Name_____

Unit 8 Study Guide

Statistical Data the collection, study, and display of numerical data

What makes data statistical? numberical data as oppose to non-numerical facts;
ex. 87% of students like red; non ex. - Billy likes red

Gaps: large breaks in groups of data

Outliers: the number that is to the other side of a gap

Surveys:

Sample Population

a small group of a population used to create a statistic
ex. 73% of Americans prefer Coke

Entire Population

the entire group of a population used to create a statistic
ex. 52% of our class are boys

76, 85, 94, 85, 94, 95, 85, 76

Mean

the average of a set of numbers

Steps
1. Add all of the numbers together
2. Divide by the amount of numbers

76+85+94+85+94+95+85+76 = 690

690 ÷ 8 = 86.25

Deviation

the difference between a number and the average

if the average is a decimal, round to the nearest whole number

#	76	85	94	85	94	95	85	76
Dev	-10	-1	8	-1	8	9	-1	-10

Mean Absolute Deviation

the average of the deviation of all of the numbers

Steps
1. Add all of the deviations together
2. Divide by the amount of numbers

-10 + -1 + 8 + -1 + 8 + 9 + -1 + -10 = 2

2 ÷ 8 = 0.25

Order the numbers from smallest to largest

76, 76, 85, 85, 85, 94, 94, 95

Median

the number in the middle of a set of data;

if there are two numbers, you find the average of them

76, 76, 85, 85, 85, 94, 94, 95

85 + 85 = 170 ÷ 2 = 85

Mode

the number that occurs most often

76, 76, 85, 85, 85, 94, 94, 95

Range

the difference between the highest and lowest numbers

95 - 76 = 19

Speed of Cars on SP Lane
52, 37, 58, 45, 59, 33, 43, 40, 67, 44, 39, 52

Frequency Tables

make even intervals for the numbers

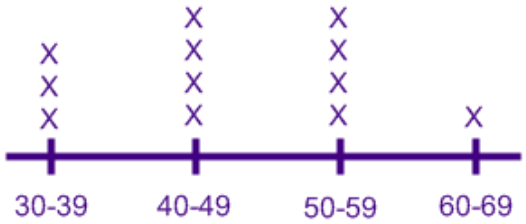
tally how often a number occurs within each interval

30-39	𝍸	3
40-49	𝍸|	4
50-59	𝍸𝍸	4
60-69	|	1

Line Plot

put the intervals on a number line

put an X above the interval for each number within that range



Stem and Leaf Plot

Stem - tens

Leaf - ones

Stem	Leaf
3	3 7 9
4	0 3 4 5
5	2 2 8 9
6	7

Car Sales		
Year	Red	Blue
1999	100	25
2000	125	50
2001	75	175
2002	25	225

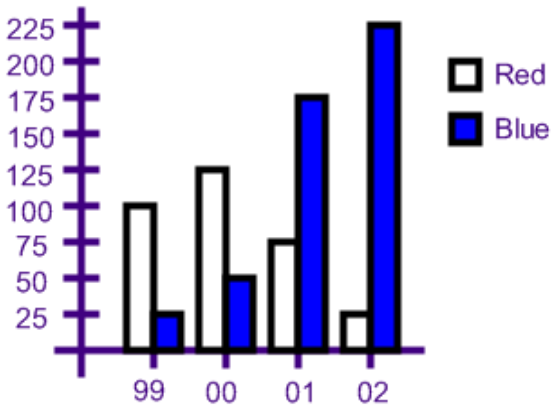
Bar Graphs

horizontal axis - for the options

vertical axis - for the numbers

draw a bar for each group of numbers up to that number on the graph

for multiple bars, be sure to include a key



Line Graphs

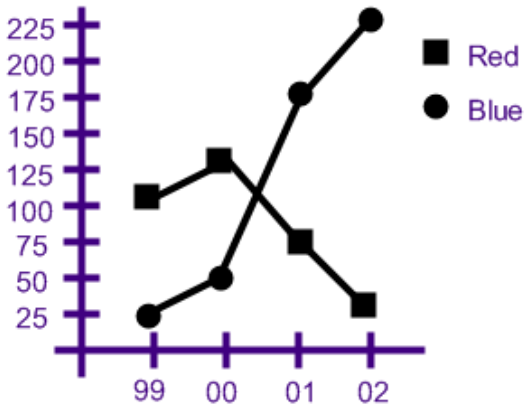
horizontal axis - for the options

vertical axis - for the numbers

plot a point for each of the numbers

connect the lines for each group

for multiple lines, be sure to include a key



12, 13, 14, 15, 19, 19, 19, 21, 24, 25, 26

Box and Whisker Plot

Median — the middle number — 19

Quartile

Upper Quartile — the middle of the top half — 24

Lower Quartile — the middle of the bottom half — 14

Extreme

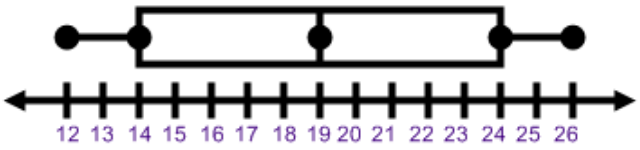
Upper Extreme — the highest number — 26

Lower Extreme — the lowest number — 12

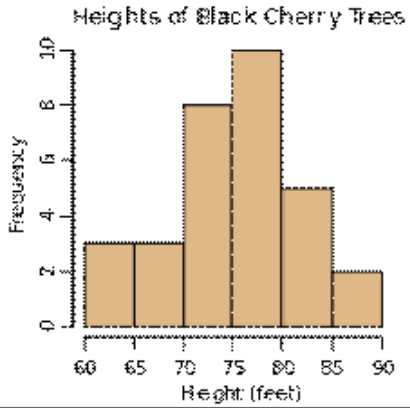
Interquartile Range — the difference between the upper and lower quartiles — 24 - 14 = 10

Draw the box and whisker plot.

create a number line with all of the numbers within the range
put a point on each of the numbers you just found
connect the box for the quartiles, and lines to the extremes



Histograms



How to read a histogram

Bottom numbers represent a cartain variable - in this case, height of the cherry trees

Side numbers represent the amounts - in this case, how many cherry trees

the bars represent the amount of the variable within that range - in this case, how many cherry trees fit within that range