

Displaying Data

LO: To be able to draw a stem and leaf diagram.

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1) Zone

2) Recap averages and range.

3) Practice questions.

4) How to draw a stem and leaf diagram.

5) Practice questions

4) Follow up work.

Blue Zone



Going slow

E.g. sad, sick, tired,
bored

Green Zone



Good to go

E.g. happy, calm,
focused, ok

Yellow Zone



Caution
Starting to lose control

E.g. worried, excited,
annoyed

Red Zone



Stop!
Out of control

E.g. angry, terrified,
elated

Starter

Find the **mode**, **median**, **mean** and **range** of this set of data:

15, 12, 12, 14, 17, 13, 10

Mode = 12

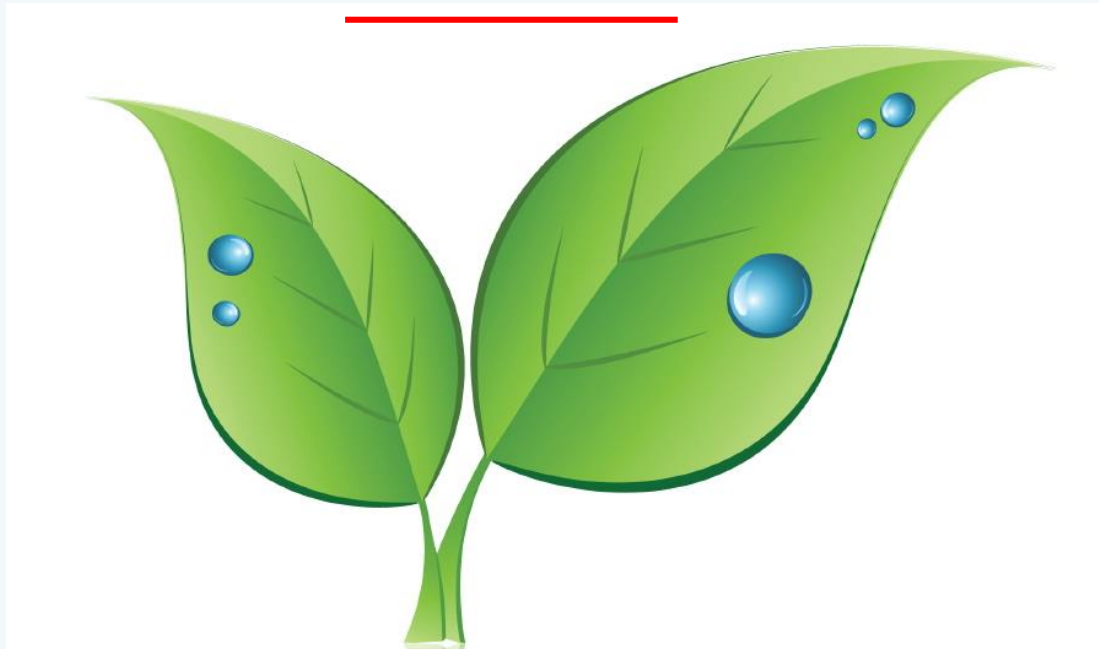
Mean = 13.3

Median = 13

Range = 7



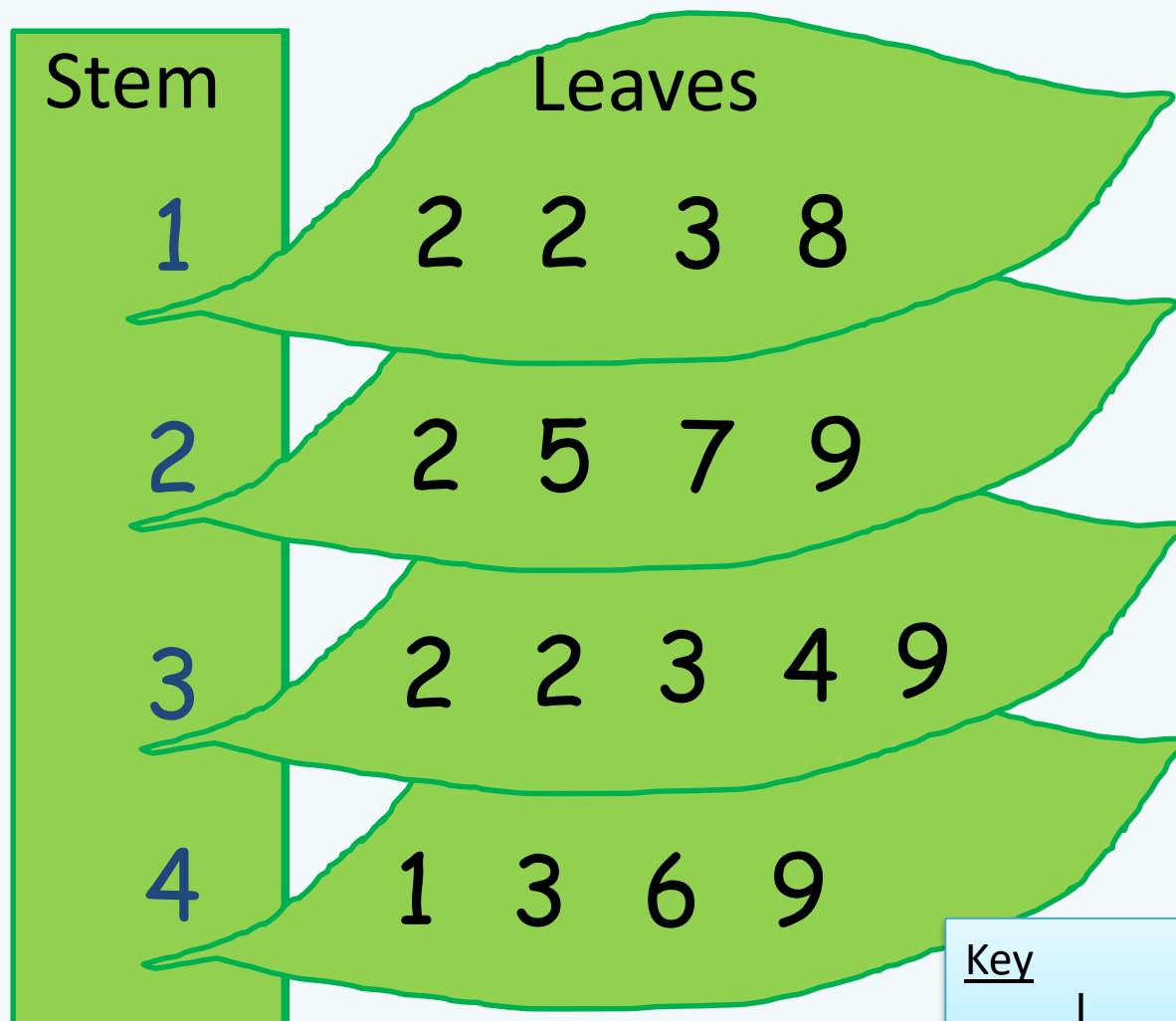
Stem and Leaf Diagrams



Stem and leaf diagrams are **used to group data** to make it easier to read and use

