WorkSHEET 8.1   Collecting and organising data

Name: _____

1   A teacher records the number of students
absent each day over 2 weeks from her class.
The results are shown below.
   2 3 1 1 4 2 0 2 1 5

Display the results on a dot plot.

2   The time taken (in seconds) by the 8 runners in
the Olympic 100 metres final is shown below.
      9.8   9.9   10.2   10.1
     10.0   10.5   9.7   10.0

(a) Display the results on a dot plot.

(b) Comment on the distribution.

3   The marks on a mathematics test for a class are
shown below.
19 20 18 16 17 14 19 16
 9 16 17 18 14 15 20 18
18 19 14 18 17 15 16 19

(a) Display the data in a dot plot.

(a) Comment on the range clustering and any
     extreme values.

4   The data below show the scores obtained by 25
students on an exam out of 50.

45	39	32	38	22
44	39	38	17	28
41	50	47	34	39
32	36	24	16	20
30	32	33	45	29

Display the data on a stem-and-leaf plot.

5   The data below show the heights in metres of
20 tomato plants.

1.5	2.3	1.4	1.9	0.8
1.4	2.0	1.1	1.6	1.8
1.2	2.5	2.4	0.6	1.7
1.8	1.6	2.2	1.7	1.8

Display the results on a stem-and-leaf plot.

6   Redraw the stem-and-leaf plot from question **4**
using a class size of 5.

7   (a)   Redraw the stem-and-leaf plot from
question **5** using a class size of 0.5.

   (b)   Use this stem-and-leaf plot to comment
on the distribution.

8 The following data represent the scores on a Maths test for 30 students. Construct a stem-and-leaf plot.

78, 91, 45, 81, 67, 54, 59, 44, 31, 19,
22, 98, 70, 60, 66, 49, 57, 82, 74, 66,
69, 72, 81, 47, 50, 62, 83, 84, 46, 12

9 The heights in centimetres of a group of 15-year-old boys and girls are displayed below.

Boys :154   163   158   166   170
        159   164   164   167   161

Girls :149   158   154   160   162
         158   159   154   164   158

Display the results on a back-to-back stem-and-leaf plot.

10 At Sir Winston Churchill High School there are two Year 9 Mathematics classes each of 22 students. The following were the averages for each class.

Class 1: 34, 47, 54, 59, 60, 63, 66, 69, 73, 77, 78, 78, 79, 80, 82, 83, 85, 86, 88, 89, 90, 91

Class 2: 23, 31, 37, 41, 47, 52, 54, 56, 60, 62, 62, 63, 66, 68, 70, 72, 72, 75, 77, 79, 81, 88

Produce a back-to-back stem-and-leaf plot.