

Stem & Leaf Plots
Unit 8: Statistics

Draw a stem-and-leaf plot for each data set.

1.

Single Family Home Prices

\$232,500	\$233,300	\$221,700	\$227,700	\$242,100	\$223,900
\$236,500	\$216,600	\$253,200	\$220,700	\$233,600	\$208,700
\$210,500	\$245,500	\$221,700	\$223,600	\$229,000	

2.

Car Masses (kg)

1545	1720	1530	1720	925	1560
800	1330	1505	1245	1650	1730
1770	1380	895	1340	1455	1310
910	1455	1610			

3.

Boiling Point

Substance	°C	Substance	°C	Substance	°C
Mercury	356.7	Tin	2603	Radium	1140
Sea Water	100.7	Titanium	3287	Zinc	907
Silver	2162	Lead	1750	Phosphorus	280.5
Potassium	758.8	Chloroform	61.2	Gold	2856
Aluminum	2519	Carbon	4827	Iodine	184.3

Draw a stem-and-leaf plot for each data set.

4.

Mountain Heights

Name	Feet	Name	Feet	Name	Feet
Broad Peak	26,414	Gangkhar Puensum	24,836	Kangchenjunga	28,169
Muztagh Ata	24,757	Kongur Tagh	25,095	Karjiang	23,691
Shispare	24,970	Yutmaru Sar	23,894	Skyang Kangri	24,754
Masherbrum	25,659	Gasherbrum IV	26,024	Kangpenqing	23,888
Kirat Chuli	24,153	Yangra	24,350	Tongshanjiabu	23,645
K12	24,370	Rakaposhit	25,551	Malangutti Sar	23,645
Malubiting	24,469	Annapurna I	26,545	Teram Kangri III	24,219
Cho Oyu	26,864				

5.

Monthly Revenue

\$34,240	\$63,440	\$44,830	\$42,650	\$39,580	\$56,130
\$43,750	\$36,780	\$47,690	\$44,190	\$56,790	\$49,420
\$44,920	\$67,190	\$67,560	\$58,340	\$46,010	\$76,940
\$39,750	\$53,170	\$64,350	\$64,490		

6.

Nobel Laureates

Name	Age	Name	Age	Name	Age
Konstantin Novoselov	36	George Smoot III	61	Andrew Fire	47
Irwin Rose	78	Gejong Gyatso	54	Adolfo Esquivel	49
David Baltimore	37	Joseph Goldstein	45	Phillip Sharp	49
Martinus Veltman	68	Val Fitch	57	Doris Lessing	88
Seamus Heaney	56	Edmund Phelps	73	Wole Soyinka	52
Tsung-Dao Lee	31	Daniel Tsui	59	Akira Suzuki	80
Theodor Hänsch	64	Steven Chu	49	James Mirrlees	60
Thomas Schelling	84				

① Numbers are in the hundred thousands so we will round to the nearest thousands.

Stems = Hundred & ten thousands places.

Leafs = Thousands place.

\$ 233,000	\$ 233,000	\$ 222,000	\$ 228,000	\$ 242,000	\$ 224,000
\$ 237,000	\$ 217,000	\$ 253,000	\$ 221,000	\$ 234,000	\$ 209,000
\$ 211,000	\$ 246,000	\$ 222,000	\$ 224,000	\$ 229,000	

Rounded data set.

Looking at the stems they are as follows:

23	23	22	22	24	22
23	21	25	22	23	20
21	24	22	22	22	

All range from 20 to 25

Looking at leafs for each stem:

20 - 9

21 - 1, 7

22 - 2, 2, 8, 1, 4, 9, 4

23 - 3, 7, 3, 4

24 - 6, 2

25 - 3

Create table using these and put leaf side in numerical order.

Stem	Leaf
20	9
21	1, 7
22	1, 2, 2, 4, 4, 8, 9
23	3, 3, 4, 7
24	2, 6
25	3

Key 20|9 = \$209,000

② Numbers are in the thousands so typically we would round to the nearest hundreds, however, there would be a lot in the thousands only. Round to nearest tens.

Stems = Thousand and hundreds

Leaf = Tens

1550	1720	1530	1720	930	1560
800	1330	1510	1250	1650	1730
1770	1380	900	1340	1460	1310
910	1460	1610			

Rounded data set.