Age of people visiting a
play park

12, 34, 46,
32, 25, 29,
32, 49, 18,
22, 39, 41,
12, 13, 27,
33, 43



Key

2 | 7 = 27

Put these data sets into stem and leaf diagrams:

Time of journey to school
(minutes)

12, 35, 23, 27,
38, 25, 16, 14,
15, 38, 36, 32,
19, 20, 34



Key



=

Put these data sets into stem and leaf diagrams:

Number of pizzas ordered
in a restaurant each day

25, 5, 36, 17,
37, 25, 9, 18,
23, 22, 4, 21,
16, 38, 11, 3



Key



=

What if our data was in decimals?

0.4, 2.1, 1.3,
1.2, 0.7, 0.2,
0.3, 1.9, 2.3,
2.9, 0.7, 1.4

Key

0 | 7 = 0.7

Put these data sets into stem and
leaf diagrams:

0.2, 0.5, 0.6, 0.4,
1.4, 1.2, 3.4, 3.6,
1.9, 1.4, 2.1, 3.0,
0.2, 1.4, 1.0

|

Key

|

=

Put these data sets into stem and
leaf diagrams:

1.18, 1.34, 1.22,
1.03, 1.6, 1.25,
1.28, 1.16, 1.3,
1.24, 1.11, 1.28



Key



=

Or hundreds?

