?
 - a. Yes (20 points)
 - b. No, but did choose one of the smallest data points (15 points)
 - c. No, but did choose a data set from the line plot (10 points)

11. On question 14, did the student identify the heaviest cluster of data for any 10-unit span on the scale?
 - a. Yes (20 points)
 - b. No, student identified heavy cluster of data but not in a 10-unit span on the scale (15 points)
 - c. No, student identified a cluster of data (10 points)

12. On question 15, did the student identify the greatest number of RBI's since 1967?
 - a. Yes (20 points)
 - b. No, but did choose one of the largest data points (15 points)
 - c. No, but did choose a data set from the line plot (10 points)

Total Number of Points _____



**Any score below C
needs
remediation!**

A 216 points and above

B 192 points and above

C 168 points and above

D 144 points and above

F 143 points and below