Looking at the stems they are as follows:

15	17	15	17	9	15
8	13	15	12	16	17
17	13	9	13	14	13
9	14	16			

All range from 8 to 17

Looking at leafs for each stem:

8 - 0
 9 - 1, 0, 3
 10 -
 11 -
 12 - 5
 13 - 3, 8, 4, 1
 14 - 6, 6
 15 - 5, 3, 1, 6
 16 - 1, 5
 17 - 7, 2, 2, 3

Stem	Leaf
8	0
9	0, 1, 3
10	
11	
12	5
13	1, 3, 4, 8
14	6, 6
15	1, 3, 5, 6
16	1, 5
17	2, 2, 3, 7

Key 12 | 5 = 1250

Create a table using these and put leaf side in numerical order.

③ Numbers are in the thousands so we will round all numbers to the nearest hundreds.

Stems = Thousands

Leaf = Hundreds

400	2600	1100
100	3300	900
2200	1800	300
800	100	2900
2500	4800	200

Rounded data set

Looking at the stems they are as follows:

0	2	1
0	3	0
2	1	0
0	0	2
2	4	0

All range from 0 to 4

Looking at leafs for each stem:

0 - 4, 1, 8, 1, 9, 3, 2

1 - 8, 1

2 - 2, 5, 6, 9

3 - 3

4 - 8

Create table using these and put leaf side in numerical order.

Stem	Leaf
0	1, 1, 2, 3, 4, 8, 9
1	1, 8
2	2, 5, 6, 9
3	3
4	8
Key	= 1100

④ Numbers are in the ten thousands so we will round to the nearest hundreds.

Stems = Ten Thousands and Thousands.

Leaf = Hundreds.

26,400	24,800	28,200
24,800	25,100	23,700
25,000	23,900	24,800
25,700	26,000	23,900
24,200	24,400	23,600
24,400	25,600	23,600
24,500	26,500	24,200
26,900		

Rounded data Set

Looking at the stems they are:

26	24	28
24	25	23
25	23	24
25	26	23
24	24	23
24	25	23
24	26	24
26		

Range from 23 to 28.

Looking at Leafs for each stem:

23	- 9, 7, 9, 6, 6
24	- 8, 2, 4, 5, 8, 4, 8, 2
25	- 0, 7, 1, 6
26	- 4, 9, 0, 5
27	-
28	- 2

create table using these
and put leaf side in
numerical order.

Stem	Leaf
23	6, 6, 7, 9, 9
24	2, 2, 4, 4, 5, 8, 8, 8
25	0, 1, 6, 7
26	0, 4, 5, 9
27	
28	2

Key 23|6 = 23,600

⑤ Numbers are in the ten thousands so normally we would round the data to the nearest hundreds, but here the stems list would range from 34 to 77 and that's a huge list for these types of plots. Round to nearest thousands.

Stems = Ten thousands

Leaf = Thousands

34,000	63,000	45,000	43,000	40,000	56,000
44,000	37,000	48,000	44,000	57,000	49,000
45,000	67,000	68,000	58,000	46,000	77,000
40,000	53,000	64,000	64,000		

Rounded data set

Looking at the stems they are:

3 6 4 4 4 5
 4 3 4 4 5 4
 4 6 6 5 4 7
 4 5 6 6

Range from 3 to 7

Looking at the Leaves for each stem:

3 - 4, 7

4 - 4, 5, 0, 5, 8, 3, 4, 0, 6, 9

5 - 3, 8, 7, 6

6 - 3, 7, 8, 4, 4

7 - 7

Create table using these and put leaf side in numerical order.

Stem	Leaf
3	4, 7
4	0, 0, 3, 4, 4, 5, 5, 6, 8, 9
5	3, 6, 7, 8
6	3, 4, 4, 7, 8
7	7
Key 3 4 = 34,000	

⑥ Numbers are all less than 100 so use them as you see them.

Stems = Tens

Leaf = Ones

No need for a rounded data set table.

Look at the stems they are as follows:

3	6	4
7	5	4
3	4	4
6	5	8
5	7	5
3	5	8
6	4	6
8		

Range from 3 to 8

Looking at the leafs for each stem:

3 - 6, 7, 1

4 - 5, 7, 9, 9, 9

5 - 6, 4, 7, 9, 2

6 - 8, 4, 1, 0

7 - 8, 3

8 - 4, 8, 0

Create table using these and put leaf side in numerical order.

stem	Leaf
3	1, 6, 7
4	5, 7, 9, 9, 9
5	2, 4, 6, 7, 9
6	0, 1, 4, 8
7	3, 8
8	0, 4, 8

Key 3|1 = 31