134, 156, 137,
140, 139, 135,
142, 148, 133,
150, 142, 139,

Key

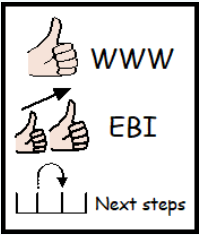
13 | 9 = 139

Put this data into
a stem and leaf diagram:

205, 223, 209,
214, 218, 223,
219, 214, 216,
220, 211, 222

Key

13 | 9 = 139



LO: To be able to find the median of an even set of da

WWW

EBI

Blue Zone



Going slow

E.g. sad, sick, tired,
bored

Green Zone



Good to go

E.g. happy, calm,
focused, ok

Yellow Zone



Caution
Starting to lose control

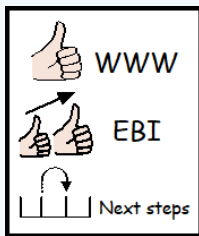
E.g. worried, excited,
annoyed

Red Zone



Stop!
Out of control

E.g. angry, terrified,
elated



LO: To be able to draw a stem and leaf diagram

Follow up work

1)

For ALL worksheets you can either print out and write your answers on, or write your answers on paper.

Please take pictures of your work and email to jo.gould@grangepark.kent.sch.uk

How can we find the mode from a stem and leaf diagram?

Mode = Most common

Mode = 32

Stem	Leaf
1	2 5 7 8
2	2 5 7 9
3	2 2 3 4 9
4	1 3 6 9
5	0 1

Key

4 | 1 = 41

How can we find the mode from a stem and leaf diagram?

Mode = Most common

Stem	Leaf	8 4 means 84
4	4 5 5	
5	0 8 8	
6	0 1 2 4 6 7 8	
7	1 1 1 1 4 6 6 7 8	
8	1 2 3 4 5 7	
9	2 7	

Stem	Leaf	8 4 means 84
9	2 4 6	
10	2 5 9 9	
11	2 3 3 5 5 7 7 9	
12	0 1 1 1 3 4 6 7	
13	2 5 7 7 8 8	
14	1 5	

Stem	Leaf	8 4 means 84
14	3 3 3 3 7	
15	0 0 1 2 7	
16	2 3 4 5 6 6 7	
17	2 4 4 7	
18	7	
19	5 6 7	

Stem	Leaf	8 4 means 84
9	2 3 4 9	
10	0 3 6 8	
11	0 1 2 2 4	
12	3 4 6 6 9 9	
13	1 1 5 6 7 7 8	
14	0 1 5 6 7	

How can we find the range from a stem and leaf diagram?

Range = biggest value – smallest value

Range = $51 - 12 = 39$

Stem	Leaf
1	2 5 7 8
2	2 5 7 9
3	2 2 3 4 9
4	1 3 6 9
5	0 1

Key

4 | 1 = 41

How can we find the range from a stem and leaf diagram?

Range = biggest value – smallest value

Stem	Leaf	8 4 means 84
4	4 5 5	
5	0 8 8	
6	0 1 2 4 6 7 8	
7	1 1 1 1 4 6 6 7 8	
8	1 2 3 4 5 7	
9	2 7	

Stem	Leaf	8 4 means 84
9	2 4 6	
10	2 5 9 9	
11	2 3 3 5 5 7 7 9	
12	0 1 1 1 3 4 6 7	
13	2 5 7 7 8 8	
14	1 5	

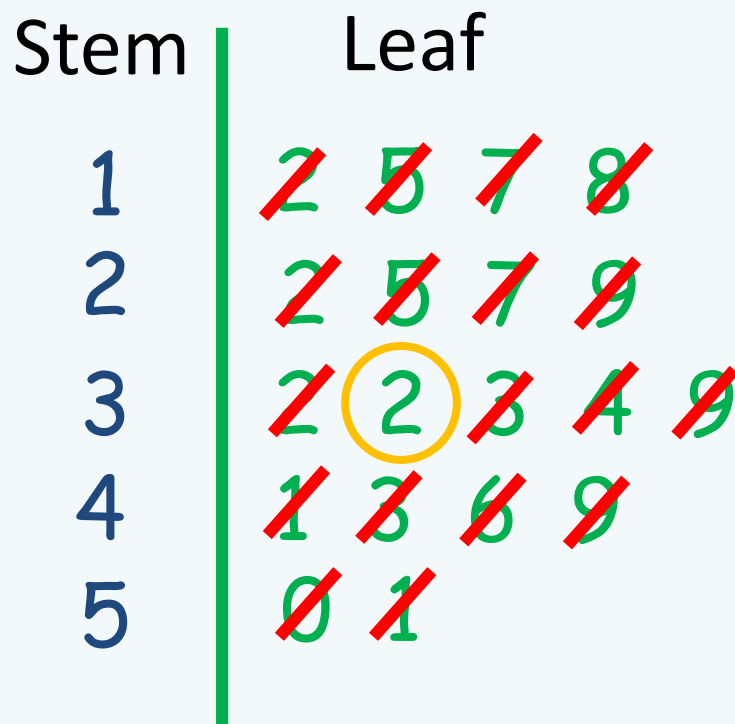
Stem	Leaf	8 4 means 84
14	3 3 3 3 7	
15	0 0 1 2 7	
16	2 3 4 5 6 6 7	
17	2 4 4 7	
18	7	
19	5 6 7	

Stem	Leaf	8 4 means 84
9	2 3 4 9	
10	0 3 6 8	
11	0 1 2 2 4	
12	3 4 6 6 9 9	
13	1 1 5 6 7 7 8	
14	0 1 5 6 7	

How can we find the median from a stem and leaf diagram?

Median = The middle value

Median = 32



Key

4 | 1 = 41

How can we find the median from a stem and leaf diagram?

Median = The middle value

Stem	Leaf										8 4 means 84
5	4	5	6	7	9	9					
6	1	3	3	4	6	9	9				
7	1	2	3	3	5	6	7	8	9		
8	4	5	8	8	8						
9	4	7	9								
10	3	4	8								

How can we find the median from a stem and leaf diagram?

Median = The middle value

Stem	Leaf	8 4 means 84
13	0 1 2 3 4 9	
14	0 1 1 5 6 6 8 9 9	
15	1 1 2 4 5 7 8	
16	2 7 8 9 9	
17	0 1 2 8	
18	3 7	

How can we find the mean from a stem and leaf diagram?

$$\text{Mean} = \frac{\text{The sum of all the data}}{\text{The number of pieces of data}}$$

Stem	Leaf
1	2 5 7 8
2	2 5 7 9
3	2 2 3 4 9
4	1 3 6 9
5	0 1

$$\begin{aligned} &12 + 15 + 17 + 18 + \\ &22 + 25 + 27 + 29 + \\ &32 + 32 + 33 + 34 + 39 + \\ &41 + 43 + 46 + 49 + \\ &50 + 51 = 615 \end{aligned}$$

$$\frac{615}{19} = 32.4$$

Key

$$4 \mid 1 = 41$$

How can we find the mean from a stem and leaf diagram?

$$\text{Mean} = \frac{\text{The sum of all the data}}{\text{The number of pieces of data}}$$

Stem	Leaf
2	6 7 8 9
3	0 5 6 9
4	1 2 3 7 8 9
5	1 3 6 9

What is the:

a) range $71 - 36 = 35$

b) mode 57

c) median 52

d) mean $\frac{1000}{20} = 50$

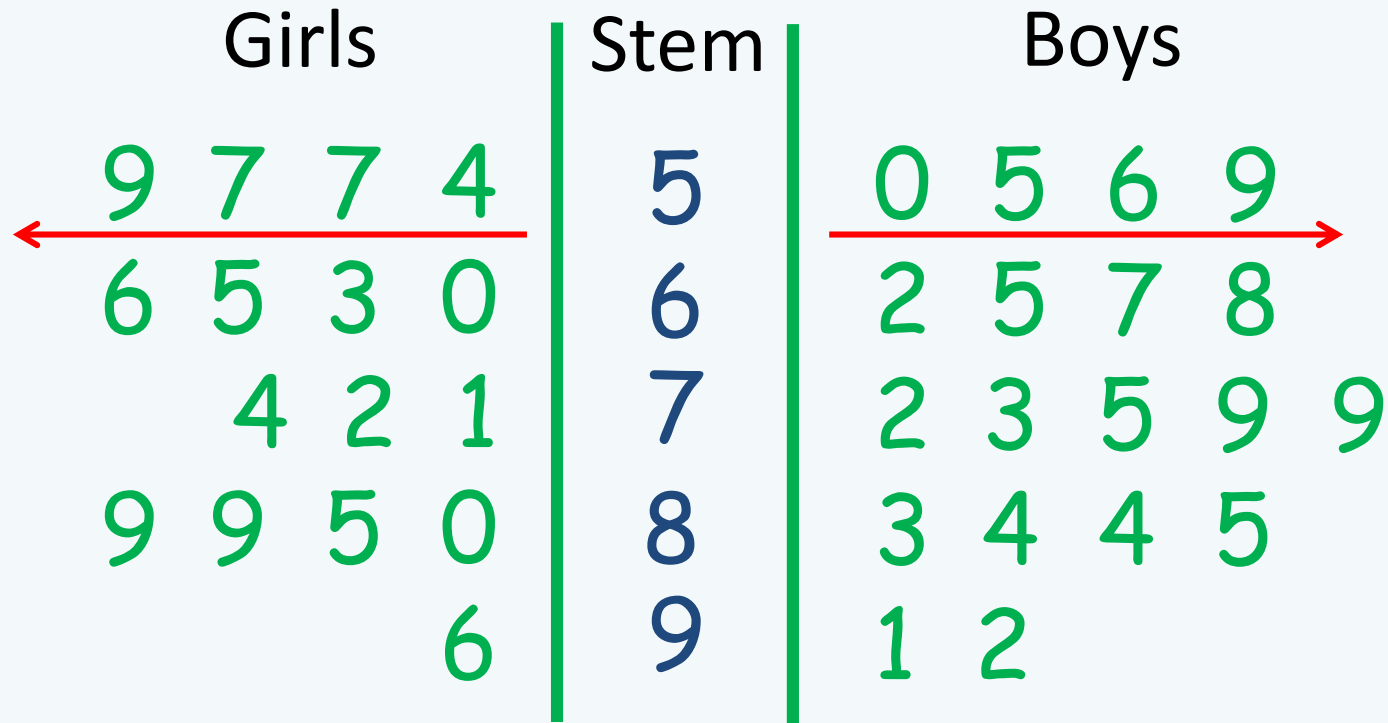
3	6	6	8				
4	2	4	4	5	9		
5	0	2	2	7	7	7	9
6	1	4	6				
7	0	1					

Key

4 | 2 = 42

Back to back stem and leaf diagrams

The marks of a test were recorded in a stem and leaf diagram:



Key

6 | 7 = 67

Put this data into a stem and leaf diagram

Number of weeks their songs were in the top 40:

Ed Sheeran

45, 11, 33, 15, 5,
11, 1, 4, 8, 14, 40,
13, 25, 22, 22

One Direction

50, 6, 12, 18, 21,
18, 15, 24, 19, 9,
1, 10, 6, 2

Answers

Ed Sheeran	Stem	One Direction
8 5 4 1	0	1 2 6 6 9
5 4 3 1 1	1	0 2 5 8 8 9
5 2 2	2	1 4
3	3	
5 0	4	
	5	0

Key

$$1 \mid 5 = 15$$

**Find the mean, median, mode and range
for each artist.**

Who did better in the top 40 charts?

Explain your answer

Ed Sheeran

Range: 44

Mode: 11 and 22

Median = 14

Mean = 17.9

One Direction

Range: 49

Mode: 6 and 18

Median = 13.5

Mean = 15.1